Factsheet *Dacus demmerezi* (Bezzi)

Original name: *Tridacus d'emmerezi* Bezzi, 1917: 63.

Vernacular name: none

Formal redescription (after White, 2006)

Wing length, 6.1-6.6 mm.

Head. Pedicel+first 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; notopleural callus yellow; notopleural xanthine wedge shaped (connected to notopleural callus); lateral postsutural vitta usually absent, or if present, then very short (ending at or before anterior supra-alar seta); medial vitta present. Scutellum without any dark patterning (except for basal dark margin). 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 present.
Wing. Basal cells bc and c without an almost complete covering of microtrichia (about 70% in cell c); 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, extending to vein R_{4+5} before wing apex; cell r_{4+5} fumose but clearly paler than costal band; cell dm fumose but more deeply coloured below crossvein R-M; costal band apically expanded into a spot which reaches about mid-depth of cell r_{4+5}. Anal streak present (colour extending beyond cell bcu). Cell bc hyaline; cell c slightly coloured (not as deep as costal band). Crossbanding; crossband on R-M.
Legs. Femora bicoloured (pale basally and red-brown apically).
Abdomen. Predominantly red-brown; shape and patterning, see image (CD-C). Tergites I-V all fused.
Male. Tergite III with pecten, dense microtrichia adjacent end A_1+Cu_2, and hindtibia preapical "pad". Basal costal sections without specialised setae. Female. Aculeus pointed; no torsion; length, 2.3-2.5 mm.

Encyclopedia of Life link: http://eol.org/pages/727739/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+demmerezi&searchTax=

In BOLD (March 2017), *D. demmerezi* 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. Throughout its range it is recorded from the hosts listed in the table below.

PlantFamily	PlantLatinName	PlantCommonNameEnglish
Cucurbitaceae	Citrullus colochyntis	bitter apple
Cucurbitaceae	Citrullus lanatus	watermelon
Cucurbitaceae	Coccinia grandis	
Cucurbitaceae	Cucumis anguria	
Cucurbitaceae	Cucumis melo	melon
Cucurbitaceae	Cucumis sativus	cucumber
Cucurbitaceae	Cucurbita maxima	pumpkin, squash
Cucurbitaceae	Cucurbita pepo	gourd, squash, zucchini
Cucurbitaceae	Cylanthera pedata	
Cucurbitaceae	Lagenaria leucaritha	bottle gourd
Cucurbitaceae	Lagenaria sphaerica	
Cucurbitaceae	Luffa acutangula	ridged gourd, sponge gourd
Cucurbitaceae	Luffa cylindrica	smooth luffa
Cucurbitaceae	Momordica charantia	bitter melon, bitter gourd
Cucurbitaceae	Sechium edule	chayote
Cucurbitaceae	Trichosanthes cucumerina	snakegourd

Additional information on host records and associated specimens can be found on :
http://projects.bebif.be/fruitfly/taxoninfo.html?id=337

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 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 demmerezi is an indigenous species of the Indian Ocean, and reported from Madagascar, La Réunion and Mauritius (De Meyer et al., 2012). Absent from mainland Africa. 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=337

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