

This short description was prepared in the framework of the EU FP7 project DROPSA - Strategies to develop effective, innovative and practical approaches to protect major European fruit crops from pests and pathogens (grant agreement no. 613678). This pest was listed in the DROPSA alert lists for orange and mandarin, and *Vitis* fruits.

Brevipalpus chilensis (Acarida: Tenuipalpidae)

Fruit pathway: Yes, as mobile forms, with an uncertainty. For citrus, low populations on fruit and under the calyx (Olivares *et al.*, 2012). Association with citrus fruit at harvest is mentioned in Childers and Rodrigues (2011) as a possible mean of transferring *Brevipalpus* mites to further trees by wind or contact. This mechanism is also considered possible (with an uncertainty) for transfer once imported (although USDA, 2015 mentions that Tenuipalpidae are generally slow moving).

It is known to be associated with table grapes and has been intercepted on table grape from Chile to the USA (Biosecurity Australia 2005). However CABI CPC states that table grape cultivars, with the exception of a couple of old red varieties, are practically not attacked by the mite and bunches can be harvested without mobile stages on the berries.

Other pathways: plants for planting, cut flowers and branches. Mites lay eggs on the young shoots and leaves or in the unopened buds of grapevines (DAFF 2013). This mite overwinters as fertilised females, usually in colonies under the bark crevices of host plants (DAFF 2013).

Hosts: Polyphagous, hosts include *Citrus limon*, *Citrus reticulata*, *Citrus sinensis*, *Malus domestica*, *Cydonia oblonga*, *Pyrus communis*, *Prunus armeniaca*, *Rubus idaeus*, *Ficus carica* (Koch and Waterhouse, 2000), *Actinidia deliciosa*, *Annona cherimola*, *Ficus benghalensis*, *Ligustrum sinense*, *Vitis vinifera* (mentioned as main hosts), and also *Antirrhinum*, *Chrysanthemum*, *Citrus aurantium*, *Citrus limon*, *Citrus sinensis*, *Diospyros kaki*, *Geranium* (CABI CPC). It also attacks species of forest trees, ornamentals and annual weeds (Biosecurity Australia 2005)

Distribution: South America: Chile (CABI CPC). Not present in Argentina (misidentified; Regonat, 2014). Doubtful record: India (Vacante, 2015). This is considered doubtful because Mani *et al.* (2013, from India) mention its presence only in Chile.

Damage: *B. chilensis* is an important pest of various horticulture crops in Chile, and is capable of causing significant reductions in the production of marketable fruit. Among fruit trees, grapevines are the most economically affected crops, particularly red grape wine cultivars; on table grapes, with few exceptions (e.g. the black cultivar Ribier), economic damage has never been observed (CABI CPC). *B. chilensis* causes necrosis of tissues in leaves and buds, and leads to reduced vigour of the grapevine plants; at high density, it may cause 30-40% reduction of yield (Olivares, 2008). *B. chilensis* has been described as a very destructive pest of grapevine, affecting leaves and spreading to grape bunches (Biosecurity Australia 2005). This mite is recognised as a significant pest of grapes in Chile and causes as much as 30% crop loss (DAFF 2013). However, this level of damage seems to refer to past references according to USDA (2015).

For Citrus, it affects lemons, oranges, clementines and, more frequently, mandarins, but without economic damage (very low levels of mites on leaves and fruit, but there are pre- and post-harvest treatments) (CABI CPC). It causes minor direct damage (in very high populations, stains on fruit), but is important because it is a quarantine pest for some countries and causes rejection of fruit at export (Ripa and Larral, 2008; Olivares *et al.*, 2012). On kiwifruit, it scars shoots and petioles (CABI CPC), but does not cause damage. It is considered to pose a significant threat to agriculture in many countries as a high risk exotic pest introduction due to its wide host range and destructive potential. Its ability to vector plant viruses is unknown (Childers and Rodrigues, 2011).

Other information: Quarantine pest in USA (CAPS 2007) and in New Zealand (DAFF 2013). Intercepted on lemons from Chile (CABI CPC). The quarantine concern through fruit exports is limited by the cold storage treatments to which citrus fruits and grapes are subjected, provided that storage at 3-4°C extends beyond 3 to 4 weeks. The mites are active throughout the year on citrus, but

inactive in winter on grapes, kiwifruit and other deciduous crops (CABI CPC). Proposed in answer to the EPPO questionnaire on pests of concern for citrus and *Vitis*.

Recorded impact: High (on <i>Vitis</i>)	Intercepted: Yes	Spreading/invasive: Not known
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