Mini data sheet on *Diocalandra frumenti*

Added in 2003 – Deleted in 2011

Reasons for deletion:
A PRA on *Diocalandra frumenti* was conducted in 2011 and concluded that this insect did not qualify as a quarantine pest, as there were too many uncertainties about its impacts.

*Diocalandra frumenti (*Coleoptera: Curculionidae - four-spotted coconut weevil)

Why	*Diocalandra frumenti* (syn: *Diocalandra stigmaticollis*) was observed for the first time in 1998 on *Phoenix canariensis* in the south of Gran Canaria (Islas Canarias, Spain). As this palm borer can cause damage to many palm species (including date palms and many ornamental species) it is felt that it could represent a threat to palm-growing countries around the Mediterranean Basin.
Where	**EPPO region**: Spain (Islas Canarias only). Found in 1998 in the south of Gran Canaria, and then in other islands (Fuerteventura, Lanzarote and Tenerife). More data is needed on the severity of the attacks on *P. canariensis*. **Africa:** Madagascar, Seychelles, Somalia, Tanzania (including Zanzibar). **Asia**: Bangladesh, India, Indonesia, Japan (Okinawa: Ryukyu archipelago; Moritomo, 1985), Malaysia, Myanmar, Philippines, Singapore, Sri Lanka, Taiwan, Thailand. **Oceania:** Australia (Northern Territory, Queensland), Guam, Palau, Papua New Guinea, Samoa, Solomon Islands. **South America**: Ecuador.
On which plants	Economically important palm species such as: *Cocos nucifera, Phoenix dactylifera, P. canariensis, Elaeis guineensis*. In the literature a large number of other palm species are mentioned, such as: *Archontophoenix alexandrea, Chrysalidocarpus lutescens, Howea belmoreana, Mascarena verchaffeltii, Phoenix loureirii, Phoenix roebelenii, Roystonea regia*.
Damage	Larvae of *D. frumenti* bore galleries in roots, petioles, inflorescences and fruits of palms. Gummy exudates are usually seen near the gallery entrance. Larvae cause premature yellowing and collapse of palm fronds, emergence holes in new and old fronds, premature shedding of fruits. Death of mature *P. canariensis* is reported from Australia. Eggs are laid in various sites: inflorescences, base of petioles or peduncles, in cracks near adventitious roots at the base of the stem. Larvae develop within the palm tree. Pupation takes place within the larval gallery but no cocoon is made. Adults are small (6-8 mm long), shiny black weevils with four large reddish to brownish-yellow spots on the elytra.
Dissemination	No data is available on natural spread, but adults can move over at least small distances. Exchange of infested plants or palms can ensure spread of the pest over long distances.
Pathway	Plants for planting, palms from countries where *D. frumenti* occurs.
Possible risks	Palm trees are grown around the Mediterranean Basin for fruit production (*P. dactylifera*) or ornamental purposes (*P. canariensis* and many other species). More data is needed on the economic impact of *D. frumenti*, in particular on date palms, but tree mortality is reported at least on *P. canariensis*. Control of *D. frumenti* is difficult because of its hidden mode of life. For the same reason, detection of the insect is difficult. The example of another serious palm borer *Rhynchophorus ferrugineus* recently introduced into Spain and currently spreading in the Near East has shown that this type of insect is likely to be moved unnoticed on palm material.
Source(s)	Anonymous (1968) CABI Distribution maps of pests, *Diocalandra frumenti*, Map no. 249. CABI, Wallingford, UK. González Núñez, M.; Jiménez Álvarez, A.; Salomones, F.; Carnero, A.; Del Estal, P.; Esteban Durán, J.R. (2002) *Diocalandra frumenti* (Fabricius) (Coleoptera: Curculionidae), nueva plaga de palmeras introducida en Gran Canaria. Primeros estudios de su biología y cría en laboratorio. Boletín de Sanidad Vegetal Plagas, 28(3), 347-355. Hill, D.S. (1983) *Diocalandra frumenti*. In: Agricultural insect pests of the tropics and their control. 2nd Edition. Cambridge University Press, Cambridge, UK, p 478-479.

Howard, F.W.; Moore, D.; Giblin-Davis, R.M.; Abad, R.G. (2001) Insects on palms, CABI publishing, 400 pp.

Liao, C.T.; Chen, C.C. (1997) Primary study the insect pests, hosts and ecology of weevil attacking ornamental palm seedlings. Bulletin of Taichung District Agricultural Improvement Station. no. 57, 43-48 (abst).

Llorens Climent JM (2009) Relación de nuevas plagas de cultivos encontradas en España en los últimos diez años. *Phytoma España* no. 212, 50-56.

Morimoto, K. (1985) Supplement to the check-list of the family Rhynchophoridae (Coleoptera) of Japan, with descriptions of a new genus and four new species. Esakia, no. 23, 67-76 (abst.).

Web site of the Nursery and Garden Industry Australia. The Nursery Papers. Issue no 1998/02. Getting control of weevil borers and leaf beetles in palms. http://www.ngia.com.au/np/pdf/98no02.pdf

EPPO RS 2003/080, 2010/058
Panel review date 2011-04 Entry date 2003-05