



March fly sample handling for transport

Background

March flies are stout-bodied flies measuring 6-25mm in length, with large eyes and piercing mouthparts. There are more than 200 species and they can occur anywhere in WA, in a range of habitats. They are most active during daylight hours.

Whilst March fly bites are generally associated with a localised reaction, some people experience severe allergic reactions following a bite. It is thought that a specific, smaller species of March fly is more likely to be associated with severe reactions, which may require hospitalisation. It is important to note that March flies are not known to transmit diseases to humans or livestock in Australia.

March fly samples may need to be transported to the Department of Health for identification and to further the investigation into which species are associated with more severe reactions in people.

Collecting March flies

March fly sampling is likely to be **opportunistic** through either stunning (swatting) or fly spraying. March flies may occasionally be collected as by-catch in mosquito traps.

Stunning:

Stun fly by carefully swatting with a cupped hand or flyswat when it is on a person's body or other surface. Try not to squash the fly too much, otherwise identification of species will be difficult. The fly can then be frozen for 2 hours to ensure it is dead.

Spraying:

Spray with fly spray, then freeze for 2 hours to ensure the fly is dead. This method may result in the insect flying off, making retrieval difficult.

Safe transport of samples

Samples can be damaged during transportation, making identification difficult, if they are:

- packaged when wet
- not well cushioned
- too tightly packed
- crushed under the weight of too many March flies

The procedure below will help to ensure March fly specimens are stored and transported appropriately. March flies may then be safely sent via a courier or the general post.

Removing moisture from March fly samples

If March fly samples contain moisture, they must be dried prior to storage and transport. If this does not occur, the samples will become mouldy and difficult to identify. Care must also be taken not to over-dry samples, as they can become brittle and easily damaged which in turn makes identification more challenging.

The preferred method for moisture removal is to air dry March flies overnight (on a tissue in the refrigerator) before placing them into a vial. The length of time required to air dry specimens can be variable, depending on the initial moisture level. Avoid leaving March flies on the bench to air dry, as ants or other insects may eat them, or they may blow away.

Packaging samples for transport

Samples will need to be stored for transport between tissues in a small vial or container, according to the flow diagram on the following page. Whilst the top tissue layer needs to be placed in close enough contact with the March fly that it won't move around during transport, care must be taken not to pack it so firmly that the insect becomes damaged.

Sent samples to:

Once samples are collected and stored according to the method below, they can be sent by courier or through the general post to:

Medical Entomology
Environmental Health Directorate
Department of Health
37 Kensington Street,
East Perth WA 6004

Phone: 08 9285 5500

Email: Medical.entomology@health.wa.gov.au

© Department of Health 2021

Copyright to this material is vested in the State of Western Australia unless otherwise indicated. Apart from any fair dealing for the purposes of private study, research, criticism or review, as permitted under the provisions of the *Copyright Act 1968*, no part may be reproduced or re-used for any purposes whatsoever without written permission of the State of Western Australia.



1. Firmly pack base tissue

- Push a tissue firmly into base of vial or small container to create a cushion layer.



2. Create a tissue well

- Place tissue over vial/container opening.
- Using index finger, create a well above the cushion base for sample(s) to sit in.



3. Transfer March fly

- Transfer March fly sample(s) carefully into well space.



4. Layer 3 - Tissue cover

- Fold tissue edges over gently to enclose March fly sample(s) within well.
- Ensure top tissue layer allows lid to close.



5. Label sample collection container

- Screw vial/container lid back on gently.
- Ensure vial/container is labelled appropriately with all relevant information (eg. collection site, date etc).