3:304 *Eretmocerus eremicus*

Parasitoid of whiteflies

Parasitoid wasp: Hymenoptera: Aphelinidae.

NOMENCLATURE: Approved name: *Eretmocerus eremicus* Rose and Zolnerowich. **Other names:** Whitefly parasitoid. Formerly known as: *Eretmocerus* sp. nr. *californicus* Howard.

SOURCE: Species identification is difficult and the species definition, *Eretmocerus* near *californicus*, was recognised from 1980. Recently, the species has been redefined as *Eretmocerus eremicus*. It is the dominant species in the south-western USA, where it occurs in the desert regions of California and Arizona.

PRODUCTION: *Eretmocerus eremicus* is an obligate parasitoid of whiteflies and the species is reared on *Bemisia tabaci* (Gennadius) or *Trialeurodes vaporariorum* (Westwood) under controlled conditions.

TARGET PESTS: For control of tobacco whitefly (*Bemisia tabaci*). It is also capable of parasitising glasshouse whitefly (*Trialeurodes vaporariorum*).

TARGET CROPS: Recommended for use in vegetables, ornamentals and interiorscapes.

BIOLOGICAL ACTIVITY: Biology: All *Eretmocerus* species are obligate parasitoids of whiteflies. When the egg hatches, the first instar parasitoid larva burrows into the host, where it completes its development. **Egg laying:** Adult females lay single eggs beneath the immobile second or third instar nymphs of the host. **Efficacy:** The female wasp is very mobile and actively seeks whitefly to parasitise. The adults also feed directly on the scale. **Key reference(s):** M Rose & G Zolnerowich. 1997. *Eretmocerus* Haldeman (Hymenoptera: Aphelinidae) in the United States, with descriptions of new species attacking *Bemisia* (*tabaci* complex) (Homoptera: Aleyrodidae), *Proc. Entomol. Soc. Wash.*, **99**(1), 1–27.

COMMERCIALISATION: Formulation: Sold as parasitised whitefly pupae mixed with carrier. DEFRA licence required for release in the UK. **Tradenames:** 'Ercal' and 'Enermix' (mixture of *Eretmocerus eremicus* and *Encarsia formosa*) (Koppert), 'Eretline e' (Syngenta Bioline), 'Eretmocerus californicus Small Parasitic Wasp' (M&R Durango), 'Eretmocerus californicus' (Beneficial Insectary), (IPM Laboratories), (Praxis) and (Rincon-Vitova), 'Encarsia/Eretmocerus' (*Encarsia formosa* and *Eretmocerus eremicus*) (Rincon-Vitova), 'Eretsure (e)' (Biological Crop Protection), 'Eretmocerus-System' and 'Eretmix-System' (mixture of *Encarsia formosa* and *Eretmocerus eremicus*) (Biobest), 'Eretmocerus nr. californicus' (Biocontrol Network).

APPLICATION: The parasitoid is sold as parasitised *Bemisia tabaci* or *Trialeurodes vaporariorum* pupae that are sometimes attached to the surface of small cards. These should be placed on the infested plants and the adult wasps allowed to move into the area to be treated.

PRODUCT SPECIFICATIONS: Purity: Containers contain parasitised pupae in bran and no impurity.

COMPATIBILITY: Incompatible with residual insecticides.

MAMMALIAN TOXICITY: *Eretmocerus eremicus* has not demonstrated evidence of toxicity, infectivity, irritation or hypersensitivity to mammals. No allergic responses or other adverse health problems have been observed by research workers, manufacturing staff or users.

ENVIRONMENTAL IMPACT AND NON-TARGET TOXICITY: *Eretmocerus eremicus* occurs in Nature and, as such, is not expected to show any adverse effects on non-target organisms or on the environment. It is an obligate parasitoid of whiteflies. **Approved for use in organic farming:** Yes.