






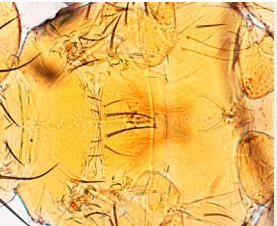
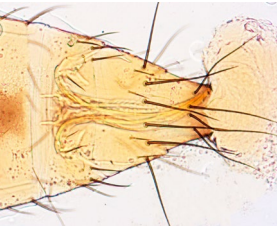





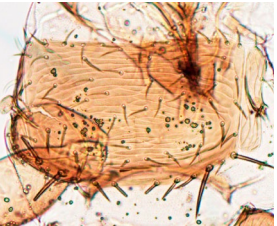

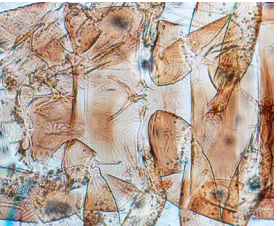
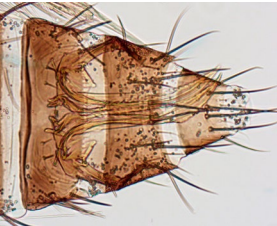


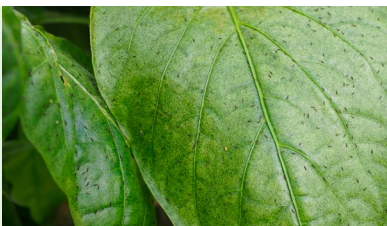

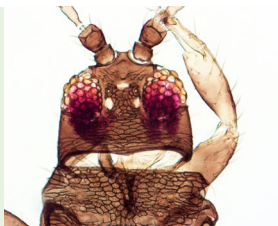
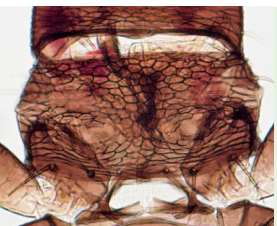

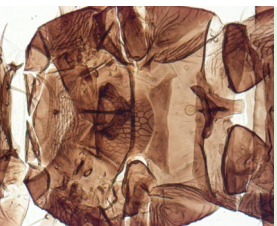
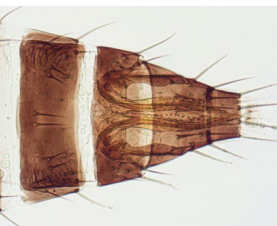


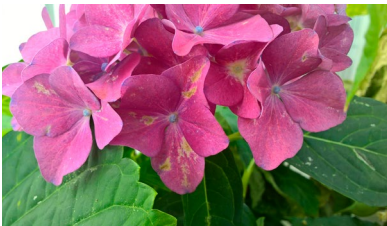


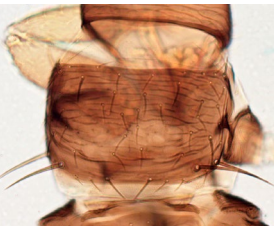

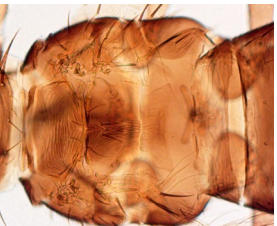
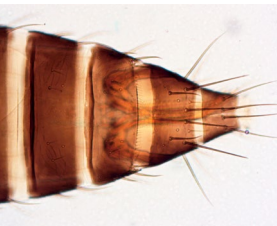


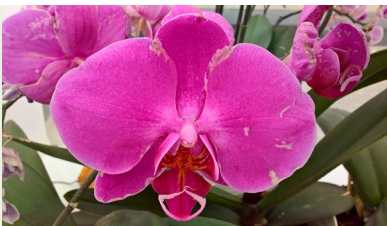

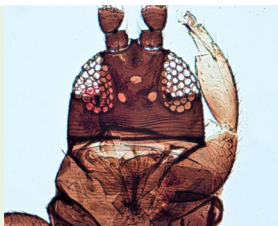


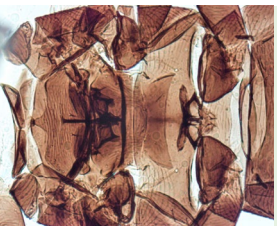
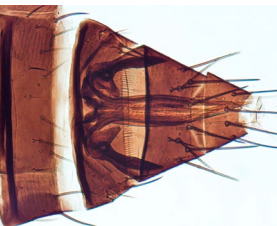



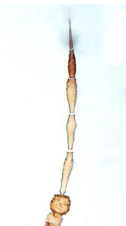
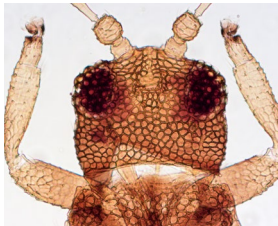
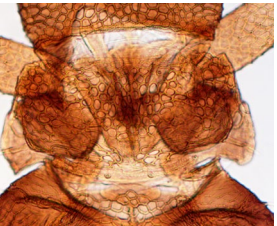

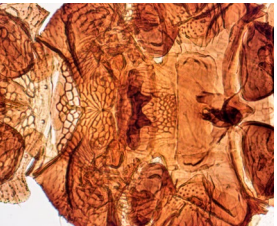



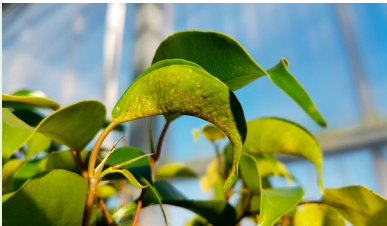




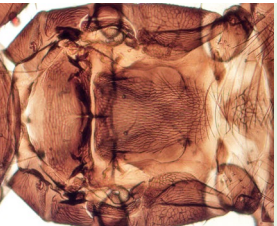





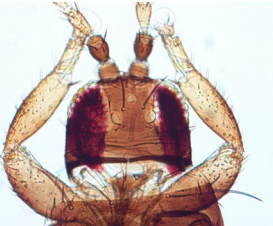
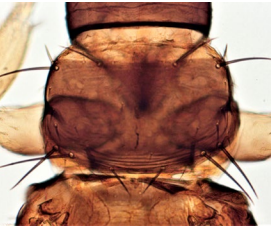

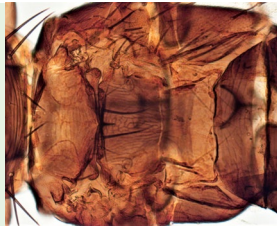





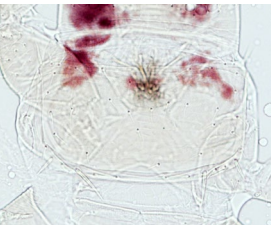

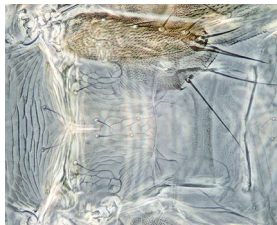


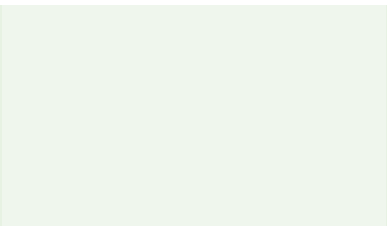

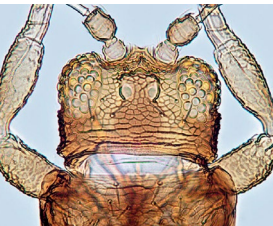
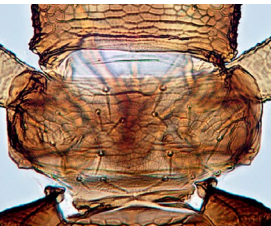

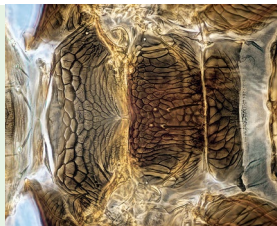


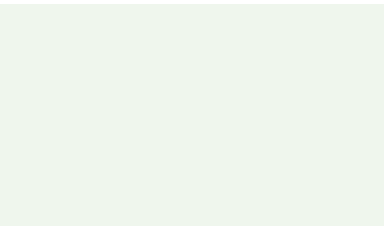
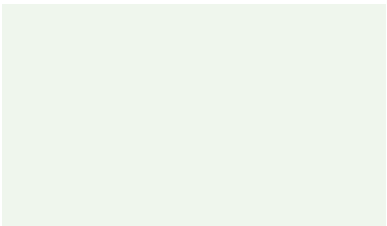


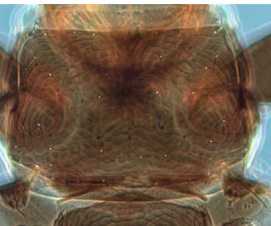
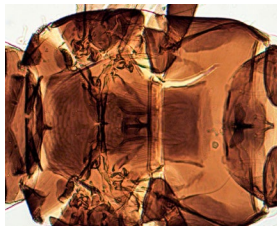
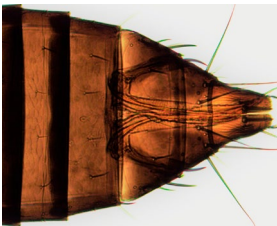

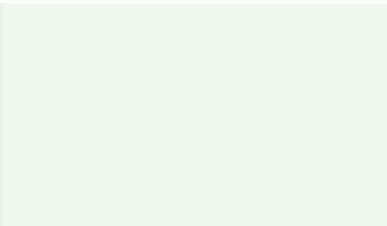


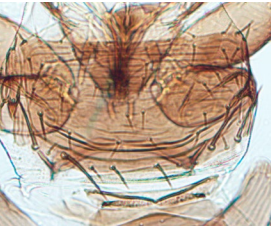
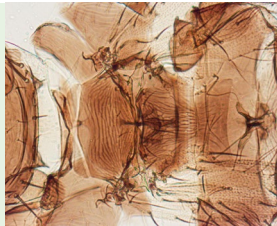
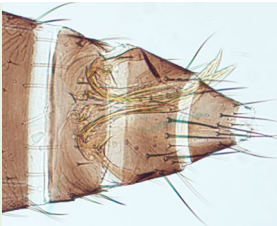




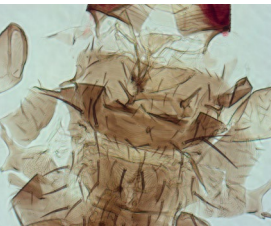

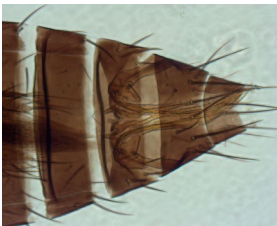

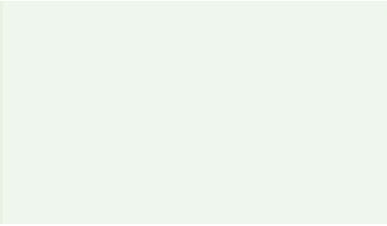

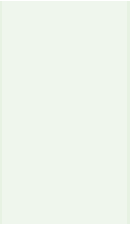
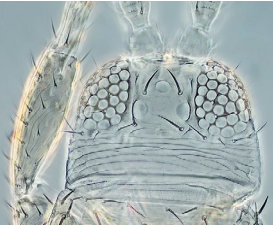





Knowing and recognising thrips in your crops

	Adult	Larva	Damage	Antenna	Head	Pronotum ¹	Wing	Meso- and metanotum ²	Abdominal tergites with comb	Morphological characteristics	Behaviour and life cycle	Damage	Host plants
Western flower thrips <i>Frankliniella occidentalis</i>										Females 1.2 mm long, males 1 mm. Variable in colour, from yellow to dark brown. 8 antennal segments. Long setae below the compound eyes and 2 between the ocelli. Upper part of pronotum with long setae. Forewing with 2 complete rows of veinial setae. Comb complete with small microtrichia.	Adults and larvae prefer flowers where they feed on pollen, but they can also be present on leaves. Pupation occurs in the substrate or on plants. Developmental time at 25°C is 15 days. Females live about 20 days and lay 2-5 eggs per day.	Feeding causes 'silvering' on leaves along with leaf, flower or fruit deformation. This species is the most important vector for both tomato spotted wilt virus (TSWV) and impatiens necrotic spot virus (INSV); will also transmit tomato chlorotic spot virus (TCSV).	Broad range of host plants, both vegetable and ornamental plants.
Onion thrips <i>Thrips tabaci</i>										Females 0.8 -1.0 mm long. Males smaller and very rare. Light yellow to brown in colour. 7 antennal segments. Upper part of pronotum with short setae. Comb complete with long microtrichia.	Mainly found near the leaf veins, pupates in the substrate. Females produce 70-100 eggs in total, about 2-5 per day. Developmental time at 25°C is 13 days (measured on cucumber).	Both adults and larvae cause damage that appears as a silvery streaking or whitish blotches on leaves. Feeding can also cause spots on flowers. Vector of TSWV.	Outside very common on onion and leek, in greenhouses found on both ornamental and vegetable plants.
Poinsettia thrips <i>Echinothrips americanus</i>										Females 1.6 mm long, males 1.3 mm. Dark brown to black and armoured. End segments of legs yellow. Forewings dark, but sharply white near the base. 8 antennal segments. Pronotum strongly reticulate. Comb complete.	Typically leaf-dwelling thrips. They do not feed on pollen. Often found on the lower leaves in plants. Adults not very active flyers and not often found on sticky traps. All stages stay on the plant, no pupation in the substrate.	Feeding causes a greyish colouration of the leaves and eventually leaf death and abscission. The species is not known to transmit viruses.	Ornamental plants (rose, gerbera), pepper, cucumber and aubergine.
Japanese flower thrips <i>Thrips setosus</i>										Females ca. 1.3 mm long, dark brown. Males yellow. Dark forewings, but sharply white near the base. 7 antennal segments, segment III and IV slender and light. Upper part of pronotum with short setae. Clear comb with long microtrichia.	All stages found on plants, both leaves and flowers, but they do not feed on pollen. Present on both the lower and upper leaf surfaces. Will go into diapause in response to less than 12 hours light per day and low temperatures. Will probably also survive outside greenhouses.	Silvery coloured feeding spots on leaves. Primarily leaf feeding, but can also occur in flowers. Vector of TSWV.	Hydrangea, poinsettia, potted plants, lily, strawberry, chrysanthemum, tomato, pepper, cucumber, rose and gerbera.
Vanda thrips <i>Dichromothrips corbettii</i>										Females 1.0-1.2 mm long, dark brown to black. Dark forewings, but sharply white near the base. 8 antennal segments. Short setae on head and pronotum. Clear comb with long microtrichia.	Mainly present in flowers, but also on leaves. All stages present on the plant.	Feeding leads to deformed flowers and flower spotting. Virus transmission is not known.	<i>Orchidaceae</i> : vanda, phalaenopsis and cattleya.
Palm thrips <i>Parthenothrips dracaenae</i>										Brown coloured thrips, forewings mainly pale with 2 dark cross bands. End segments of legs yellow. 7 antennal segments, I-V largely yellow and all slender. Head and pronotum strongly reticulate. Larvae typically have hairs with thickened ends. Comb not clear.	Present on old leaves, larvae occur in groups together on the lower leaf surface. All stages present on the plant.	Silvery coloured feeding spots on leaves.	Ficus species, dracaena, palm and orchid.
Leaf-gall thrips of ficus <i>Gynaikothrips uzeli</i>										Relatively large species, 2.6-3.6 mm long. Yellow brown to black in colour. Head longer than width with clear red eyes. 8 antennal segments. Last segment tube-shaped.	Adults migrate to terminal leaves and establish folded-leaf galls. Mating, egg laying, and a complete generation develop within a single gall. Adults exit galls and migrate to new terminal leaves to begin a new generation. The life cycle takes about 30 days. Thrips move rapidly after disturbance.	Feeding causes sunken purplish-red spots on leaves. Feeding also results in a specific, directed growth reaction that causes the leaf to roll, or the leaf may fold along the midrib.	<i>Ficus benjamina</i> .

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European flower thrips <i>Frankliniella intonsa</i>										Body and legs variable in colour, but mainly brown. Morphologically close to western flower thrips, but without the long hairs below the compound eyes. 8 antennal segments. Upper part of pronotum with long setae. Forewing with 2 complete rows of veinal setae. Comb complete with short microtrichia.	Typical flower thrips, all stages found mainly in flowers.	Fruit damage in strawberry, vector of TSWV, INSV, TCSV.	Broad host range of flowering plants with pollen. Damage reported on strawberry, but potential pest status for other crops is unclear.
Orchid thrips <i>Chaetanaphothrips orchidii</i>										Adults ca. 1 mm long and yellow. Forewings dark with a clear white band. 8 antennal segments. Pronotum with 2 pairs of prominent setae in the lowest row, other setae short. Metanotum weakly reticulate. Comb not complete.	Adults and larvae present in flowers and on fruit. Pupation occurs in the substrate. Long developmental time of about 5 weeks at 20°C.	Feeding damage on leaves and fruits. In anthurium, colonised flowering bracts do not open, leaves become deformed and brown coloured.	<i>Orchidaceae</i> , <i>Musaceae</i> (banana family), <i>Rutaceae</i> (citrus family) and anthurium.
Banded greenhouse thrips <i>Hercinothrips femoralis</i>										Female adults ca. 1.5 mm long, first yellow, becoming dark brown to black. Legs partly yellow. Forewings brown but pale at apex and sub-basally, and with submedian area variably lighter. 8 antennal segments with last segment elongated to sharp point. Pronotum without long setae. Comb not complete.	Adults and larvae found on leaves, pupation occurs low in the crop on old leaves. Not very mobile, doesn't move even after disturbance. Life cycle takes about 4 weeks.	Feeding causes 'silvering' on leaves.	Many different and unrelated plant species, including several greenhouse crops: orchid, ficus, aubergine, chrysanthemum and herbs.
Grain thrips <i>Limothrips cerealum</i>										Female adults dark brown, 1.2-1.4 mm long. Males wingless, 0.6-0.8 mm long. 8 antennal segments. Head longer than width with short setae. Forewing first vein with 2 setae on distal half, second vein with about 8 setae. Pronotum with 1 pair of long setae in the lower row. Comb not present.	Present on leaves and in leaf axils. Often swarming in enormous numbers during dry and warm mid-summer days, associated with thundery weather and therefore these insects are also called 'thunderflies'. Can be found in high numbers on sticky traps in greenhouses.	Do not cause any damage to greenhouse crops.	Cereals and grasses, greenhouse plants are not suitable hosts.
Rose thrips <i>Thrips fuscipennis</i>										Females dark brown with last abdominal segments almost black. Males yellow to light brown and smaller. 7 antennal segments. Forewing first vein with 3 setae on distal half; second vein with 12-15 setae. Clear line structure on head and pronotum. Pronotum with 2 pairs of long setae in the lower row. Comb not complete.	Often abundantly present in vegetation near greenhouses, present in flowers and on leaves. Adults mainly found in flowers.	Feeding causes 'silvering' of leaves and flower damage.	<i>Rosaceae</i> : rose, strawberry. <i>Solanaceae</i> : tomato, pepper, aubergine.
Tobacco thrips <i>Thrips parvispinus</i>										Female body brown, head and thorax paler than abdomen, head commonly with cheeks darker than median area; legs mainly yellow. Males yellow. 7 antennal segments. Pronotum with 2 pairs of long setae in the lowest row. Forewing first and second veins with complete rows of setae. Comb almost absent.	Present on leaves and in flowers. Apparently attracted to white flowers.	Feeding causes obvious deformation of younger leaves.	Asian species but recently established in EU. Very polyphagous with a wide host range. Found on ficus, gerbera, gardenia, mandevilla and schefflera.
Melon thrips <i>Thrips palmi</i>										Adults 1.2 mm long, body and legs yellow, major setae light brown. 7 antennal segments. Pronotum with rather long setae, 2 pairs of long setae in the lowest row. Forewing first vein with 2 or 3 setae on distal half, second vein with row of about 15 setae. Comb complete with long microtrichia.	Tropical species. Adults and larvae present on leaves and flowers, pupation occurs in the substrate. Reproduction time is about 18 days at 25°C. Females lay 20-60 eggs in total, depending on the host plant.	Feeding results in silvery spots near leaf veins. At high densities, leaves and fruit turn brown and growth is reduced. Vector of TSWV and other viruses.	Q-organism in the EU and not present, but sometimes detected on imported plant material. Very polyphagous species. Pest of chrysanthemum, orchid, rose, potted plants cucumber, courgette, aubergine, tomato and pepper.