

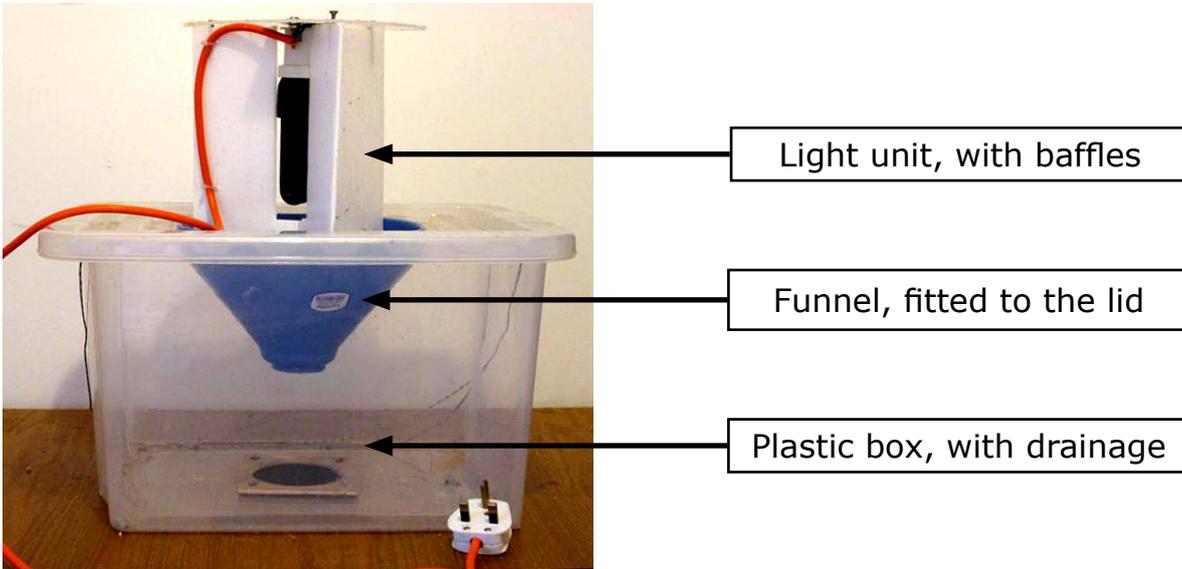


# Build your own Moth Trap

Based on the BNFC workshop 22nd September 2012

## Introduction

This trap is designed to be easily constructed at minimal cost. There are three main components -



## How it works

Moths are attracted to the light and directed towards the funnel by the baffles (fins), they find their way down the funnel into the box where they can roost on paper egg boxes stacked inside the box (not shown).

## Materials

Plastic storage box with lid, around 40cm x 40cm

Plastic funnel, approx size

20cm x 20cm sheet of white, corrugated plastic

13 amp plug

2 metres of 0.75mm 2 Core PVC Flex Orange twin and earth electric cable

25 watt T10 Tubular Blacklight Blue Light Bulb Lamp, screw fitting

Ceramic/plastic screw fitting socket

Plastic duct tape

6 wood screws?

Small square of canvas, or similar material, to cover drainage hole.

## Tools

Stanley knife or sharp blade

Junior hacksaw

Sand paper

Wire strippers

Compass or dividers

Screwdriver

Steel ruler

Electric drill

5" Circular cutter

Gas blowtorch, to heat the cutter.



# Build your own Moth Trap

Construction has been divided into six separate stages. These may be completed in almost any order but normally the sequence would be:-



## ***The Funnel***

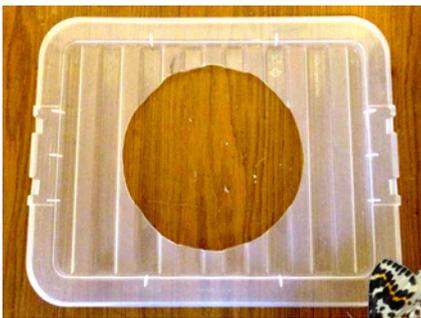
Use the junior hacksaw and cut the bottom off the funnel to enlarge the hole. Size is always a compromise, if it's too small larger moths will not enter the trap, too large and moths will exit the trap before they are trapped, so about 5cm diameter is just fine but feel free to experiment later.



## ***The Lid***

This is the single critical most process, if the hole is cut too big your trap is ruined!

Cut a hole in the box lid to suit the widest end of the funnel, make sure its a good fit, best to cut it a little smaller and sand until its a neat fit.



Keep the disc, you'll need it later for the light assembly.





# Build your own Moth Trap



## **The box**

If it rains when the moth trap is being used the funnel directs a lot of water inside the trap, so some form of drainage is required.

Turn the box upside down and using the drill, make three drainage holes in each corner at the bottom of the box, be careful not to lean too heavily as the plastic may split easily.



Mark a circle in the centre of the bottom of the box, a little larger than the diameter of the cutter. This is purely a guide to allow the hole to be cut centrally.

Heat the cutter with the blow torch, then gently place it in the centre of the box, this should melt a very neat hole.

**NB** *The cutter does not have to be red hot, just hot enough to melt the plastic. If it's too cool, you can always have a second bite at the cherry – or a third.*

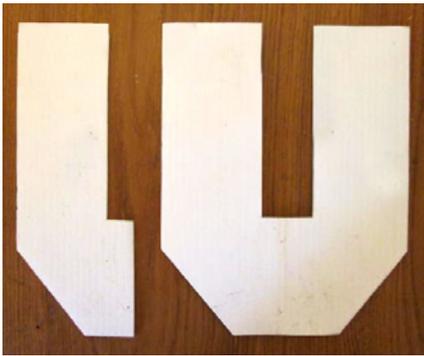


Cut a square of the canvas material, slightly bigger than the hole and tape it over the hole.

You can place it outside or inside the box if you wish.

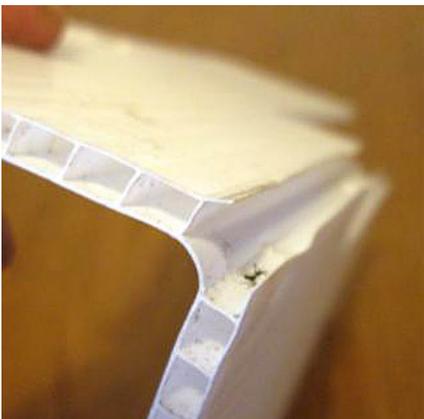
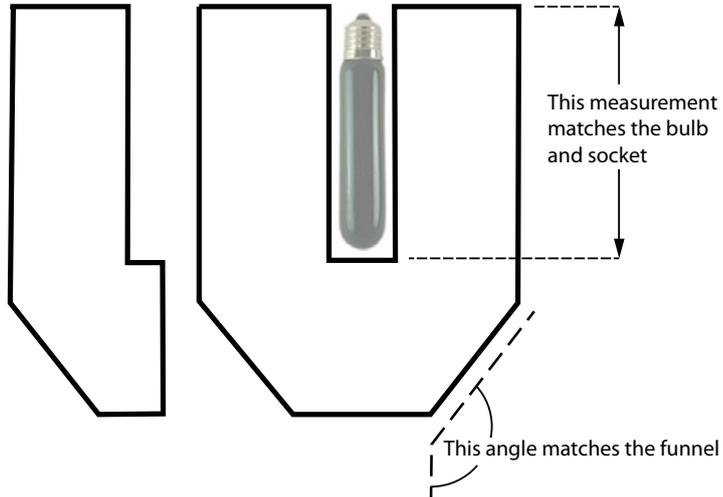


# Build your own Moth Trap

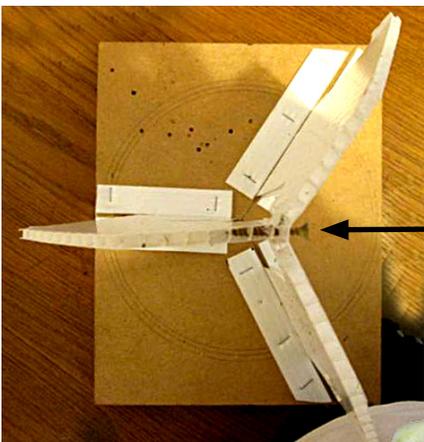


## The baffles

Three baffles are required. Cut two pieces from the corrugated plastic sheet as opposite, the 'U' shaped piece of plastic is two baffles cut in one single piece.



On the centre line of the 'U' shaped baffle, cut halfway through, then slip the edge of the single baffle into the opening created.



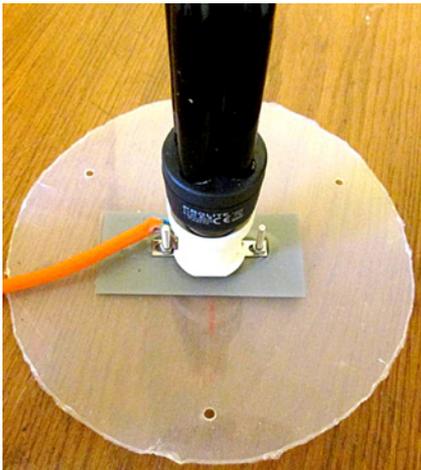
Screw baffles here

Use two screws to fix them together. Make sure the screws go in between the two outside skins of the single baffle. Look carefully at the picture to the left.





# Build your own Moth Trap



## **Lamp holder**

Many commercial traps fit the lamp holder into the funnel and then provide a rain shield. In this design the rain shield can double up as the attachment point for the lamp holder. This is easier to do, saves on materials and keeps the electrics dry.

Using the disc previously cut from the lid, drill five holes. Two are made in the centre to fit the holes in the lamp holder. Three are made around the disc at 120 degrees to attach to the baffles. It's best if these are orientated as in the picture.

Insert the electrical flex into the lamp holder then screw holder in place.

Screw the bulb into the holder.



## **Lamp assembly**

Place the lamp holder assembly on top of baffles. Use 3 screws to screw it in place.

You can, if you wish, fix the lamp/baffle assembly to the funnel. This makes it more secure if the wind gets up (see the note at the end for options) Those who do find the lamp assembly is much more secure if the wind gets up. But they need to use 3 separate socks to block it up.



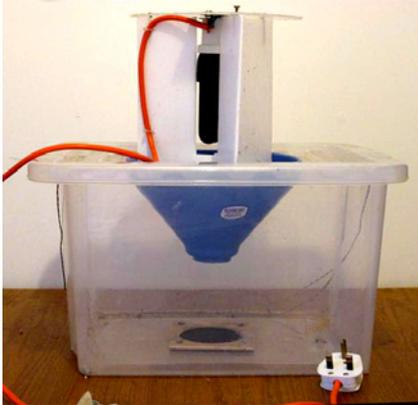
Drill three 3mm holes in the funnel edge close to the top rib, spaced at 120 degrees. (Use the baffle assembly rig to mark the spacing.)

Use 3 small screws to screw the lamp assembly in place.





# Build your own Moth Trap



## **Hints on using the trap**

When stowing the trap, the light assembly and funnel should fit inside the trap box and still leave enough room for egg cartons.

You can add a string handle by drilling two holes in each side wall, just below the lid so that they are sheltered from the rain. Make sure the string is long enough to fit over the light unit for carrying the box home.

Do not remove the lid to record the moths. Remove the funnel and place a cloth over the hole. Alternatively, if you've fixed the light assembly to the funnel with screws, you can stuff three old socks down each of the baffles in the funnel.

When identifying the moths, remove one egg carton at a time and replace the cloth. It's frustrating to see a large moth (possibly the best catch of the day) disappear into the bushes unidentified and unrecorded.

The 'black light blue lamp' is an economical way to start and because of the very low level of visible light, does not draw too much unwanted attention.

A direct replacement compact actinic lamp is now available. It has a much wider spectrum and will improve catches.

For replacement lamps try

[http://www.lamps2udirect.com/pages/browse-More-Lamps2udirect.php/Ultraviolet\\_Lighting/Blacklight\\_Blue\\_UV\\_Light\\_Bulbs/67/8](http://www.lamps2udirect.com/pages/browse-More-Lamps2udirect.php/Ultraviolet_Lighting/Blacklight_Blue_UV_Light_Bulbs/67/8)

or

<http://www.pwbelg.clara.net/mercury/actinic20/index.html>

