

What's in my bag? Metaprobe sampling edition

A 'How-To' for citizen science sailors sampling with the Metaprobe 2.0

Overview

A sampling event is identified by an event ID, and consists of any samples you take at any ONE location. The event ID has three parts: the date, a code identifying whether it was a citizen science (CS) or researcher/tour operator (R) collected sample, and a letter, e.g. the second sampling event on the 3rd June 2020 collected by a citizen scientist = 03062020-CS-B.

You will be collecting one sample at one/each sampling event for us (thank you!), so the sample ID will be the event ID and two more pieces of information: the letters MP (identify you took a metaprobe sample), and a number identifying whether the sample was the 1st, 2nd, 3rd, etc (in most cases this will be '1'). For example, the first metaprobe taken in the first sampling event on the 3rd June 2020 will be recorded as 03062020-CS-A-MP1. Furthermore, for every one metaprobe, inside there are three pieces of cotton, that each need to be stored separately - which is why in your bag you have the three 50mL tubes. Each tube needs to be labelled with the SAME sample ID (e.g. 03062020-CS-A-MP1), and you can find three labels, one for each tube, in your bag. Once you have collected your sample and extracted those pieces of cotton, it doesn't matter which piece of cotton goes in each tube, as long as only one piece of cotton goes in each.

Recording data

Use the data sheet provided to record information on the sampling event you will be conducting for us. You will need to record:

- the date (DD/MM/YYYY)
- the time the Metaprobe goes IN and the time it comes OUT (00:00 24hr time) (Time In, Time Out on data sheet)
- the location in GPS coordinates
- the sampling event ID
- the sample ID
- who recorded the data
- the name of the vessel
- the number of people aboard the vessel

There is also room for notes in case there's anything you'd like to add.

What's in my bag?

Inside your bag you should have the following items:

- a project description sheet
 - a Who to Contact Sheet
 - a data recording sheet
 - one sampling event bag, with:
 - one Metaprobe zip-tied shut, three-cotton rolls inside zip tied individually
 - three clear tubes with blue lids, with 30mL of clear liquid (90% ethanol), in a small sample bag
 - three labels in the small sample bag
 - hand line or rope, attached to locking D-ring with weight and buoy
 - spare zip ties
 - medical gloves, 4 gloves per person, in a sealed zip loc bag
 - mini spray bottle with 10% bleach solution
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Sampling

When?

We ask that you sample on your voyage back to Cornwall, on either the second-to-last day of your trip late in the afternoon or on the last day of your trip.

Where?

We don't mind where as long as you are not in shallow coastal water we consider 'coastal' to be within 6 nautical miles of the nearest shore.

How?

Once at the location you are going to sample:

1. On the data sheet, write in the event IDs and sample IDs, as per the instructions above.
2. Now, write the sample ID on the three labels provided.
3. Wearing disposable medical gloves, from the sampling event bag remove the pre-prepared Metaprobe (MP) - attached to the MP should also be the hand line, the D-ring, a weight and a buoy.
4. Deploy the MP by gently tossing the MP overboard into the sea, holding onto the hand line. Try to avoid surface debris and plants where possible. Record the TIME IN (24hr clock)
5. At this point remove the first set of gloves, and dispose of them safely into a rubbish bin/bag.

6. While the MP is soaking in the sea, someone else can do the following: remove the mini-spray bottle from the sampling event bag. Find a flat dry surface and spray it with the bleach solution (note! do not spray onto wood, as the bleach may effect the varnish. Best to use a plastic or metal surface). This surface, once sprayed, is your sterile workspace for when you bring the MP up.
7. Also during this interval, record the location, date, name of the person recorded the data and/or sampling, the vessel name, and the number of passengers, onto the data sheet at the bottom of this document.
8. Before extracting the MP, put on a new pair of disposable medical gloves from the sampling bag. Remove the 50mL tubes from the sampling bag, and stick the labels you prepared in step 2 to the outside of them. Place these on your workspace.
9. Use the handline, or the rope, to bring the MP back onboard. You will now extract the cotton pieces which have collected the eDNA. Remember you must be wearing the disposable gloves.
10. Place the MP on the cleaned surface, and cut the zipties holding the MP together.
11. Remove the three rolls of gauze that are ziptied in their middle. Carefully cut the zip ties on these rolls. Unravel the gauze, and find the small piece of cotton from inside. Have a friend open the 50mL tubes, and wearing gloves pick up the cotton and place it inside the tubes, into the clear liquid (an ethanol solution). Have your friend close the tube. Repeat for the other two pieces of cotton, and the other two tubes.
12. Place the closed 50mL tubes (with cotton now inside) into the small sample bag. Seal this bag, and place this bag with the three tubes into the fridge.
13. Now it's time to clean up. You can remove your gloves and dispose of them safely into the rubbish bin. From the sampling event bag, remove any papers that you'd like to keep, and most importantly remove this instruction paper and data sheet. Then, into the large sampling event bag, you can deposit the mini-spray bottle, the MP with handline D-ring weight and buoy set up, and scissors.
14. Keep this data sheet in a safe and dry place. And keep the small sample bag with the samples in the fridge until you reach land, and can hand them over to Molly Kressler, or one of her colleagues.

I've sampled, now what?

When you get back into the harbour, or when you have cell service, give Molly a call or text at **07956279938**, to arrange collection of the samples, materials, and data sheet.

If you enjoyed the process, or feel there's some room for improvement, please let us know by using this form (scan the QR code with your mobile device, or access it here using this tiny-url:)

QR code, scan me	url
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QR code, scan me	url
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