

# Factsheet *Dacus punctatifrons* Karsch

**Original name:** *Dacus punctatifrons* Karsch, 1887: 8.

**Vernacular name:** none

## Formal redescription (after White, 2006)

Wing length, 4.2-7.7 mm.

Head. Pedicel+1st flagellomere not longer than ptilinal suture. Face, antennal furrow with a dark spot. Frons, frontal setae 2, orbital seta 1.

Thorax. Scutum predominantly red-brown; postpronotal lobe yellow to bicoloured; notopleural callus yellow; notopleural xanthine isolated from notopleural callus; lateral and medial postsutural vittae present. Scutellum without any dark patterning (except for basal dark margin, which is sometimes deep). Anepisternum with a stripe from notopleural callus to (or almost to) katepisternum; extended onto katepisternum. Lateroterga with a single xanthine across both anatergite and katatergite. Thoracic setae. Anterior notopleural seta present; anterior supra-alar seta usually present (rarely absent).

Wing. Basal cells bc and c without an almost complete covering of microtrichia; cell bm without microtrichia. Narrow subbasal raised section of cell br with extensive covering of microtrichia. Crossvein R-M beyond middle of cell dm. Costal band complete; deep, reaching vein R<sub>4+5</sub> but paler below R<sub>2+3</sub> than above; expanded into a small spot at apex. Anal streak present (colour extending beyond cell bcu). Cells bc and c hyaline. Crossbanding, when present, as a crossband along R-M.

Legs. Femora bicoloured (pale basally and red-brown apically).

Abdomen. Predominantly red-brown; shape and patterning, see image. Tergites I-V all fused.

Male. Tergite III with pecten, dense microtrichia adjacent end A<sub>1</sub>+Cu<sub>2</sub>, and hindtibia preapical "pad". Basal costal sections without specialised setae. Female. Aculeus pointed; no torsion; length 1.6-1.8mm.

Encyclopedia of Life link: <http://eol.org/pages/725500/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=Dacus+punctatifrons&searchTax=](http://www.boldsystems.org/index.php/Taxbrowser_Taxonpage?taxon=Dacus+punctatifrons&searchTax=)

In BOLD (March 2017), *D. punctatifrons* 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

One of the main fruit fly pests found on wild and cultivated Cucurbitaceae. Occasionally also found on Solanaceae crops. Throughout its range it is recorded from the hosts listed in the table below.

PlantFamily	PlantLatinName	PlantCommonNameEnglish
Cucurbitaceae	Citrullus lanatus	watermelon
Cucurbitaceae	Cucumis dipsaceus	teasel gourd
Cucurbitaceae	Cucumis ficifolius	
Cucurbitaceae	Cucumis sativus	cucumber
Cucurbitaceae	Cucurbita moschata	
Cucurbitaceae	Cucurbita sp.	pumpkin, squash
Cucurbitaceae	Diplocyclos palmatus	
Cucurbitaceae	Lagenaria sphaerica	
Cucurbitaceae	Luffa acutangula	ridged gourd, sponge gourd
Cucurbitaceae	Melothria punctata	
Cucurbitaceae	Melothria sp.	
Cucurbitaceae	Momordica sp.	
Cucurbitaceae	Momordica trifoliolata	
Cucurbitaceae	Peponium mackenii	
Cucurbitaceae	Peponium vogelii	
Cucurbitaceae	Zehneria scabra	
Passifloraceae	Passiflora foetida	
Solanaceae	Capsicum annuum	bell pepper, capsicum
Solanaceae	Solanum lycopersicum	tomato

Additional information on host records and associated specimens can be found on :  
<http://projects.bebif.be/fruitfly/taxoninfo.html?id=247>

## Impact & management

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 (Torula Yeast), protein bait capsules (Questlure) and three component Biolure.

Male flies can be attracted by cue lure.

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

*Dacus punctatifrons* is found throughout Sub-Saharan Africa, although there are no data from southwestern Africa. Present in Madagascar and the Comoro archipelago (De Meyer et al., 2012). Not established outside Africa but reported from Yemen.

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

<http://projects.bebif.be/fruitfly/taxoninfo.html?id=247>

## REFERENCES

- De Meyer M., S. Quilici, A. Franck, A.C. Chadhouliati, M.A. Issimaila, M.A. Youssoufa, A. Barbet, M. Attié & I.M. White. 2012. Frugivorous fruit flies (Diptera, Tephritidae, Dacini) of the Comoro Archipelago. *African Invertebrates* 53: 69-77.
- 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.
- 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.
- White, I.M. 2006. Taxonomy of the Dacina (Diptera: Tephritidae) of Africa and the Middle East. *African Entomology Memoir* 2: 156pp.

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