

A NEW HOST RECORD FOR TOMATO LEAF MINER *TUTA ABSOLUTA* (MEYRICK, 1917) IN BAGHDAD PROVINCE, IRAQ

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ABSTRACT

In 2010, the tomato leaf miner *Tuta absoluta* (Meyrick, 1917) was reported for the first time in Iraq. The larvae can feed on all parts of tomato plants and can damage all the growth stages. The main host plant is tomato, *Lycopersicon esculentum*, but it can also attack other plants in Solanaceae family. In this study it was found attacking alfalfa plants, *Medicago sativa* in Baghdad Province. This finding reveals that alfalfa also serves as a host plant for *T. absoluta* in Iraq.

INTRODUCTION

The tomato leaf miner *Tuta absoluta* (Meyrick) (Lepidoptera, Gelechiidae) is one of the most devastating pests of tomato in South America (Barrientos *et al.* 1998; Miranda *et al.* 1998). This pest was initially reported in eastern Spain in late 2006 (Urbaneja *et al.* 2007), and has subsequently spread throughout the Mediterranean Basin and Europe (Potting, 2009). Since the time of its initial detection, the pest has caused serious damages to tomato in invaded areas (Germain *et al.* 2009), and it is currently considered as a key agricultural threat to European and North African tomato production (Desneux *et al.* 2010). The tomato leaf miner, *T. absoluta* was first reported for Iraq by Abdul –Razzak *et al.* (2010). The pest was found near Rabia, Ninawa Province northern part of Iraq, neighboring Syria, during autumn, 2010, on tomato. This newly introduced pest spread rapidly throughout the tomato growing areas in greenhouses and open field, and is now well established in Iraq.

Tomato, *Lycopersicon esculentum* is the main host plant of *T. absoluta* which attacks its leaves, buds, stems, and fruits. The larvae feed vigorously upon the plant producing large galleries in leaves, and it is capable of causing a yield loss of 100% (Apablaza, 1992). This pest also attacks other crop plants of the Solanaceae family including potato, *Solanum tuberosum*, eggplant, *Solanum melongena* and Pepper, *Capsicum annum*. It is known from many solanaceous weeds including *Datura stramonium*, *Lycium chilense*, *Solanum nigrum* and *Nicotiana glauca* in Bulgaria (Harizanova *et al.*, 2009).

Recently EPPO, 2009 reported that *T. absoluta* shifted to host plants other than Solanaceae which was found on beans, *Phaseolus vulgaris* (Fabaceae) in Sicil. The same findings were reported by Abdul-Ridha *et al.* 2012 which they detected that broad bean, *Vicia faba*, cowpea, *Vigna unguiculata* (Fabaceae) and wild radish, *Raphanus raphanistrum* (Brassicaceae) are alternative host plants for *T. absoluta* in Iraq, additionally to eggplant, *S. melongena* and tomato, *L. esculentum*. Most recently, Portakaldali *et al.* 2013 determined, field bindweed, *Convolvulus arvensis* (Convolvulaceae) and lambs-quarters, *Chenopodium elbum* (Chenopodiaceae) as host plants for *T. absoluta* in Turkey. The aim of the study is to determine alfalfa plant, *Medicago sativa* as a new host plant for *T. absoluta* in Iraq.

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MATERIALS AND METHOD

In May 2011, during my investigation on the lesser alfalfa blotch leaf miner, *Agromyza nana* Meigen (Diptera, Agromyzidae) I have found several alfalfa plants growing in Abu-Ghraib fields near Baghdad. These were infested by the tomato leaf miner, *Tuta absoluta* according to its blotch mines, which has a blotch with single line of frass. To ensure the identity of this insect a number of infested leaves of alfalfa plant reared in the laboratory to the adult stage. Later on, adults emerged, and was identified by the author as *T. absoluta* based on male genitalia according to Brambila *et al.* (2010).

RESULTS AND DISCUSSION

The detection of tomato leaf miner, *Tuta absoluta* on alfalfa, *Medicago sativa* reveals that this plant serves as host plant recorded for the first time in Iraq and this result goes with EPPO, 2009; Harizanova *et al.*, 2009; Abdul-Ridha *et al.*, 2012 and Portakaldli *et al.*, 2013, that there is a shift in host plants from the main host Solanaceae to other families particularly the Fabaceae.

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تسجيل جديد لمضيف حافرة الطماطم (*Tuta absoluta* (Meyrick, 1917) في محافظة بغداد،
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الخلاصة

سجل حفار اوراق الطماطة (*Tuta absoluta* (Meyrick, 1917) لأول مرة في العراق عام ٢٠١٠. لوحظ ان الدور اليرقي له القابلية على ان يتغذى على جميع اجزاء نبات الطماطة مسبباً التلف في جميع مراحل النمو، كما لوحظ ان للحشرة القابلية على مهاجمة مجموعات متعددة من النباتات العائدة لعائلة Solanaceae بالاضافة الى تطفله على المضيف الرئيسي له و المتمثل بنبات الطماطة *Lycopersicon esculentum*.

لوحظ في هذه الدراسة ان لهذا الطفيلي القابلية على التغذي على نبات الجت *Medicago sativa* من خلال ملاحظته على التبات المذكور في محافظة بغداد. تشير نتائج هذه الدراسة الى ان الجت يمكن ان يعد واحد من مضائف النوع *T. absoluta* في العراق.