

NATURAL ENEMIES OF WHITEFLIES IN THE DOMINICAN REPUBLIC - THEIR PROSPECTS FOR BIOCONTROL IN TOMATO AND ORNAMENTAL CROPS

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The Dominican mainly processing-tomato production in the irrigated lowlands has been severely threaten since 1988/89 by excessively high and insecticide-resistant populations of *Bemisia tabaci* and since 1991 by the transmission of geminiviruses as the tomato yellow leaf curl virus (TYLCV-ls). In order to enhance biocontrol as a component of IPM of the *Bemisia tabaci* complex and also *Trialeurodes vaporariorum* (in vegetables incl. fresh market tomatoes in mountain valleys), a nationwide survey on existing whitefly species (≥ 18 spp.) and associated enemies was carried (1995-96). Their potential for biocontrol mainly during the crop-free period is discussed.

Among the predators, coccinellids (incl. *Delphastus*, spp.), chrysopids and others were recorded, but only mirid bugs (*Cyrtopeltis tenuis*, *C. modesta*) occur in relative high densities after the critical initial weeks. Although natural parasitism is relatively low in existing tomato-growing systems, a diversity of parasitic aphelinids incl. *Encarsia transvena*, *Encarsia* sp. (*parvella* group, uniparental?), *En. pergandiella*, *En. formosa*, *En. meritoria*. (= ?*hispida*), *En. nigricephala* and *Eretmocerus* sp. nr. *californicus* have been reared from weeds and crops. *A. fuscipennis* (Hym.: Platygasteridae) a parasitoid of *T. vaporariorum* shows high parasitism levels ($\leq 95\%$) in unsprayed plants in mountain valleys. Endemic species have been compared in bioassays and field cages to biotypes imported from Mission Biological Control Center, Texas, in order to start mass rearing and liberation of the most promising parasitoids.

Entomopathogenic fungi (Hyphomycetes-Moniales) *Paecilomyces fumoso-roseus* and *Verticillium lecanii* (≤ 500 and 400-1500 m.a.s.l. respectively) occur associated to *T. vaporariorum*. Commercial mycoinsecticides as well as selected endemic and introduced strains of different fungi species (incl. of *Beauveria bassiana*, *Entomophthora virulans*) were compared on tomato and *Gerbera* sp. plants.