

# Factsheet *Ceratitis punctata* (Wiedemann)

**Original name:** *Tephritis punctata* Wiedemann, 1824: 55.

**Vernacular name:** none

## **Formal redescription** (after De Meyer, 1996 with modifications)

Body length: 6.86 (6.0-7.5) mm; wing length: 6.86 (6.5-7.0) mm.

### Male

Head. Antennal segments orange-red. Third antennal segment twice as long as second segment. Arista basal part orange coloured, otherwise dark. Frons yellowish in ground colour, silvery over length of lower third, not extending beyond the frontal setae; with dispersed short hairs, distinctly darker than frons. Ocellar triangle dark. Face orange to orange-red; no median band. Occiput moderately swollen below, pale whitish. Chaetotaxy normal for subgenus.

Thorax. Ground colour of mesonotum greyish to grey-brown; also with three poorly defined darker stripes, usually interrupted; sometimes with darker spots along prescutellar acrostichal setae. Postpronotum same colour as mesonotum. Chaetotaxy normal for subgenus. Mesonotum with pale pilosity. Anepisternum along upper margin with darker hairs, otherwise pale pilosity. Two anepisternal bristles. Scutellum yellow with apical markings black; basally with two distinct dark spots.

Legs dark yellow to orange brown; setation typical of subgenus. Setae dark, front femur with posterior row dark.

Wings with brownish bands, yellow markings strongly reduced. Banding, setation and venation normal for subgenus. Marginal band continuous; discal band joined with marginal band; cross-vein r-m at middle of discal cell; vein R<sub>1</sub> ending before or opposite cross-vein r-m.

Abdomen. greyish, with clearly defined spots. Pattern of spots and setation normal for subgenus.

### Female

As male except for the following characters. Third antennal segment two to three times as long as second. Frons yellow, not silvery. Face wholly yellow; at antennal socket sometimes with a darker horizontal band. Oviscape shorter than abdominal terga 3-6, orange in colour.

Remark: this species very similar to *C. millicentae* but can be differentiated by the silvery microtrichosity on the frons in the males (only for one-third in *C. punctata*, complete in *C. millicentae*) and the shape of the tip of the aculeus (simply pointed in *C. punctata*, bi-lobed in *C. millicentae*).

Encyclopedia of Life link: <http://eol.org/pages/723952/overview>

## **DNA barcoding**

Multiple reference DNA barcodes from the species distribution are available on the Barcode of Life Data Systems (BOLD) at :

[http://www.boldsystems.org/index.php/Taxbrowser\\_Taxonpage?taxon=Ceratitis+punctata&searchTax=](http://www.boldsystems.org/index.php/Taxbrowser_Taxonpage?taxon=Ceratitis+punctata&searchTax=)

In BOLD (March 2017), *C. punctata* only forms monospecific BINs. For this reason, DNA barcoding might be considered as a suitable tool for the molecular identification of this species.

## Host plant list

A polyphagous species reported from a number of wild and commercial hosts, but confirmation is required for most of the latter ones (as there is the possibility of confusion with other *Ceratitis* species of the subgenus *Pardalaspis*, which have a similar morphological appearance). Throughout its range it is recorded from the hosts listed in the table below.

PlantFamily	PlantLatinName	PlantCommonNameEnglish
Anacardiaceae	Mangifera indica	mango
Annonaceae	Annona senegalensis	wild custard apple
Annonaceae	Annona sp.	
Apocynaceae	Carpodinus hirsuta	
Apocynaceae	Landolphia sp.	
Apocynaceae	Tabernaemontana sp.	
Lecythidaceae	Napoleonaea gabonensis	
Moraceae	Ficus sp.	fig
Myrtaceae	Psidium guajava	common guava
N/A	(Unknown)	
Rutaceae	Citrus aurantium	sour orange
Rutaceae	Citrus hystrix	
Sapotaceae	Achra sapota	
Sapotaceae	Richardella campechiana	ties, egg fruit
Sterculiaceae	Theobroma cacao	cocoa

Additional information on host records and associated specimens can be found on :

<http://projects.bebif.be/fruitfly/taxoninfo.html?id=15>

## Impact & management

Data on losses incurred by *Ceratitis punctata* or its impact on fruit production are largely lacking. Entwistle (1972) considers it to be a pest of cocoa.

Management for this species is, as for most fruit fly pests, most efficient using an IPM (Integrated Pest Management) program, including aspects such as orchard sanitation, bait sprays, mass trapping among others. General reviews on the current IPM components applied in Africa can be found in chapters 13 to 20 of Ekesi et al. (2016).

No SIT (Sterile Insect Technique) application specifically for this species has been developed in Africa.

## Attractants & trapping

Both sexes can be attracted by protein bait products such as liquid protein baits and three component Biolure.

Male flies can be attracted by methyl eugenol.

General information on trapping, types of traps, lures and required density of trapping stations can be found in IAEA (2013), Shelly et al. (2014), and Manrakhan (2016).

## Distribution

*Ceratitis punctata* is widespread in western and central Africa, but dispersed records are available throughout eastern and southern Africa. Some of the latter data need to be confirmed as they can be based upon specimen records for *C. millicentae* (see above remark under redescription). Recorded from Madagascar but this also needs confirmation. Not established outside Africa.

Distribution map for Africa, based upon specimen records with georeferences, is available at:

<http://projects.bebif.be/fruitfly/taxoninfo.html?id=15>

## REFERENCES

De Meyer, M. 1996. Systematic revision of the subgenus *Ceratitis* (*Pardalaspis*) (Diptera, Tephritidae). *Systematic Entomology* 21: 15-26.

Ekesi, S., S.A. Mohamed & M. De Meyer (Eds). 2016. Fruit fly research and development in Africa – Towards a sustainable management strategy to improve Horticulture, Springer Verlag, xx + 778pp.

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IAEA. 2013. Trapping manual for area-wide fruit fly programmes. IAEA, Vienna, 46pp.

Manrakhan, A. 2016. Detection and monitoring of fruit flies in Africa. In: Ekesi, S., S.A. Mohamed & M. De Meyer (Eds) *Fruit Fly Research and Development in Africa*. Springer Verlag, 253-273.

Shelly, T., N. Epsky, E.B. Jang, J. Reyes-Flores & R. Vargas (Eds). 2014. Trapping and the detection, control, and regulation of tephritid fruit flies. Springer Verlag, Dordrecht, xv+638pp.

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