

Factsheet *Ceratitis quinaria* (Bezzi)

Original name: *Pardalaspis quinaria* Bezzi, 1918: 235.

Vernacular name: Five-spotted fruit fly

(updated April 29th, 2020)

Formal redescription (after De Meyer, 1998)

Body length: 4.20 (3.60-4.75) mm; wing length: 3.93 (3.50-4.50) mm.

Male

Head. Antenna yellow to yellow-orange. Third antennal segment twice as long as second segment. Arista with short hairs over entire length. Frons pale yellow, centre usually deeper yellow coloured; with short scattered hairs which are largely the same colour as frons; concave to flat, in lateral view not distinctly projecting forwards at antennal implant. Chaetotaxy normal for subgenus, except more reddish.

Thorax. Postpronotum white or white-yellow, unspotted. Ground colour of mesonotum pale; mesonotal pattern variable, dorsocentral spots often less distinct. Chaetotaxy normal for subgenus. Scapular setae pale. One anepisternal bristle. Scutellum white basally, otherwise yellow with three apical and two subapical small black spots; basally without dark spots, only slight darker colouration. Subscutellum completely pale.

Legs yellow; setation typical for subgenus, mainly pale especially on femora. Posterior and posterodorsal rows on fore femur pale.

Wing bands with colour of markings variable, yellow to yellow-brown. Banding, marginal band continuous; cubital band free; medial band absent; crossvein r-m well before middle of discal cell, usually at basal third. Crossvein dm-cu position variable.

Abdomen. Pale yellow colour. Setation and banding typical for subgenus.

Female

As male except for the following characters: Scutellum in Aden specimen with lateral sets of spots partly fused. Oviscape shorter than abdominal terga 3-6 combined.

Remark: This species is very similar to *C. silvestrii* but can be differentiated by the five isolated spots on the scutellum. Both species co-occur in western Africa.

Encyclopedia of Life link: <http://eol.org/pages/727726/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+quinaria&searchTax=
(accessed May 2020)

The molecular identification of *C. quinaria* through DNA barcoding proves to be problematic as this species cannot be resolved from the closely related *C. silvestrii* (Virgilio *et al.* 2017). Accordingly, in BOLD, these two species are recovered in a multispecific BIN.

Host plant list

Ceratitis quinaria is a polyphagous species, reported from a limited number of host but including several of economic significance such as mango, guava and peach. It is considered a minor pest for mango in western Africa (Vayssières *et al.*, 2015). Throughout its range it is recorded from the hosts listed in the table below.

PlantFamily	PlantLatinName	PlantCommonNameEnglish
Anacardiaceae	Anacardium occidentale	cashew nut
Anacardiaceae	Mangifera indica	mango
Myrtaceae	Psidium guajava	common guava
Olacaceae	Ximenia americana var. americana	
Rhamnaceae	Ziziphus spina-christi	
Rosaceae	Prunus armeniaca	apricot
Rosaceae	Prunus persica	peach
Sapotaceae	Vitellaria paradoxa	shea butter

Additional information on host records and associated specimens can be found on : <http://projects.bebif.be/fruitfly/taxoninfo.html?id=45>

Impact & management

Details on losses incurred by *Ceratitis quinaria* on commercial crops are very limited. Vayssières *et al.* (2004) reports that 4 to 19% of flies emerging from infested mangoes in Mali belong to this species (note: this is prior to the introduction of *B. dorsalis*). Vayssières *et al.* (2015) reports slightly over 5% of trap catches in mango orchards in Benin belonging to *C. quinaria*.

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 (Buminal and Torula Yeast).

Male flies can be attracted by the following lures: terpinyl acetate, Enriched Ginger Oil (EGO) lure.

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

Distribution

Ceratitis quinaria is reported from the Trans-Saharan belt (from Senegal to Ethiopia and into Yemen) and from drier areas in southern Africa, northwards till central Tanzania. Not established outside mainland Africa.

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

<http://projects.bebif.be/fruitfly/taxoninfo.html?id=45>

Quarantine regulations

Ceratitis quinaria is listed on the A1 quarantine pest list of the EPPO and is a quarantine pest for Israel and Jordan (<https://gd.eppo.int/taxon/CERTQU/categorization>).

Others

CABI Plantwise factsheet on *C. quinaria* can be found at:

<http://www.plantwise.org/knowledgebank/datasheet.aspx?dsid=12377>

CABI invasive species compendium on *C. quinaria* can be found at:

<http://www.cabi.org/isc/datasheet/12377>

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