

Survey to assess the distribution of amphibian chytrid fungus in England: Surveyor instructions

Edward G. Brede* Andrew Cunningham & Trent Garner.
Institute of Zoology, London, United Kingdom.

*Edward.Brede@IOZ.ac.uk



1. Welcome to the chytrid survey!

Many thanks for agreeing to help with this important survey. Your help in surveying amphibians for the chytrid fungus is invaluable. Please follow the guidance in this document, which sets out exactly what should be done. If you have any queries or you have not already signed up please contact me (Edward.Brede@ioz.ac.uk) as we need to keep track of who will be doing the survey.

For more background on chytrid fungus and this survey, please see www.zsl.org/ukchytrid

2. Selecting a survey site

We need to achieve a good geographic spread of amphibian sites across England, and are aiming to have around 8 sites per English region assessed. Within your region, you are free to select any site you wish, using the following criteria:

- not known currently to have chytrid infection (as at Feb 2008, only 6 sites in Cumbria and 2 in Kent are known to be infected).
- ideally have both anurans (frogs/toads) and caudata (newts) as you will need to capture 2x30 individual amphibians in two periods (February/March, Mid May/June) and some amphibian species may not be around in sufficient numbers in either of the sampling periods. For the purpose of this survey a population can encompass more than one pond if they are within around 100m of each other. Note that you can capture amphibians of more than one species for the survey if they are available at the time of sampling (eg you do not need to catch either 30 frogs, or 30 toads; it could be 10 frogs + 10 toads + 10 newts).
- have easy access, with the permission of the landowner.

3. Preparing for your survey

Kit list: net, buckets with lids, pen, disposable vinyl gloves, and disinfectant solution if necessary (see ARG UK Note 4 available from www.zsl.org/ukchytrid for details of biosecurity)

Watch the weather, and go on a day when you are reasonably sure there will be good numbers. Visit with at least one helper.

4. Practicalities

- a) Catch the amphibians. This should all be done within the same day or night. You should aim to catch 30 adult individuals per sample period of any native UK species (there can be a mix of species within these 30 individuals). If adult numbers are low, and you encounter juveniles these can also be swabbed to make up the 30 individuals. You should not catch eggs or larvae.
- b) Place them in secure container such as buckets with lids
- c) Swab (see details below)
- d) Mark each swab – best done by a scribe
- e) Release amphibian at point of capture
- f) Keep swabs in fridge until sending off (details of address at the end of this document). Please submit as soon as possible.

5. How to swab your amphibian

Please refer to the ARG-UK Advice Note 4 “Amphibian disease precautions: a guide for fieldworkers” to help you reduce disease risks when doing this work.

Note: a video of this procedure is shown on the project website: www.zsl.org/ukchytrid



1. **Prior to catching ensure gloves are moistened with pond water to avoid damaging the amphibian. The swabbing can be done by one or two people (one holding the amphibian whilst the other swabs). Both must wear gloves.**



2. **Take a firm but careful hold of the amphibian, holding its throat/head region with your thumb/index finger, this allows you to manipulate the lower limbs with your other fingers.**

NOTE: Amphibians do not have a rib cage so care should be taken not to damage internal organs by pressing the abdomen.



3. **Swab the inner thigh of the hind leg with a firm continuous action. The aim is to dislodge loose skin, sporangia or zoospores. Repeat three times.**



4. Repeat the swabbing procedure in 3 above but this time concentrating on the lower hind leg. Repeat three times.



5. Repeat the swabbing procedure in 3 above but this time concentrating on the underside of the foot/toes. Repeat three times.



- 6. Repeat the swabbing procedure in 3 above but this time concentrating on the 'drink patch', this found just above the pelvis. Repeat three times. Place in bucket or other secure container.**



- 7. For newts a similar approach is taken. Swab the rear limb in one action, ensuring that all of the inner leg and toes are covered. Repeat three times.**



8. **For newts the base of the tail and lower abdomen should also be swabbed. Repeat three times. Place in bucket or other secure container.**



9. **Prior to returning the amphibian to the capture location, observe it a few minutes after the swabbing procedure, to ensure that it is not harmed.**



10. The relevant details should be made in both a notebook and on the swab tube (Species name, site, sex, adult/juvenile/metamorph). The swabs should then be kept at 4⁰C (in fridge) prior to dispatch. At the end of the field session all disinfection procedures should be followed (see ARG-UK advice note)

Further information

Websites

**Institute of Zoology/UK chytridiomycosis survey web page
(UK chytridiomycosis project info including a video of the swabbing technique):**
<http://www.ioz.ac.uk/UKchytrid.html>

**James Cook University Amphibian Disease web page
(general info on amphibian diseases and scientific literature):**
<http://www.jcu.edu.au/school/phtm/PHTM/frogs/ampdis.htm>

**Amphibian Ark web page
(general info on amphibian diseases)**
<http://www.amphibianark.org/chytrid.htm>

Useful Contacts

Froglife: 9 Swan Court, Cygnet Park, Hampton, Peterborough, Cambs PE7 8GX
www.froglife.org

The Herpetological Conservation Trust: 655A Christchurch Road, Boscombe,
Bournemouth, Boscombe, Bournemouth, Dorset BH1 4AP www.herpconstrust.org.uk

ARG UK - <http://www.arguk.org.uk/>

PLEASE SEND YOUR SAMPLES TO THE FOLLOWING ADDRESS

UK Chytridiomycosis survey: Wellcome Building, Institute of Zoology, Regents Park,
London NW1 4RY. Tel 020 7449 6438.