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**14.78 – *Frankliniella occidentalis* (Pergande, 1895) - Western flower thrips
(Thripidae, Thysanoptera)**

Alain Roques

Description and biological cycle: Tiny, slender thrips with narrow fringed wings (*Photo*). Males, 1.2–1.3 mm long, are pale yellow, females, 1.6–1.7 mm long, are yellow to brown; larvae are yellowish-white. Adults and larvae suck plant fluids from flowers and leaves of at least 244 plant species from 62 families. Western flower thrips reproduces in glasshouses with 12–15 generations/year. Overall life cycle lasts from 44 d at 15 °C to 15 d at 30 °C. A female can lay 20–40 eggs. Unmated females produce males. Different developmental stages are typically found in different parts of plants: eggs in leaves, flower tissue and fruits; nymphs on leaves, in buds and flowers; pupae in soil or in hiding places on host plants such as the bases of leaves; adults on leaves, in buds and flowers.

Native habitat (EUNIS code): I - Regularly or recently cultivated agricultural, horticultural and domestic habitats.

Habitat occupied in invaded range (EUNIS code): I1- Arable land and market gardens; J100 - glasshouses.

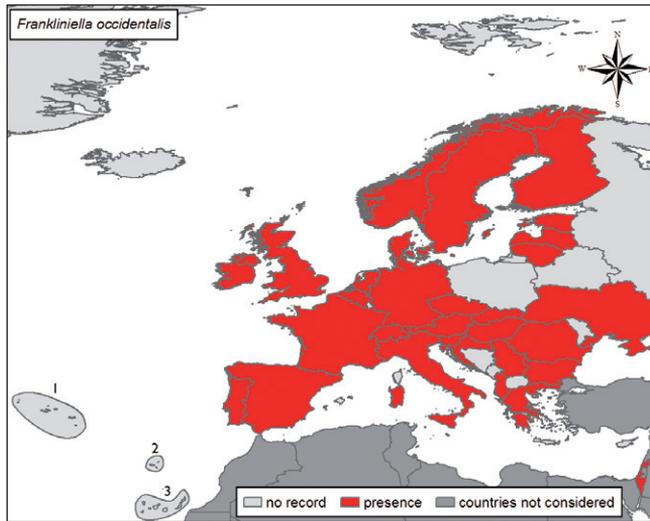
Native range: North America.

Introduced range: Reported from all continents; first record in Europe in 1983 in the Netherlands; continuous and rapid spread since the 1980s; present in glasshouses in North and central Europe, but already outdoors in Southern Europe (*Map*).

Pathways: Intercontinental dispersal of eggs, larvae and adults is taking place with the trade of ornamental plants (e.g., cut flowers, potted plants). Adults can be easily carried by winds, but also by clothes, equipment and containers not properly cleaned.



Credit: Philippe Reynaud



Impact and management: An outdoor pest as well as a glasshouse pest. Flowers and foliage of a great number of economically important crops are affected, in glasshouses as well as outdoors. On ornamental flower crops, feeding induces discolouration, indentation, distortion and silvering of the upper leaf surface as well as scarring and discolouration of petals and deformation of flower heads, largely reducing their economic value. In orchids, eggs laid in petal tissues cause a ‘pimpling’ effect on flowers. This thrips also kills or weakens terminal buds and blossoms in fruit trees (e.g., apricot, peach) and roses, and on most fruiting vegetables, especially cucumbers. In addition, nymphs are vectors of tobacco streak ilarvirus (TSV) and tomato spotted wilt virus (TSWV), which is inducing severe diseases in ornamental and vegetable crops in Europe. Blue sticky traps can be used to detect initial infestation and to monitor adult population levels. Chemical control is difficult because this thrips is resistant to most pesticides and feeds deep within the flower or on developing leaves. Biological predatory mites (e.g., *Neoseiulus cucumeris*, *Amblyseius* spp. and *Hypoaspis* spp.) and minute pirate bugs (e.g., *Orius laevigatus*, *O. insidiosus*) provide effective biological control, in glasshouses.

Selected references

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