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 apple, orange and mandarin, and *Vitis* fruits.

***Dichocrocis punctiferalis* (Lepidoptera: Crambidae)**

**Fruit pathway:** eggs laid on fruit surface, larvae bore into fruit (CABI CPC). Although affected fruit are considered unlikely to be harvested or packed in USDA (2014), the pest has been intercepted on fruit (see Other information). On grapes, adults lay eggs individually on stalks; larvae bore into stalks or feed on berries. Larvae web the fruit together and feed on them. Pupation occurs in feeding galleries (Biosecurity New Zealand 2009a).

**Other pathways:** plants for planting; larvae overvinter in stems or under the bark of fruit trees (or on maize in ear and stems), depending on crops, feeding on leaves and shoots is also mentioned (USDA, 2014; NBAIR, 2016). Adults feed on nectar (CABI CPC, Biosecurity New Zealand 2009a and 2009b)

**Hosts:** Polyphagous, recorded on 65 host plants from 30 different families (Molet 2015). Major hosts include *Prunus persica*, *Sorghum bicolor* and *Helianthus annuus*, minor hosts are e.g. *Malus domestica*, *Carica papaya*, *Citrus nobilis*, *Diospyros*, *Ficus carica*, *Zea mays*, *Mangifera indica*, *Morus alba*, *Nephelium lappaceum*, *Vitis vinifera* (CABI CPC), *Citrus* (USDA, 2014; Li et al., 1997), *Curcuma longa, Gossypium; Macadamia ternifolia, Morus alba, Psidium guajava, Punica granatum, Ricinus communis, Zingiber officinale* (EPPO GD).

**Distribution: Asia**: China, India, Indonesia, Japan, Korea DPR, Malysia, Myanmar, Sri Lanka, Taiwan; Bangladesh, Burma (USDA 2016); **Oceania**: Australia, Papua New Guinea (EPPO GD). The pest occurs mostly in the subtropics, but it is also recorded from Hokkaido prefecture (north Japan), and northern China (Korycinska 2012).
CABI CPC includes several countries that were not listed when the distribution was studied in EPPO GD, and are therefore considered uncertain: Asia: Brunei Darussalam, Cambodia, Korea Rep., Laos, Philippines, Thailand, Vietnam (originating from one publication). Doubtful record: Pakistan (interception only; Korycinska 2012).
Absent, intercepted only: UK is recorded in Fauna Europeae (de Jong *et al.* 2014), but the pest is not present (intercepted only) (Korycinska 2012).

**Damage:** Damage is caused by larvae, which bore into stems, shoots, buds, fruits, and seeds of many plants. Boring by this species can predispose the fruits to secondary pathogens (Molet 2015). On Citrus, larval feeding causes discoloration and splitting of fruit, and fruit drop (USDA, 2014). On castor bean, larvae bore into shoots and capsules, which are webbed together with dark excreta; on sorghum, larval feeding leads to webbing of grains and broken grains; it sometimes bore into fruits of guava and pomegranate (NBAIR, 2016). In China, it causes serious damage to Chinese chestnut (Zu and Qin 2009), and is one of the most important insect pest on peaches in southern China and an important pest on apples in northern China (CABI CPC). In Southern China on Citrus, it is rated as important locally or only in some years (Li et al., 1997). In North Queensland, it is one of the major pests on *Nephelium lappaceum* (rambutan) and *Durio zibathinus* (durian), and 5% yield loss is also reported in Chinese maize (Korycinska, 2012). Without control measures it is able to destroy 90% of rambutan fruit clusters (Biosecurity New Zealand 2009b). There is an uncertainty on the impact; however the information available tends to indicate a high impact on some hosts. *D. punctiferalis* can reach high population levels, due to multiple generations per year and damages the stem, fruit and seeds of their host plant. Their excretions have a high sugar content, which promote secondary infections with other arthropods and pathogens (Biosecurity New Zealand 2009b). There is an uncertainty on the impact; however the information available tends to indicate a high impact.

**Other information:** Intercepted on fruit from several countries in the UK (18 interceptions in 2007-2012, on *Annona squamosa*, *Mangifera indica*, *Psidium*) and in the Netherlands (Korycinska 2012). Over 100 interceptions of *D. punctiferalis* larvae in the USA (Molet 2015).

Synonym *Conogethes punctiferalis* used in Korycinska 2012, CABI CPC and Biosecurity Australia (2010). *C. punctiferalis* is a very poorly defined species complex, and there is confusion in the literature over the identity of the species studied (Korycinska 2012). Synonym *Conogethes punctiferalis* used in Korycinska 2012, CABI CPC and Biosecurity Australia (2010). The complex *D. punctiferalis* contains at least two species, one polyphagous form that feeds on fruits and several plant families and an oligophagous leaf-feeder on Pinaceae in Japan and China (Biosecurity New Zealand 2009a).

Listed as pest of phytosanitary concern by New Zealand, USA and Canada (Biosecurity New Zealand 2009b, USDA 2016, Canadian Food Inspection Agency 2016).

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| **Impact:** High (on another crop, uncertain) | **Intercepted:** Yes | **Spreading/invasive:** Not known |

**References:**


Biosecurity Australia 2010. Final import risk analysis report for fresh apple fruit from the People's Republic of China. Department of Agriculture, Fisheries and Forestry, Canberra, 370 p.

Biosecurity New Zealand 2009a. Import risk analysis: table grapes (*Vitis vinifera*) from China. MAF Biosecurity New Zealand, Wellington, New Zealand, 314 p.

Biosecurity New Zealand 2009b. Import Risk Analysis: Pears (*Pyrus bretschneideri*, *Pyrus pyrifolia*, and *Pyrus* sp. nr. *communis*) fresh fruit from China. Ministry of Agriculture and Forestry.

CABI CPC. Crop Protection Compendium. CAB International, UK. URL: http://www.cabi.org/cpc

Canadian Food Inspection Agency 2016. D-95-08: Phytosanitary import requirements for fresh temperate fruits and tree nuts. URL: http://www.inspection.gc.ca/plants/plant-pests-invasive-species/directives/horticulture/d-95-08/eng/1322413085880/1322413275292#a2_2

de Jong Y. *et al.* 2014. Fauna Europaea - all European animal species on the web. Biodiversity Data Journal 2: e4034. doi: 10.3897/BDJ.2.e4034.

EPPO GD. EPPO Global Database, European and Mediterranean Plant Protection Organization, France. URL: https://gd.eppo.int

Korycinska A 2012. Rapid assessment of the need for a detailed Pest Risk Analysis for *Conogethes punctiferalis* (Guenée). The Food and Environment Research Agency.

Li L, Wang R, Waterhouse DF. 1997. The Distribution and Importance of Arthropod Pests and Weeds of Agriculture and Forestry Plantations in Southern China. ACIAR, Canberra, Australia.

Molet T 2015. CPHST Pest Datasheet for *Conogethes punctiferalis*. USDA-APHIS-PPQ-CPHST.

NBAIR. 2016. *Dichocrocis punctiferalis* (Guenée) (=*Conogethes punctiferalis* (Guenée)). ICAR-National Bureau of Agricultural Insect Resources (India). http://www.nbair.res.in/insectpests/Dichocrocis-punctiferalis.php.

Zu WF, Qin LZ 2009. A Review on *Dichocrocis puncfiferalis* Guenee [J]. Journal of Hebei Agricultural Sciences, 1, 007.

USDA. 2014. Importation of Citrus spp. from China into the continental United States. A Qualitative, Pathway-Initiated Pest Risk Assessment. February 7, 2014.

USDA 2016. Importation of Grape (*Vitis vinifera* L.) from India into the Continental United States. A Qualitative, Pathwy-Initiated Pest Risk Assessment.United States Department of Agriculture, Animal and Plant Health Inspection Service.

Zu WF, Qin LZ. 2009. A Review on Dichocrocis puncfiferalis Guenee [J]. Journal of Hebei Agricultural Sciences, 1, 007.