

Animal Ethics Manual – Wildlife

STANDARD OPERATING PROCEDURES

SOP No: W-6

SUBJECT: Fish sampling for genetic, biochemical or other analyses.

POLICY:

1. Skin swabbing should be considered as the preferred method for DNA sample collection for fish identification in small or laboratory fishes >20mm in length¹
2. The smallest possible amount of fin tissue should be sampled when fin clipping is used* to ensure quick recovery and normal swimming¹
3. To minimize pain and discomfort for sampled fish²
4. To minimize risk of infection for sampled fish².

PRECAUTIONS: This procedure should be conducted by two people with regard to their personal safety and the welfare of the fish. Skin swabbing may be performed by a single operator.

EQUIPMENT: **Fin clipping:** Nitrile surgical³ gloves, sterile surgical scissors or scalpel, ethanol or antiseptic preserving solution, preservation vials (e.g. Eppendorf tubes).
Skin swabbing: hand net, wet sponge, sterile swabs, Eppendorf tubes⁴

PROCEDURE: **FIN CLIPPING**

1. Operator 1 wears gloves to handle and hold fish securely. *
2. Operator 2 wears gloves to sample fish by first immersing scissors in alcohol or antiseptic solution and then cutting a small wedge from the rays (not spines) of the caudal fin. **
3. Place sample in preserving solution.
4. Return fish to aerated holding tank for observation.
5. Return fish to habitat at point of capture and release safely.

SKIN SWABBING⁴:

1. Gently catch a single fish in a net and transfer it to the swabbing tank containing the sponge.
2. The net is used to restrain the fish on top of the wetted sponge, positioning the body into the groove. The underside of the fish rests on the net, thereby minimising contamination for the sponge between different fish.


3. Using a sterile rayon-tipped swab gently stroke the fish five to ten times from the operculum to the base of the caudal fin.
4. Place sample in preserving solution.

RECOMMENDATIONS:

The AEC application must specify; the size at which fish/species is too small to allow fin-clips*; the type of fin to be sampled and the size of the wedge to be cut. **
*1-2mm² for zebrafishes ¹

APPROVED: 2024

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APPROVED DOCUMENT ON INTRANET ONLY – UNCONTROLLED DOCUMENT WHEN PRINTED.						
Version No:	Description	Approving Authority	Signature:	Contact Details	Date	Review Date
V02	Fin-clipping of fish	Animal Ethics Committee		#56618	2016	2018
V03	Fin-clipping of fish	Animal Ethics Committee		#56618	2021	2023
V04	Fin-clipping of fish	Animal Ethics Committee		#27800	2024	2026

REFERENCES

1. NC3Rs (2022) *Skin swabbing for DNA sampling of zebrafish*. https://www.nc3rs.org.uk/skin-swabbing-dna-sampling-zebrafish#anchor_6
2. NHMRC (2004) *Australian code of practice for the care and use of animals for scientific purposes (7th edition)*. Australian Government.
3. Cohen, S (personal communication) (2024).
4. Tilley, C; Barber I; Norton, W. (2021) *Skin swabbing protocol to collect DNA samples from small-bodied fish species*. <https://f1000research.com/articles/10-1064>