CHIRONOMID PREPARATION PROCEDURE

From BROOKS, S. J., LANGDON, P. G. & HEIRI, O. (2007) *The identification and use of palaearctic Chironomidae larvae in palaeoecology,* London, Quaternary Research Association.

SAFETY: See associated COSSH form. Always wear PPE (lab coat, safety glasses and nitrile gloves). Inform safety officer of any spills.

KOH – Highly toxic, severe burns, irritant
Ethanol – severe burns, highly flammable, irritant
Euporal essence – highly flammable, irritant
First aid – run with water for ~20 minutes, seek medical help for eye incidents.

CHEMICALS REQUIRED:

10% potassium hydroxide (KOH)
80% and 100% ethanol
Euporal Essence
Euporal mountant

EQUIPMENT REQUIRED:

Binocular dissecting microscope for collecting head capsules
Light microscope (x10, x20 and x40 magnification) for identification
Sonic bath
Scales / balance
Hotplate
Fine forceps
Fine dissecting needle
Bogorov sorter (order from Steve Brooks, NHM London)
6mm diameter round cover slips (1 per head capsule; 50-100 head capsules per sample)
4x glass cavity blocks (for cleaning head capsules)
90 and 212µm sieves
2x Petri dishes
Glass beakers
90 □m and 212 □m sieves

PROCEDURE:

1. Weigh the sample (0.5g to 2g depending on head capsule concentration)

2. Place in small glass beaker with about 50ml of 10% KOH on hotplate for 5 minutes (stir)

3. Transfer to ultrasonic bath for 3-5 seconds

4. Rinse into stacked sieves (212 □m and 90 □m)

5. Transfer into petri dishes (one for each size fraction)

6. Pipette some of the sample into a Borgorov sorting tray and pick out head capsules under 10-20x magnification using a stereo microscope and place each capsule into a glass container (with snap-on lid) of 80% ethanol

7. Once you've collected all of the head capsules for a sample, you will mount each head capsule on a slide under a small, specialized cover slip.

8. Empty the contents of your tub into a glass cavity block.

9. Place the dish under the dissecting microscope so that you can see the head capsules; pick out each head capsule and place it into another glass cavity dish filled with 100% ethanol.

10. Once you have placed all of the head capsules from of the 80% ethanol into the 100% ethanol, you will now transfer all head capsules into Euporal Essence using the same method. Try to keep the glass covers on the cavity blocks to keep the smells to a minimum.

11. Lastly, you will transfer the head capsules from the Euporal Essence to a slide. Each slide can contain 10 head capsules.

12. Place a tiny amount of Euporal on the slide in 10 places (using the model slide as a guide).

13. With the glass cavity block containing the head capsules under the dissecting microscope, pick out one head capsule and place it on a blob of Euporal.

14. Using your forceps, pick out a cover slip and carefully place it on over the blob containing the head capsule.

15. Continue doing this until all head capsules are removed from Euporal Essence.