

FOR INFORMATION OR COMMENT
[Use term appropriate to the paper]

SWFSPP Annual Meeting 2023
Agenda Item 5.1
[last updated: 31 August 2023]
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Reference entomologist update

DISCUSSION

SWF identification training

Narelle Sales from NSW DPI, Elizabeth Macarthur Agricultural Institute, Menangle, NSW delivered a presentation “Know your Screw-worm flies” to the annual District Veterinarians Conference at Wagga Wagga (2-4 May 2023). Flock & Herd Case Notes posted July 2023 [Screw-worm flies \(flockandherd.net.au\)](https://flockandherd.net.au)

Sample transport and storage medium

Larvae

Postscript advice from 2022 Meeting: *AHA and G Brown have concluded that hand sanitiser and/or 80% ethanol (with heat treatment) are the most suitable methods for preserving larvae for transport, with glycerol (no heat treatment) as a second, but less desirable, option.*

Adult flies

Investigate use of propylene glycol and glycerol instead of ethanol for preserving trapped flies to remove associated transport restrictions (e.g. from PNG to Australia).

The fruit fly website [Sample handling - Fruit Fly ID Australia \(fruitflyidentification.org.au\)](https://fruitflyidentification.org.au) states “Avoid storing specimens for morphological identification in ethanol/alcohol/propylene glycol. They leach diagnostic colours and patterns necessary for identification.”

Storing sheep blowflies (*Lucilia cuprina*) in both glycerol and propylene glycol for 5 weeks produced flies which were difficult to dry but were still identifiable.

Diagnostic manual and resources available to support entomology

Request from Leanne Nelson, QDAF Biosecurity, for improvements to the Screw-worm fly identification Manual 4th Edition.

1. Differentiating between 3rd instar larvae of *Chrysomya albiceps* and *C. rufifacies*
 - In the 3rd edition of the manual there was a footnote “Note that this is not always a reliable character and variable in a small percentage of individuals. See Tantawi and Greenberg (1993) and Wells et al. (1999) for additional information”. This is not provided in the 4th edition.
2. Differentiating between 3rd instar larvae of *Calliphora* spp. and *Hemipyrellia ligurriens*.
 - In the 3rd edition of the manual Step 8 to 9 provided differentiation between these larvae “Partially pigmented accessory oral sclerite present = *Hemipyrellia ligurriens*” and included a footnote “See Sukontason et al. (2010) for comparative descriptions of *H. ligurriens* and *L. cuprina*”. This is not provided in the 4th edition.

- The 4th edition larval pictorial key groups *Calliphora* spp. and *Hemipyrellia* spp. together as having an accessory sclerite. Change to *Hemipyrellia ligurriens* as there is no larval taxonomic key for the other Australian species *Hemipyrellia fergusonii*.
- Possibly include a footnote about *H. fergusonii*? Literature on *H. fergusonii* indicates it is readily attracted to carrion baits and not much else. Dawson *et al* (2021) has confirmed *H. fergusonii* as a primary coloniser of human cadavers but there seems to be no evidence of it causing myiasis.

New Screw-worm publication

do Vale, T.L., Costa, A.R., Miranda, L.M. *et al*. Efficacy of lotilaner against myiasis caused by *Cochliomyia hominivorax* (Diptera: Calliphoridae) in naturally infested dogs. *Parasites Vectors* **16**, 86 (2023). <https://doi.org/10.1186/s13071-023-05661-z>