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A pest of significant economic importance detected for the first time in Mozambique: *Bactrocera invadens* Drew, Tsuruta & White (Diptera: Tephritidae: Dacinae)

Abstract - *Bactrocera invadens* Drew, Tsuruta & White (Diptera: Tephritidae: Dacinae) is detected for the first time in Mozambique, Niassa Province, Cuamba. It is an important pest of tropical fruits, such as guava, mango, citrus, papaya, tomato, etc. The arrival to Mozambique of *B. invadens* can have considerable implications for agriculture in Mozambique and its Plant Pest Quarantine and export programmes.

Resumo - *Uma praga de grande importancia económica capturada pela primeira vez em Moçambique: Bactrocera invadens Drew, Tsuruta & White (Diptera: Tephritidae: Dacinae).*

Bactrocera invadens Drew, Tsuruta & White foi capturada pela primeira vez em Moçambique, provincia do Niassa, distrito de Cuamba. Trata-se duma mosca da fruta que pode causar graves prejuizos a um grande número de plantas tropicais, como goiabeira, mangueira, citrinos, papayeira, tomateiro, etc. As larvas comem a polpa dos frutos. A chegada em Moçambique desta mosca pode causar graves problemas á agricultura e aos programas de exportação de fruta.

Riassunto - *Un insetto dannoso di grande importanza economica trovato per la prima volta in Mozambico: Bactrocera invadens Drew, Tsuruta & White (Diptera: Tephritidae: Dacinae).*

Bactrocera invadens Drew, Tsuruta & White è stata catturata per la prima volta in Mozambico (Distretto di Cuamba, Provincia del Niassa). Si tratta di un insetto molto dannoso a frutti tropicali come guava, mango, agrumi, papaya, pomodoro, ecc. L'arrivo in Mozambico di *B. invadens* può avere gravi implicazioni per l'agricoltura di quel Paese, per i suoi servizi di quarantena e per i programmi di esportazione di frutta e ortaggi verso altri Paesi.

Key words: *Bactrocera invadens*, Tephritidae, Mozambique, Niassa.

INTRODUCTION

Fruit Flies (Diptera: Tephritidae) are very important pests of economic importance in tropical and subtropical countries.

In 2003, a new fruit fly species, *Bactrocera invadens* Drew, Tsuruta & White, 2005 (Fig. 1), belonging to Dacinae subfamily, has been reported from Africa. Of Asian origin (Bhutan, India, Sri Lanka; Sithanantham et al., 2006; Drew et al., 2007), it was first reported from eastern Africa (Lux et al., 2003; Mwatawala et al., 2004) but is now widespread on the African continent and some of the adjacent islands (Benin, Cameroon, Comoros, Democratic Republic of Congo, Ghana, Kenya, Nigeria, Senegal, Sudan, Tanzania, Togo, Uganda) (Drew et al., 2007).

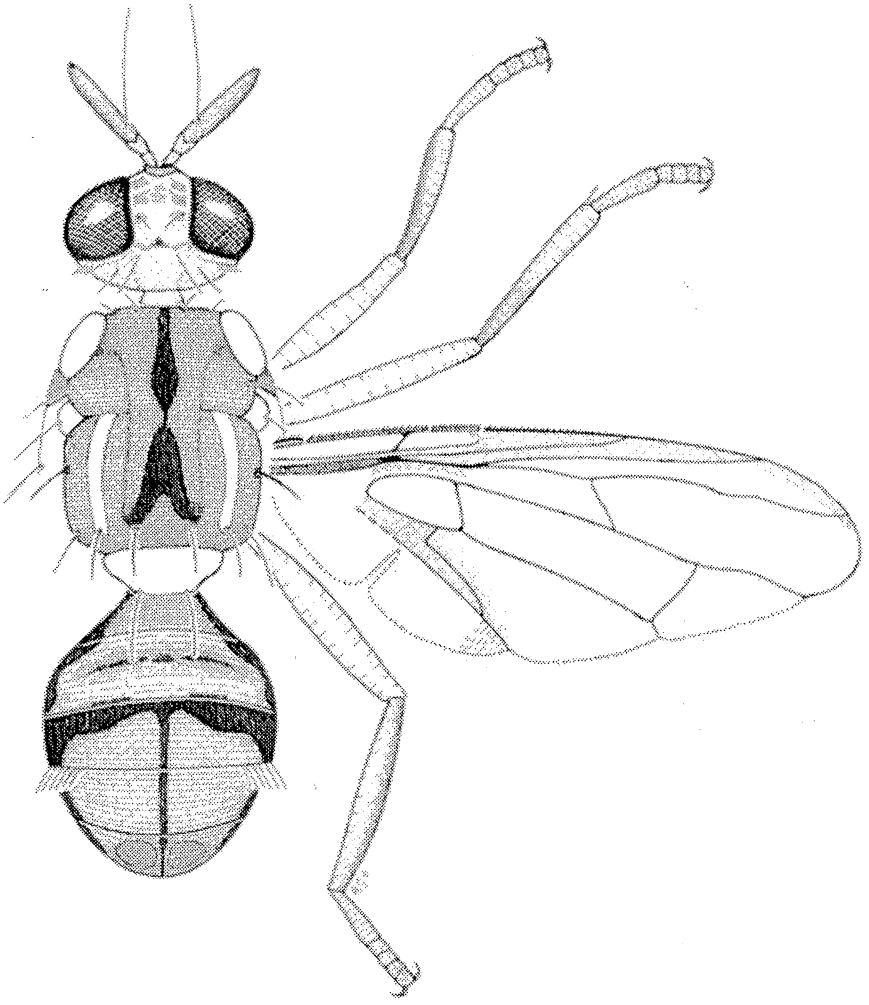

Fig. 1 - *Bactrocera invadens* Drew, Tsuruta & White: adult male (left half removed) (from Drew, Tsuruta & White, 2005).

In 2007, *B. invadens* has been found in a collection of Tephritidae trapped during a survey of Fruit Flies present in Cuamba District (Niassa Province, Mozambique).

MATERIAL AND METHODS

In 2007, the Fruit Flies present in Cuamba District (Niassa Province, Mozambique) have been studied by the use of modified McPhail traps containing different para-pheromones: cuelure, trimedlure and methyl-eugenol.

Specimens of *B. invadens* were identified by Dr. Marc de Meyer (Royal Museum for Central Africa, Tervuren, Belgium) using the recent key by White (2006).

RESULTS

Methyl-eugenol traps were exposed on Citrus from June to October 2007, resulting in the following captures of *B. invadens*:

12 June - 24 July: no captures;
24-31 July: 1 male;
31 July - 14 August: 2 males;
14-21 August: 2 males;
21 August - 4 September: 2 males;
4-12 September: 1 male;
12 September - 3 October: 4 males.

Cuelure and Trimedlure traps exposed on Citrus did not attract males of *B. invadens*.

DISCUSSION

The fruit fly *Bactrocera invadens* has invaded tropical Africa, coming apparently from Asia (only known distribution in Asia is the Indian subcontinent). It was first recorded in Kenya in February 2003 (Lux et al., 2003), and was subsequently found in several further African countries, from Kenya to Senegal, including Tanzania (Mwatawala *et al.*, 2004).

According to our present knowledge, the ecology and biology of this species indicate that it is a highly invasive and polyphagous species with high reproductive potential, and all year-round host availability resulting in continuous presence in certain regions (Ekesi et al., 2006; Hanna *et al.*, 2005; Mwatawala *et al.*, 2006a, 2006b; Vayssières *et al.*, 2005). In Africa known hosts include mango, citrus, guava, papaya, cashew, pepper, tomato and several wild plants, for example *Strychnos* spp. (De Meyer *et al.*, 2007)

As in other fruit flies of the subfamily Dacinae, larvae of *B. invadens* feed on the pulp of fruits causing an important economic damage.

Given the known distribution of this pest in neighbouring country such as Tanzania, where it is considered widespread throughout the country (Mwaiko, 2006), the pres-

ence in Mozambique, Niassa Province, does not come as a surprise. It is, however, the southernmost record of this species on the African mainland.

The arrival to Mozambique of *B. invadens* can have considerable implications for agriculture in Mozambique and its Plant Pest Quarantine and export programmes. It should be desirable to prevent the introduction of such a new fruit fly species into the other provinces of Mozambique.

Control measures are probably available (e.g. male annihilation technique), but for the moment, their efficacy is not known (EPPO, 2007).

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