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Record of *Calycomyza lantanae* (Frick) in Mozambique (Diptera Agromyzidae)

Abstract - The first record in Mozambique of *Calycomyza lantanae* (Frick), leaf-miner on *Lantana camara* is referred with remarks on the distribution of the species of Agromyzidae living on *Lantana* in the world.

Riassunto - *Rinvenimento di Calycomyza lantanae* (Frick) in Mozambico (Diptera Agromyzidae).

Viene segnalata la presenza di *Calycomyza lantanae* in Mozambico e sono effettuate alcune considerazioni sulle specie di Agromizidi viventi su *Lantana*; alcune sono state introdotte in diversi Paesi per tentativi di contenimento biologico di questa pianta.

Resumo - *Calycomyza lantanae* (Frick), capturada pela primeira vez em Moçambique (Diptera Agromyzidae).

Calycomyza lantanae (Frick) foi capturada pela primeira vez em Moçambique, provincia do Niassa, Cuamba. Trata-se duma mosca cuja larva mina as folhas da *Lantana camara*. Esta espécie foi introduzida em varios países do mundo no âmbito de programas de luta biológica para controlar o desenvolvimento desta planta.

Key words: *Calycomyza lantanae*, *Lantana camara*, first record, Mozambique.

In March 2008, in Cuamba at the campus of Catholic University of Mozambique, Faculty of Agriculture, two of the authors (Prof. Massimo Olmi and Prof. Augusto R. I. Correia) collected several irregular blotch mines on upper surface of the leaves of *Lantana camara* (Fig. 1). The mines were developed in laboratory, with the emerging of *Calycomyza lantanae* (Frick) (one male and one female), identified by one of the authors (Prof. Luciano Süß). The aedeagus of this species is characterized by short mesophallus, conspicuously enlarged basally (Fig. 2). This is the first record of *C. lantanae* in Mozambique.

REMARKS

Six species of Agromyzidae are known on *Lantana* spp. in the World, precisely *Ophiomyia lantanae* (Froggart) (on fleshy receptacle of *Lantana* spp.), *O. camarae* Spencer (with larvae feeding along main veins, with short offshoots into the leaf blade), *O. legitima* Spencer (in the fruits



Fig. 1 - *Calycomyza lantanae* (Frick): a mine in a leaf of *Lantana camara* (Cuamba, April 2008).

of *L. camara*), *Calycomyza lantanae* (Frick) (the large blotch miner), *C. bahamarum* Spencer (with larvae in the leaves) and the highly polyphagous *Liriomyza trifolii* Frick (Benavent-Corai *et al.*, 2005)

C. bahamarum lives in Cuba on *Stachytarpheta jamaicensis* and *Lantana reticulata* (Garces Gonzales, 1988). *C. lantanae* is known on *Lippia helleri* and *Verbena litoralis*, apart from *Lantana* spp. (Spencer & Steyskal, 1986); *Ophiomyia lantanae* is common in the Caribbean area and much of tropical South America (Spencer & Stegmaier, 1973); *O. camarae* is known from Trinidad to Argentina; *O. legitima* was described from Dominica and is known in Guadeloupe; *Calycomyza lantanae* has a large distribution in America (from Florida and Texas to Bahamas, Trinidad, Venezuela, Argentina).

Ophiomyia lantanae and *Calycomyza lantanae* were introduced in many countries for the biological control of *Lantana camara*. The distribution of those Agromyzidae in the World is very ample. In particular, Cook & Godfray (1985) referred on the effort to eliminate or, at least, reduce *Lantana camara* in Philippines; Muniappan *et al.* (1996) in Guam.

Ooi (1987) referred on the record of *C. lantanae* and *O. lantanae* in Malaysia. *C. lantanae* was also collected from Papua New Guinea and Sulawesi (Indonesia). In these cases the Agromyzidae were not deliberately introduced into Malaysia for the biological control of *Lantana*.

A survey to determine the status of five biocontrol agents on these shrubs in South Africa was conducted by Baars & Heystek (2003); two species are *Calycomyza lantanae* and *Ophiomyia lantanae*.

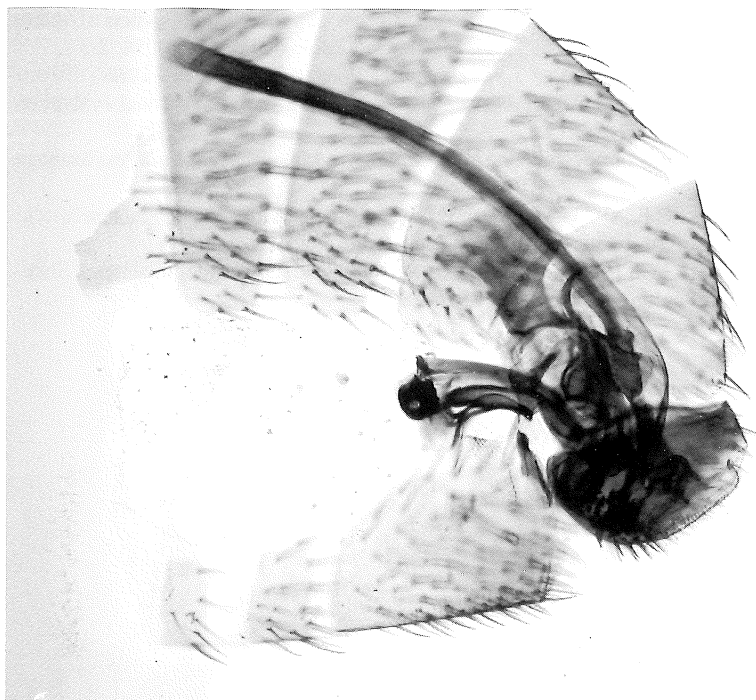


Fig. 2 - *Calycomyza lantanae* (Frick): aedeagus.

The conclusion of this study was that these insects are widespread, but the impact was insufficient to reduce *L. camara* to a manageable situation. In particular, the field abundance of *C. lantanae* varied between “rare” and “occasional”, but intermittently was “frequent”. This blotch leaf miner fly was recorded from areas where no documented release were made, in particular in the Eastern and Western Cape provinces. In general, the biocontrol of *Lantana* with this Agromyzidae hadn’t success; in fact, the maximum development is in midsummer, giving plants the possibility to grow in the spring.

The presence of *C. lantanae* in Mozambique is another case of natural introduction of this leaf-miner in a new area. As from South Africa to Cuamba there are about 1500 Km, this record shows the efficiency of *C. lantanae* in the colonization of new regions.

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Note: specimens and microscope slide of genitalia are in Süss L. collection.

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