

# The current status and distribution of Psychidae Moths in Nottinghamshire

Second revision 2015



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## 1.0 Introduction

There has been a substantial increase among lepidopterists regarding the UK's Psychidae in recent years. Whilst much of this renewed interest may be due to the fact that their larval cases can be looked for during the Winter months, the life history of many Psychidae means they make interesting study.

Some species are parthenogenetic, meaning that they have no males, as the females of these species are both self-fertile and wingless. Psychidae larvae also construct mobile cases within which they live throughout their larval stage, often enlarging the case or even constructing new ones as they mature. Cases are then covered with particles of sand, bark, dead plant material and even insect remains.

As a direct consequence of this recent interest, many counties have since increased the number of species on their respective lists and a more accurate distribution of the UK's Psychidae has been achieved. At the beginning of 2006 however, Nottinghamshire was not one of those counties, having a much smaller Psychidae list than the neighbouring counties of Leicestershire or Derbyshire. This report is an update to the original report we produced back in 2008 and much of it has been re-written to include records up to and including 2014.

### 1.01 Aims and objectives of this report

Our own personal interest in Psychidae began back in 2005 and we have pretty much looked for them ever since. Living in the heart of the Sherwood Forest area has certainly helped with our searches and subsequent mapping. But we also found that some species of this unusual group, even inhabit the trees and walls within the city of Nottingham and the towns of Mansfield and Worksop.

Further searching over the coming years, will undoubtedly fill in many of the blank areas which still exist in the species maps. These are produced further on in this revised and updated for 2015 survey report.

Like most micro-moths, there seems to have been little effort to record them in Nottinghamshire previously and many known county records have probably been a result of casual sightings/records, rather than a deliberate attempt to survey them.

There is still a great deal to learn about the distribution of Psychidae moths within Nottinghamshire and this report, serves as an introduction to their present status within the county for the first time ever.

### 1.02 Sources of information and references

Our thanks go to the following people who have provided their assistance with information concerning county records at the start of this survey.

Mark Skevington for information relating to the status of Leicestershire records and species, Dave Budworth (Derbyshire records) Sheila Wright (Nottinghamshire records) Henk ten Holt for his invaluable ID help in the past and for his suggestions/corrections and assistance in writing the Psychidae nomenclature section.

## 2.0 UK Psychidae

The Psychidae certainly represent some of the strangest of moths and are sometimes more commonly known as "Bagworms". The term Bagworm is derived from the case which the larva constructs around itself as it grows. The case is based on a silk tube, to which the larva attaches various items of plant, lichens, algae, sand, insects and debris. Although many species produce cases which are readily identifiable in the field through a combination of shape, size and material used, this cannot always be guaranteed with 100% certainty between species that construct very similar cases of around the same size. The commonest of the three *Dahlica* species are examples of this, but then these can be further confused with the similar looking cases of *Narycia duplicella*.

Entomologists have found that correct identification of the *Dahlicas* can come from the discarded pupal head-plate after emergence, rather than genitalia dissection. Examination under a microscope is quite easy to determine the species, by carefully checking the antennal length on the head-plate. The head-plate usually remains attached to the pupa after emergence. *Dahlica* larvae are difficult to separate on physical characteristics.

## Pupal head-plates

Comparison of the pupal head-plates of *Dahlica inconspicuella* and *Dahlica lichenella* (far right). The images are not to scale, with both pupal head-plates measuring about 1mm in length.

The pictures do however, show the differences in the antennal lengths between the two species.

The third Nottinghamshire *Dahlica* - *Dahlica triquetrella*, was found new to the county in 2012 and is not illustrated here.



When in the field, a fairly accurate practice that we used to help separate *Narycia duplicella* cases from either *Dahlica lichenella* or *Dahlica inconspicuella*, was by counting the number of larval cases on a single particular tree or wall. As the *Dahlicas* are apterous (wingless) then large numbers of cases found within relatively small areas or per tree trunk, often turned out to be one of these species. *Narycia duplicella* cases were often found singly per tree, or in very low numbers, but cases found on some trees in Sherwood Forest, could contain two or even three species. To make certain of some identifications for which we had doubts, larval cases were brought home and then reared in captivity to adult.

Of all the UK's Psychidae, only *Narycia duplicella* and *Diplodoma laichartingella* have fully winged females, with all other species having apterous females. These tend to be sluggish, rarely move far after emergence and have a short life-span. One female *Dahlica lichenella* we reared in 2006, successfully emerged during the morning, but died within 6-8 hours of emergence. Eggs were laid directly into the old larval case and the case later returned to the site of collection.

## 2.01 UK Psychidae species list

The current UK Psychidae species list totals 18 species. The first numbers preceding each species is the new numbering system and order of species, as used in the new Checklist of the Lepidoptera of the British Isles (D. Agassiz, S. Beavan, R. Heckford. 2013). The old Bradley and Fletcher numbers are still provided.

### *Naryciinae*

- 11.001 B&F 0180 *Diplodoma laichartingella* (Goeze, 1783)
- 11.002 B&F 0175 *Narycia duplicella* (Goeze, 1783)
- 11.003 B&F 0176 *Dahlica triquetrella* (Hübner, [1813])
- 11.004 B&F 0177 *Dahlica inconspicuella* (Stainton, 1849)
- 11.005 B&F 0179 *Dahlica lichenella* (Linnaeus, 1761)

### *Taleporiinae*

- 11.006 B&F 0181 *Taleporia tubulosa* (Retzius, 1783)
- 11.007 B&F 0182 *Bankesia conspurcatella* (Zeller, 1850)

### *Psychinae*

- 11.008 B&F 0184 *Luffia lapidella*
- 11.009 B&F 0185 *Luffia ferchaultella* (Stephens, 1850)
- 11.010 B&F 0183 *Bacotia claustralla* (Bruand, 1845)
- 11.011 B&F 0188 *Proutia betulina* (Zeller, 1839)
- 11.012 B&F 0186 *Psyche casta* (Pallas, 1767)
- 11.013 B&F 0187 *Psyche crassiorella*
- 11.014 B&F 0189 *Epichnopterix plumella* ([Denis & Schiffermüller], 1775)
- 11.015 B&F 0190 *Whittleia retiella* (Newman, 1847)

- 11.016 B&F 0191 *Acanthopsyche atra* (Linnaeus, 1767)  
11.017 B&F 0192 *Pachythelia villosella* (Ochsenheimer, 1810)  
11.018 B&F 0195 *Sterrhopteryx fusca* (Haworth, 1809)

## 2.02 Changes/confusion within Psychidae nomenclature

There are several UK Psychidae that are currently named differently by European entomologists. These are not yet fully accepted by the authorities here in the UK, but are in daily use by many entomologists. An explanation of these has been kindly produced by the Dutch Psychidae specialist Henk ten Holt. With the possibility that these names will be adopted in the UK, they have been used throughout this survey. Below is an explanation of the species names, currently in general use by European and most UK entomologists.

In Britain two *Luffia* species were thought to occur, the parthenogenetic *Luffia ferchaultella*, with self-fertile wingless females widespread in the southern part of Britain, and the bisexual *Luffia lapidella*, with winged males and wingless females; in Britain occurring only in Cornwall. Larvae and cases of these species are identical. In recent DNA tests the two species could not be separated, so technically they are two forms of one species, the bisexual form being *Luffia lapidella f. lapidella* and the parthenogenetic form being *Luffia lapidella f. ferchaultella*.

Other name changes currently in use include *Diplodoma herminata* - now *D. laichartingella*, *Narycia monilifera* - now *N. duplicella* and *Bacotia sepium* - now *B. claustralla*.

## 2.03 Psychidae in Nottinghamshire

Ken Cooper's 1993 listing for the county showed just five species recorded from Nottinghamshire, which consisted of *Narycia duplicella*, *Dahlica inconspicuella*, *Taleporia tubulosa* and *Psyche casta*. There was just one record of *Diplodoma laichartingella*.

At the start of our surveying in 2006, the status and distribution of all Psychidae in Nottinghamshire was still unknown, with little interest and possibly a great deal of under-recording of micro-lepidoptera by the county's lepidopterists.

The most recent published Nottinghamshire moth list - Version 2.0/Nov 2014, lists a total of eight species as being found in the county, following the additions of *Dahlica triquetrella*, *Dahlica lichenella* and *Luffia ferchaultella*.

## 2.04 Psychidae in Derbyshire and Leicestershire

In 2006, Derbyshire and Leicestershire figured much better for their number of recorded Psychidae than Nottinghamshire, but both these counties had people who were willing to look for them. The three counties all listed *Narycia duplicella*, *Taleporia tubulosa*, *Diplodoma laichartingella* and *Psyche casta*.

As far as we know, Leicestershire is still waiting to record *Dahlica inconspicuella*, the commonest of the British *Dahlicas*. Many of Leicestershire's records have come from Swithland Reservoir, which has good numbers of *Luffia ferchaultella*, and which has recently produced first county records of *Dahlica triquetrella*, *Dahlica lichenella* (both in 2005) and *Narycia duplicella* (2004)

Derbyshire's records date back earlier, but there seems to be fewer follow-up records after initial first county records.

Psychidae in Derbyshire are presently represented by *Narycia duplicella* (at Chatsworth in 1981) *Dahlica inconspicuella* (Dovedale 1974, Beeley Moor 1986 and Middleton Top 1987) *Diplodoma laichartingella* (Wirksworth c1892) and *Taleporia tubulosa* (Caulke Est 1980's and Clough Wood 1980's) The 2006 Derbyshire list, still considered the records of *Epichnopteryx plumella* (Repton Shrubs 1920's) and *Acanthopsyche atra* doubtful. However, there have been records of *Acanthopsyche atra* since.

*Psyche casta* appears to be generally common throughout all three counties.

## 2.05 2006 Nottinghamshire, Derbyshire and Leicestershire species' lists

Below are the relevant county lists as they stood in 2006.

### Nottinghamshire Psychidae

*Diplodoma laichartingella*  
*Narycia duplicella*  
*Dahlica inconspicuella*  
*Taleporia tubulosa*  
*Psyche casta*

### Leicestershire Psychidae

*Diplodoma laichartingella*  
*Narycia duplicella*  
*Dahlica triquetrella*  
*Dahlica lichenella*  
*Taleporia tubulosa*  
*Luffia ferchaultella*  
*Psyche casta*

### Derbyshire Psychidae

*Diplodoma laichartingella*  
*Narycia duplicella*  
*Dahlica inconspicuella*  
*Taleporia tubulosa*  
*Psyche casta*  
*Acanthopsyche atra*

Species presently on the Derbyshire list but record(s) considered to be doubtful.

*Epichnopteryx plumella*

It was always fairly obvious from the onset of this survey, that there was the potential to add at least two or three new species to the Nottinghamshire list. This did eventually turn out to be the case.

*Dahlica lichenella* was an early discovery, and from the most unlikely location of a cemetery wall at Market Warsop. The second and third county records of *Diplodoma laichartingella*, were soon followed by many more records and we were eventually able to identify favoured locations and over-wintering sites for this species and in the process, completely changing the status of this moth in Nottinghamshire.

A second new species for the county was *Luffia ferchaultella*, found accidentally in the grounds of Nottingham City Hospital. Other records followed, mostly from similar suburban sites.

## 2.06 2014 Nottinghamshire, Derbyshire and Leicestershire species' lists

Six years since we first published 'The current status and distribution of Psychidae Moths in Nottinghamshire' in 2008, Nottinghamshire has gained a further three species, putting it on a par with the neighbouring counties of Derbyshire and Leicestershire.

### Nottinghamshire Psychidae

*Diplodoma laichartingella*  
*Narycia duplicella*  
*Dahlica triquetrella*  
*Dahlica inconspicuella*  
*Dahlica lichenella*  
*Taleporia tubulosa*  
*Luffia ferchaultella*  
*Psyche casta*

### Leicestershire Psychidae

*Diplodoma laichartingella*  
*Narycia duplicella*  
*Dahlica triquetrella*  
*Dahlica lichenella*  
*Taleporia tubulosa*  
*Luffia ferchaultella*  
*Psyche casta*

### Derbyshire Psychidae

*Diplodoma laichartingella*  
*Narycia duplicella*  
*Dahlica triquetrella*  
*Dahlica inconspicuella*  
*Taleporia tubulosa*  
*Psyche casta*  
*Acanthopsyche atra*

Species presently on the Derbyshire list but record(s) considered to be doubtful.

*Epichnopteryx plumella*

### 3.0 Survey sites

The following is a list of all the sites surveyed to date (December 2014) with the Psychidae found present at each site. Also in with the list, are a number of selected sites still to be surveyed.

#### **SK645773 Appleyhead Lodge**

Currently not surveyed

#### **SK507334 Attenborough NR**

11.003 B&F 0176 *Dahlica triquetrella*

#### **SK660329 Barker's Wood**

Currently not surveyed

#### **SK546595 Berry Hill** Urban area with street tree planting

11.002 B&F 0175 *Narycia duplicella*

11.009 B&F 0185 *Luffia ferchaultella*

#### **SK563477 Bestwood CP** Mixed woodland

Currently not surveyed

#### **SK728766 Bevercotes Wood** Former Pit Top adjacent to mixed woodland

11.002 B&F 0175 *Narycia duplicella*

11.012 B&F 0186 *Psyche casta*

#### **SK640330 Blackberry Hill**

Currently not surveyed

#### **SK665718 Blackcliffe Hill Plantation** Deciduous and coniferous woodland, adjacent to open heathland

11.002 B&F 0175 *Narycia duplicella*

11.012 B&F 0186 *Psyche casta*

#### **SK669695 Boughton Brake** Mixed woodland and coniferous plantation with partial Bramble undergrowth

11.001 B&F 0180 *Diplodoma laichartingella*

11.002 B&F 0175 *Narycia duplicella*

11.012 B&F 0186 *Psyche casta*

#### **SK586663 Bradmer Hill** Mixed woodland, areas of coniferous plantation with light Bramble undergrowth

11.001 B&F 0180 *Diplodoma laichartingella*

11.012 B&F 0186 *Psyche casta*

#### **SK699838 Broom Wood, Lound** Deciduous woodland

11.001 B&F 0180 *Diplodoma laichartingella*

11.012 B&F 0186 *Psyche casta*

#### **SK610715 Budby Carr** Heathland and scrub

11.002 B&F 0175 *Narycia duplicella*

#### **SK604704 Budby Pumping Station** Deciduous woodland

11.012 B&F 0186 *Psyche casta*

#### **SK620695 Budby South Forest** Heathland

11.001 B&F 0180 *Diplodoma laichartingella*

11.002 B&F 0175 *Narycia duplicella*

11.004 B&F 0177 *Dahlica inconspicua*

11.006 B&F 0181 *Taleporia tubulosa*

11.012 B&F 0186 *Psyche casta*

#### **SK646452 Bulcote Wood** Deciduous woodland

Currently not surveyed

#### **SK590283 Bunny Old Wood** Deciduous woodland

Currently not surveyed

**SK571684 Burns Lane, Market Warsop** Urban area with street tree planting

11.002 B&F 0175 *Narycia duplicella*

**SK576507 Burntstump CP** Deciduous woodland/parkland

Currently not surveyed

**SK645675 Burstheart Hill** Deciduous woodland with Bracken undergrowth

11.002 B&F 0175 *Narycia duplicella*

11.006 B&F 0181 *Taleporia tubulosa*

11.012 B&F 0186 *Psyche casta*

**SK606727 Carburton** Roadside verge

11.012 B&F 0186 *Psyche casta*

**SK738805 Castle Hill Wood** Deciduous woodland

Currently not surveyed

**SK626636 Centre Parcs** Woodland and heathland

11.006 B&F 0181 *Taleporia tubulosa*

**SK678624 Church Hill** Small copse within agricultural land

11.002 B&F 0175 *Narycia duplicella*

**SK590630 Clipstone** Urban area with street tree planting

11.009 B&F 0185 *Luffia ferchaultella*

**SK615635 Clipstone Forest** Largely coniferous woodland/plantation

11.012 B&F 0186 *Psyche casta*

**SK605670 Clipstone Old Quarter** Coniferous plantation, with areas of heathland

11.001 B&F 0180 *Diplodoma laichartingella*

11.002 B&F 0175 *Narycia duplicella*

11.004 B&F 0177 *Dahlia inconspicua*

11.012 B&F 0186 *Psyche casta*

**SK646325 Clipstone Wolds**

Currently not surveyed

**SK626746 Clumber Park** Parkland, heathland, mixed woodland

11.002 B&F 0175 *Narycia duplicella*

11.012 B&F 0186 *Psyche casta*

**SK618718 Clumber Park** Deciduous woodland

11.002 B&F 0175 *Narycia duplicella*

11.012 B&F 0186 *Psyche casta*

**SK651330 Cotgrave Wolds**

Currently not surveyed

**SK535741 Creswell Craggs**

11.002 B&F 0175 *Narycia duplicella*

**SK567699 Cuckney Hay Wood** Mixed woodland with coniferous plantation

11.002 B&F 0175 *Narycia duplicella*

11.006 B&F 0181 *Taleporia tubulosa*

11.012 B&F 0186 *Psyche casta*

**SK648621 Cutt's Wood** Mixed woodland with coniferous plantation

11.002 B&F 0175 *Narycia duplicella*

**SK677602 Dukes Wood** Deciduous woodland

None recorded



**SK613716 Duncan Wood** Mixed woodland with coniferous plantation with light Bramble undergrowth

11.001 B&F 0180 *Diplodoma laichartingella*

11.002 B&F 0175 *Narycia duplicella*

11.012 B&F 0186 *Psyche casta*

**SK665608 Eakring Brail Wood** Mixed woodland with coniferous plantation

11.002 B&F 0175 *Narycia duplicella*

**SK676622 Eakring Churchyard** Maintained cemetery in village

None recorded

**SK701620 Eakring Meadows NR** Grass/meadowland and marsh

11.002 B&F 0175 *Narycia duplicella*

**SK728775 Eaton Wood** Deciduous woodland

None recorded

**SK739678 Egmanton Wood**

Currently not surveyed

**SK610709 Fanny's Grove** Mixed woodland

11.012 B&F 0186 *Psyche casta*

**SK703713 Farley's Wood**

Currently not surveyed

**SK590505 Foxcovert Plantation** Deciduous woodland

Currently not surveyed

**SK727768 Gamston Wood** Deciduous woodland

11.012 B&F 0186 *Psyche casta*

**SK633429 Gedling House** Deciduous woodland/parkland

Currently not surveyed

**SK605723 Gibraltar Plantation** Largely coniferous plantation

11.001 B&F 0180 *Diplodoma laichartingella*

11.006 B&F 0181 *Taleporia tubulosa*

11.012 B&F 0186 *Psyche casta*

**SK595708 Gleadthorpe Breck Plantation** Deciduous woodland

11.002 B&F 0175 *Narycia duplicella*

11.012 B&F 0186 *Psyche casta*

**SK592701 Gleadthorpe Farm** Roadside stone wall

None recorded

**SK591434 Gretton Road, Mapperley** Suburban area with street tree planting

11.002 B&F 0175 *Narycia duplicella*

**SK559690 Hanger Hill Plantation** Deciduous Beech woodland with thin ground-cover

11.001 B&F 0180 *Diplodoma laichartingella*

11.005 B&F 0179 *Dahlica lichenella*

11.006 B&F 0181 *Taleporia tubulosa*

11.012 B&F 0186 *Psyche casta*

**SK591773 Hannah Park** Deciduous woodland

None recorded

**SK708625 Hare Hill Wood** Deciduous woodland

None recorded

**SK575706 Hatfield Plantation** Deciduous woodland

11.012 B&F 0186 *Psyche casta*

**SK607545 Haywood Oaks** Mixed woodland with coniferous plantation

11.002 B&F 0175 *Narycia duplicella*

11.012 B&F 0186 *Psyche casta*

**SK738638 High Wood** Deciduous woodland

Currently not surveyed

**SK556680 Hills and Holes SSSI** Scrub/grassland

11.002 B&F 0175 *Narycia duplicella*

**SK600698 Holborn Hill Plantation** Deciduous Beech woodland with thin ground-cover

11.001 B&F 0180 *Diplodoma laichartingella*

11.002 B&F 0175 *Narycia duplicella*

11.005 B&F 0179 *Dahlia lichenella*

11.006 B&F 0181 *Taleporia tubulosa*

11.012 B&F 0186 *Psyche casta*

**SK612825 Hundred Acre Wood** Deciduous woodland

11.002 B&F 0175 *Narycia duplicella*

11.006 B&F 0181 *Taleporia tubulosa*

11.012 B&F 0186 *Psyche casta*

**SK713619 Kersall** Hedgerows with trees bordering meadowland

11.002 B&F 0175 *Narycia duplicella*

**SK595799 Kilton Road** Urban area with street tree planting

11.002 B&F 0175 *Narycia duplicella*

**SK516596 King's Mill Reservoir** Urban reservoir with surrounding scrub and mature trees

11.002 B&F 0175 *Narycia duplicella*

**SK586622 King's Wood**

11.006 B&F 0181 *Taleporia tubulosa*

11.012 B&F 0186 *Psyche casta*

**SK686684 Kirton Wood**

None recorded

**SK723646 Kneesall Wood** Deciduous woodland

None recorded

**SK637610 Lime's Café Car Park** Car park with mature trees

11.002 B&F 0175 *Narycia duplicella*

**SK634537 Loatt Hill** Agricultural land with small wooded area

None recorded

**SK595525 Longdale Lane** Largely coniferous plantation

Currently not surveyed

**SK677636 Lound Wood** Mixed woodland

11.001 B&F 0180 *Diplodoma laichartingella*

11.002 B&F 0175 *Narycia duplicella*

11.004 B&F 0177 *Dahlia inconspicua*

11.006 B&F 0181 *Taleporia tubulosa*

11.012 B&F 0186 *Psyche casta*

**SK563675 Mansfield Road, Market Warsop** Urban area with street tree planting

11.002 B&F 0175 *Narycia duplicella*

**SK540632 Mansfield Woodhouse** Urban area with street tree planting

11.002 B&F 0175 *Narycia duplicella*

**SK569691 Market Warsop Cemetery** Maintained cemetery/semi-urban

11.002 B&F 0175 *Narycia duplicella*

11.005 B&F 0179 *Dahlia lichenella*

**SK585689 Market Warsop STW** Agricultural land with hedgerows and occasional trees

11.002 B&F 0175 *Narycia duplicella*

**SK550657 Nettleworth Manor** Parkland/agricultural

11.002 B&F 0175 *Narycia duplicella*

**SK575632 Newlands** Mixed woodland edging urban area

11.002 B&F 0175 *Narycia duplicella*

**SK540536 Newstead Abbey**

None recorded

**SK607658 New Lodge Plantation** Deciduous woodland

11.002 B&F 0175 *Narycia duplicella*

11.012 B&F 0186 *Psyche casta*

**SK540560 Nomanshill Wood**

Currently not surveyed

**SK526645 North Lodge Farm** Farmland with some stone, boundary walls

11.002 B&F 0175 *Narycia duplicella*

**SK574720 Norton** Stone road bridge

None recorded

**SK565440 Nottingham City Hospital** Suburban hospital with some mature trees/parkland

11.009 B&F 0185 *Luffia ferchaultella*

**SK572828 Owday Wood**

Currently not surveyed

**SK640468 Ploughman Wood** Deciduous woodland

Currently not surveyed

**SK591590 Rainworth Heath** Heathland

11.012 B&F 0186 *Psyche casta*

**SK569613 Ratcher Way, Mansfield** Industrial Estate/brownfield site

11.001 B&F 0180 *Diplodoma laichartingella*

**SK565655 Redbrick House** Deciduous woodland

11.012 B&F 0186 *Psyche casta*

**SK642646 Rufford CP** Parkland/deciduous woodland

11.002 B&F 0175 *Narycia duplicella*

**SK593433 Sandford Road, Mapperley** Suburban area with street tree planting

11.002 B&F 0175 *Narycia duplicella*

11.009 B&F 0185 *Luffia ferchaultella*

**SK613716 Scotland Farm** Coniferous plantation

11.002 B&F 0175 *Narycia duplicella*

11.012 B&F 0186 *Psyche casta*

**SK627678 Sherwood Forest CP** Ancient deciduous woodland

11.001 B&F 0180 *Diplodoma laichartingella*

11.002 B&F 0175 *Narycia duplicella*

11.004 B&F 0177 *Dahlia inconspicua*

11.005 B&F 0179 *Dahlia lichenella*

11.006 B&F 0181 *Taleporia tubulosa*

11.009 B&F 0185 *Luffia ferchaultella*

11.012 B&F 0186 *Psyche casta*

**SK647675 Sherwood Heath SSSI** Heathland

11.002 B&F 0175 *Narycia duplicella*

11.012 B&F 0186 *Psyche casta*

**SK576603 Strawberry Hill Heath** Restored heathland

11.006 B&F 0181 *Taleporia tubulosa*

**SK637749 Tank Wood** Deciduous woodland with Bramble undergrowth

11.002 B&F 0175 *Narycia duplicella*

11.012 B&F 0186 *Psyche casta*

**SK545570 Thieves Wood**

Currently not surveyed

**SK597810 Theivesdale Lane** Urban area with street tree planting

None recorded

**SK628738 Thorney Hill** Heathland, mixed woodland

11.002 B&F 0175 *Narycia duplicella*

11.012 B&F 0186 *Psyche casta*

**SK728766 Treswell Wood** Deciduous woodland

None recorded

**SK664710 Walesby Forest** Mixed woodland and heathland

11.012 B&F 0186 *Psyche casta*

**SK670807 Walker's Wood**

Currently not surveyed

**SK545685 Warsop Main Pit Top** Young woodland on former Colliery spoil heap

11.012 B&F 0186 *Psyche casta*

**SK554694 Warsop Wood** Broadleaved woodland with Bracken undergrowth

11.006 B&F 0181 *Taleporia tubulosa*

11.012 B&F 0186 *Psyche casta*

**SK669662 Wellow School** Parkland/large garden

11.002 B&F 0175 *Narycia duplicella*

## 4.0 Species accounts

The species accounts have been brought up to date, to provide a general account of each species, detail the criteria given below and provide notes of preferred habitat, details on notable sites and numbers (including where populations are fragile and worthy of greater awareness and protection) and available notes on success when reared in captivity.

**Nottinghamshire status:** Is given as either common, rare or very rare etc. This is only a guide based solely on our findings at the end of 2014. Many sites have yet to be surveyed, so species status is subject to future change.

**Number of locations:** For example 34/80 means that the moth (in any stage) was recorded at 34 locations out of a total of 80 currently surveyed by the end of 2014.

The species accounts provide a general account of each species, detail the above criteria and provide notes of preferred habitat, details on notable sites and numbers (including where populations are fragile and worthy of greater awareness and protection) and available notes on success when reared in captivity.

#### **4.01 *Diplodoma laichartingella*** (Goeze, 1783)

**Nottinghamshire status:** Largely restricted to the Sherwood Forest area.

**Number of locations:** 6/80

**Case length:** Mature cases 9 - 11.5mm, being much smaller during the first year. Cases covered with particles of sand, bark and insect fragments.

Appears to be a fairly widespread moth where it occurs, but in small numbers. *Diplodoma laichartingella* has a current range extending away from its stronghold of Sherwood Forest to an isolated record as far north as the Idle Valley NR (Cadman, P. and Warne, M).

The larval cases remained difficult to find during the Winter months, but once the usual choice of over-wintering site was discovered, finding cases became considerably easier. Over-wintering cases were usually located in the hollows which are often formed at the base of Beech trees, but usually tucked well inside and difficult to spot.

This species was easiest to find during the Winter in Beech woodland such as Holborn Hill and Hanger Hill Plantations where the underlying vegetation is sparse, a key factor in most habitats where *Diplodoma laichartingella* occurred.

Although this habitat produced the largest numbers of larval cases, it was by no means entirely restricted to this habitat, but larvae did seem to prefer smooth-barked trees. Other Sherwood Forest sites containing areas of Beech (and from where the moth was recorded) were Gibraltar Plantation and Duncan Wood, whilst there were records away from the traditional Sherwood Forest area, at both Boughton Brake near Walesby and Lound Wood at Eakring.

Records away from Beech woodland came from Clipstone Old Quarter, Bradmer Hill, Sherwood Forest CP and Budby Common, from where there was just one case found.

In April 2006, the larval cases of seven *Diplodoma laichartingella* were found climbing the trunk of one ancient Oak, deep in woodland at Bradmer Hill, indicating that *Diplodoma laichartingella* was probably selective in its choice of egg laying site and takes full advantage of any suitable location. Cases were even found on some old Oaks that were situated deep within coniferous plantations, but all these Oaks had long since lost their bark and the ground-cover in the immediate area was sparse.

In 2014, our belief that *D. laichartingella* was restricted to woodland and heathland was proved very wrong, when numerous young larval cases were found on metal railings at an industrial estate off Crown Farm Way in Mansfield. The site is relatively near Sherwood Golf Club and the former Crown Farm Colliery.

Few 1<sup>st</sup> year larval cases were ever found during the survey and the range of material that some larvae incorporated into their cases was considerable.

Of all the examples we found, the one shown in the photograph on the previous page, was by far the most extreme. It measured approximately 11.5mm in length and on close examination, the case was found to contain at least one spider moult, pieces of bark and sand, a lepidopterous larval head moult (probably one of its own) numerous sections of different beetles including the elytra of a Weevil species and one complete Earwig moult.

#### **4.02 *Narycia duplicella*** (Goeze, 1783)

**Nottinghamshire status:** Common and widespread. Occurs in suburban locations.

**Number of locations:** 42/80

**Case length:** 5 - 7.5mm, covered with algae and lichen particles and sometimes with a distinctive lateral flange, less often seen on cases of *Dahlica lichenella* or *Dahlica inconspicuenta*.

*Narycia duplicella* represents the most widespread species of all Nottinghamshire Psychidae, occurring at most of the locations visited and surveyed. Although the larval cases of this moth were found commonly in the Sherwood Forest area, there were suitable looking locations where it was found to be absent.

Active larval cases were generally found in small numbers (usually less than five per tree) but cases can remain in place for several years where they are protected from the elements. Old cases are often the most easily found during the Winter months, generally remaining higher off the ground at the pupation site. Active cases tended to

be much lower at this time, occasionally being found in bark crevices at ground-level, although finding these was often completely by chance.

During March and sometimes even in February if the weather was mild, larvae became more active and could be found moving up trees and (more rarely) stone walls to begin feeding prior to pupation. Trees and walls covered in the lichen *Lepraria incana* were particularly favoured larval feeding sites, but cases were also found regularly on trees with virtually no lichen on them at all. We found that *Narycia duplicella* favoured no particular species of tree for feeding.

Although *Narycia duplicella* was most frequently found in wooded areas, there were several urban locations where cases were found. Odd larval cases were found on roadside trees at King's Mill Reservoir, Mansfield Woodhouse, Newlands and Berry Hill areas of Mansfield, at Mapperley in Nottingham and along Kilton Road in central Worksop. Larval cases were also found alongside those of other species, including *Dahlica lichenella* and *Luffia ferchaultella*.

Rearing of larvae was relatively easy in captivity. Active cases were collected early in the year and then transferred to an algae or lichen covered piece of wood or bark, which was then placed into a large clear plastic container and kept indoors. The wood or bark was very occasionally, lightly sprayed with water and kept as free from mould as possible. Continued feeding took place over the following few weeks, until the larva attached the case securely and pupated. Adults hatched within about three weeks, were photographed and then released.

#### **4.03 *Dahlica triquetrella*** (Hübner, [1813])

**Nottinghamshire status:** Very rare and restricted to a single Nottinghamshire site.

**Number of locations:** 1/80

**Case length:** 6.5 - 8.5mm and similar to the cases of our other two Dahlicas, but usually with some insect fragments near the collar.

The latest addition to the Nottinghamshire Psychidae list, cases of *Dahlica triquetrella* were found on the Nottinghamshire side of the flood wall at Attenborough NR by Richard Rogers and on the Derbyshire side (also new to Derbyshire) by Eddie Nurcome in March 2012. Further occupied cases were later found on both sides of the flood wall by Jerry Clough.

The cases are virtually identical to both other Dahlicas, but are slightly larger, covered particles of soil/sand and with fragments of insects (often a key feature towards identification).

#### **4.04 *Dahlica inconspicuella*** (Stainton, 1849)

**Nottinghamshire status:** Rare.

**Number of locations:** 6/80

**Case length:** 5 - 6mm and obviously triangular in cross-section. Cases less covered with algae and lichen particles than those of *Dahlica lichenella* and *Narycia duplicella*.

From the evidence of this survey, *Dahlica inconspicuella* is a rare Nottinghamshire moth and largely confined to the Sherwood Forest area of the county. The moth was found to be present at just six sites. These were at Clipstone Old Quarter, Budby South Forest and Sherwood Forest CP. A single old case was found at Lound Wood, Eakring in 2006, from where the moth is now believed to be extinct, as no larval cases have been found since.

The larval cases of *Dahlica inconspicuella* were almost impossible to find and cases on mature trees within the areas of the forest where the moth was known to occur. Cases were usually well concealed within deep bark crevices, or underneath loose bark. Such locations were often drier and less prone to lichen growth and most of the cases we found, were often quite bare with little coverage of lichen particles. This was by no means a guarantee of identification though and almost all of the cases we found, appeared to be those from previous years.

Case lengths were always around 5 - 6mm and were obviously triangular in cross-section.

The apterous females were never found during the survey. However, we did have some chance success in finding the fully-winged males on two occasions, resting on the trunks of Oaks at Clipstone Old Quarter and Sherwood

Forest at the end of April 2006. Males have also been attracted to MV light on several occasions within Sherwood Forest CP.

#### **4.05 *Dahlica lichenella*** (Linnaeus, 1761)

**Nottinghamshire status:** Very rare

**Number of locations:** 3/80

**Case length:** 6.5 - 7.5mm, generally covered with particles of sand, algae and lichen. Mature larval cases often obviously larger than those of *Dahlica inconspicuell*a or *Narycia duplicella*.

The first Nottinghamshire record of *Dahlica lichenella* surprisingly came from the roadside wall of Market Warsop Cemetery in 2006, where there were a total of 40 cases found. This total contained both active cases and older ones from previous years. All the cases were on the more shaded, east-facing side of the wall and facing away from the road.

Although there were odd larval cases of *Narycia duplicella* in with those of *Dahlica lichenella*, only the cases of *Narycia duplicella* were found on nearby trees at this site. Despite much continued searching of the many stone walls in this general area over the next few weeks, no further sites or colonies of *Dahlica lichenella* could be located and more recent surveys in 2013 and 2014 have failed to find any larval cases. The only other locations where this moth was recorded, were Holborn Hill Plantation (between Meden Vale and Budby) in 2008 and more recently at Sherwood Forest CP in 2014.

We found several occupied larval cases at Holborn Hill Plantation, but rarely more than one case per tree. The cases were distinctively larger than those of *Dahlica inconspicuell*a or *Narycia duplicella*, and the only real confusion species considered at the time was *Dahlica triquetrella*, a species which at the time, had not yet been found in Nottinghamshire.

One of three parthenogenetic Psychidae found in Nottinghamshire, *Dahlica lichenella* has apterous, self-fertile females, which are very short-lived. The two that we hatched in captivity, both died within about eight hours after emergence, after laying their eggs inside the larval cases. Neither of the females were seen to move off the larval case at all during that time.

#### **4.06 *Taleporia tubulosa*** (Retzius, 1783)

**Nottinghamshire status:** Largely restricted to the Sherwood Forest area, but widespread and often common.

**Number of locations:** 13/80

**Case length:** 15-20mm.

Apart from two isolated occurrences of a single old larval case at Lound Wood near Eakring (believed extinct there now) and of a healthy population just north of Worksop at Hundred Acre Wood, *Taleporia tubulosa* was most regularly found in (and restricted to) the Sherwood Forest area.

In it's favoured habitat of Beech woodland, this moth was often found to be locally abundant. Most frequently found as either old cases during the Winter months, or ascending the trunks of trees in the Spring prior to pupation, *Taleporia tubulosa* was found to be commonest at Holborn Hill and Hanger Hill Plantations, both of which held extremely good numbers of this species.

The larval cases are perhaps the most distinctive of all the Psychidae presently found in the county, being up to 20mm in length and tube-like in appearance. Old cases from previous years were often covered in algae through age, as active larval cases have a clean looking appearance. Only in the latter weeks of the larval stage, is the case covered with some particles of sand and insect, but it is never to the degree of that achieved by *Diplodoma laichartingella*.

*Taleporia tubulosa* larvae live on the ground and only ascend trees to pupate in the Spring. At Holborn Hill Plantation on one day in the second week of May 2006, we counted well over 100 larvae searching for pupation sites.

Odd cases were found at a number of sites. On the heathland of Budby South Forest, *Taleporia tubulosa* seemed limited to two small areas and wooden fence posts were often utilised as pupation sites. Other sites where small numbers of cases were found included Burstheart Hill, Gibraltar Plantation, Clipstone Old Quarter and Cuckney

Hay Wood and it was found at Strawberry Hill Heath in 2014.

#### **4.07 *Luffia ferchaultella*** (Stephens, 1850)

**Nottinghamshire status:** Currently rare, but the number of known sites is increasing. A largely urban species.

**Number of locations:** 5/80

**Case length:** 6 - 8mm.

The present status of *Luffia ferchaultella* in Nottinghamshire is probably misleading, as it is likely to prove to be a common species in urban areas with further surveying.

Although it was consistently looked for at every site visited between 2006 and 2007, especially within the heart of Sherwood Forest, it was never found. In the end, the first record of this moth for Nottinghamshire, came from the grounds of Nottingham City Hospital in July 2008.

We immediately conducted a random search of other trees at the site, which proved that most held at least one larval case of this moth. Small numbers of larval cases were also found on Lime trees along Sandford Road in Mapperley, before numerous (both old and occupied cases) were discovered on roadside trees at Clipstone near Mansfield. Small numbers of cases were also found on roadside trees at Berry Hill, Mansfield.

In early 2011, larval cases were found on trees in the visitor centre car park at Sherwood Forest CP, representing the first confirmed record away from urban areas.

In Europe, this moth is common in many towns and cities.

#### **4.08 *Psyche casta*** (Pallas, 1767)

**Nottinghamshire status:** Common.

**Number of locations:** 35/80

**Case length:** Mature cases range from 10 - 15mm.

A common species around Sherwood Forest and at many woodland sites, occasionally even turning up within areas of forestry plantations. *Psyche casta* was noted from a total of 35 survey sites, with the most northerly Nottinghamshire location being the Idle Valley NR (Cadman, P. and Warne, M).

The larval case is one of the most conspicuous. It is most often found on tree trunks, but we found that it will also utilise fence posts, gates and virtually any upright surface for pupation. Full grown larvae were regularly found during the Spring and Summer months, on young Bramble growth and long grass, found along pathways throughout Sherwood Forest.

The moth seems quick to move into new areas, as on the former Warsop Main Pit Top, we found three full-grown larvae feeding near the top of Sallow bushes, which were some considerable distance from the nearest woodland.

Although Sherwood Forest contains by far the highest concentration of *Psyche casta* in Nottinghamshire, what seem to be isolated populations do occur elsewhere. Hundred Acre Wood near Worksop, Lound Wood at Eakring and Haywood Oaks all produced records, although only two larval cases have been recorded at Lound Wood in ten years recording there. The number of cases found in open Beech woodland was considerably lower than expected and we found that this species prefers woodland containing more undergrowth than most Psychidae, although well shaded sections produced fewer cases.

Larval cases are adorned with dead plant material, including sections of grass stems, umbellifers and Pine or Larch needles. Larvae that eventually produced adult females, created cases at the larger range of the scale and typically had the largest plant fragments attached. Male larval cases were usually noticeably smaller and with much finer fragments stuck to them.

The only adult moth noted in the field was a single male, netted one evening at Clipstone Old Quarter.

Mature larvae collected from the wild and then reared in captivity, would produce moths fairly quickly. Like most members of this group, they were extremely short-lived.





*Diplodoma laichartingella* (adult)



*Diplodoma laichartingella* (larval case)



*Narycia duplicella* (adult male)



*Narycia duplicella* (adult female)



*Narycia duplicella* (larval case)



*Narycia duplicella* (larval case)





*Dahlica inconspicuella* (male)



*Dahlica inconspicuella* (female)



*Dahlica inconspicuella* (larval case)



*Dahlica lichenella* (adult female)



*Dahlica lichenella* (larval case)



*Dahlica lichenella* (larval case)





*Taleporia tubulosa* (adult male)



*Taleporia tubulosa* (adult female)



*Taleporia tubulosa* (larval case)



*Taleporia tubulosa* (larva)



*Luffia ferchaultella* (larval case)



*Luffia ferchaultella* (larval case)





*Luffia ferchaultella* (half grown larva)



*Luffia ferchaultella* (full grown larva)



*Psyche casta* (adult female)



*Psyche casta* (adult male)



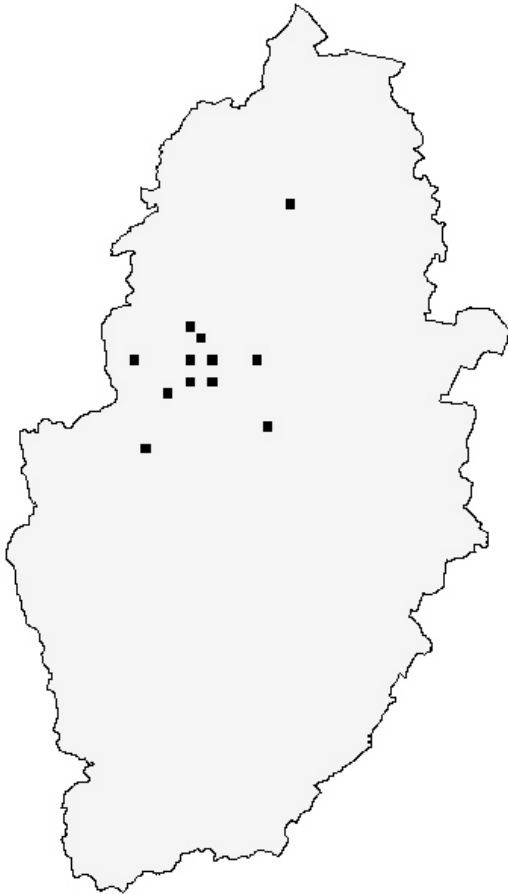
*Psyche casta* (larval case)



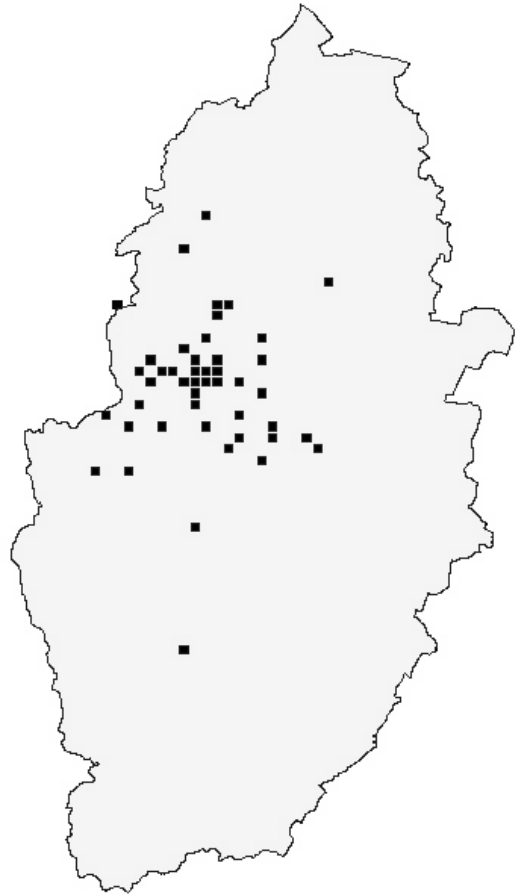
*Psyche casta* (larval case)

## 5.0 Species distribution maps

*Diplodoma laichartingella*



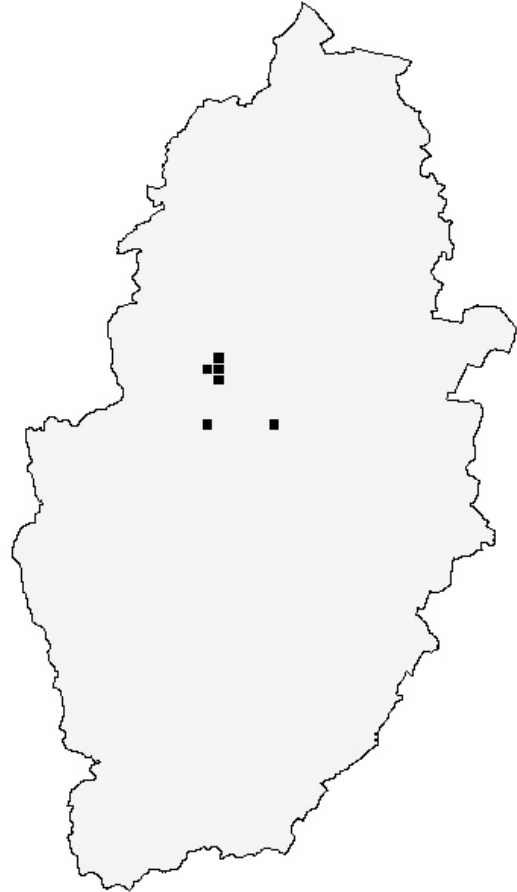
*Narycia duplicella*



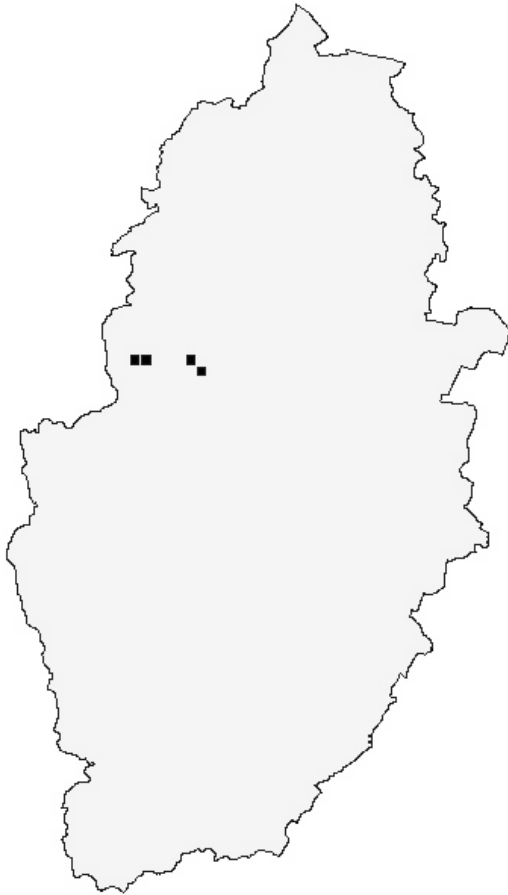
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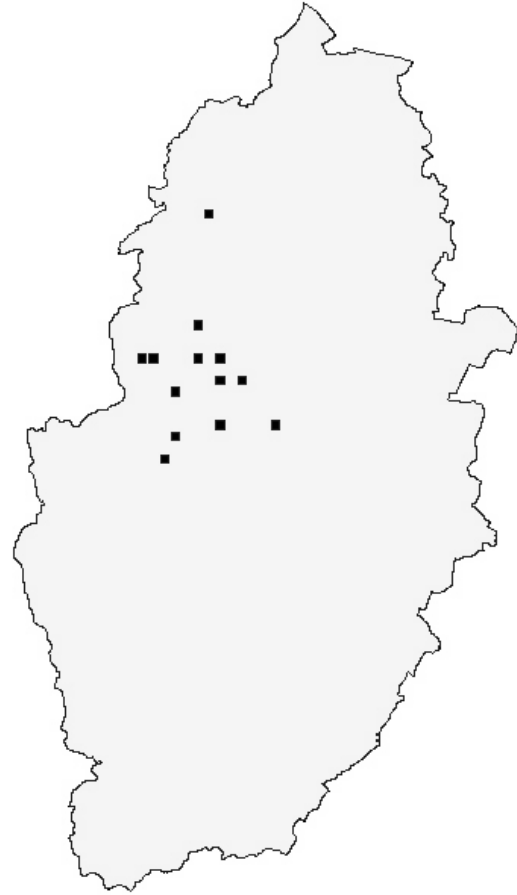
*Dahlica inconspicua*



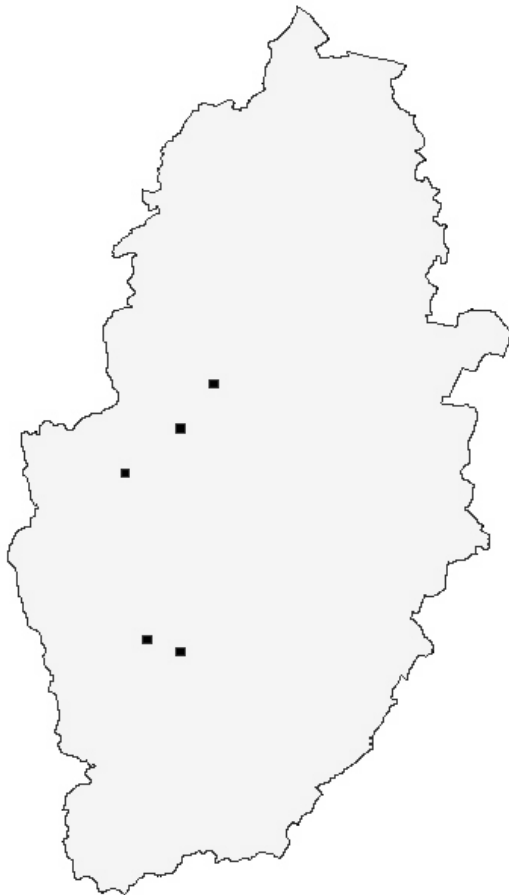
***Dahlica lichenella***



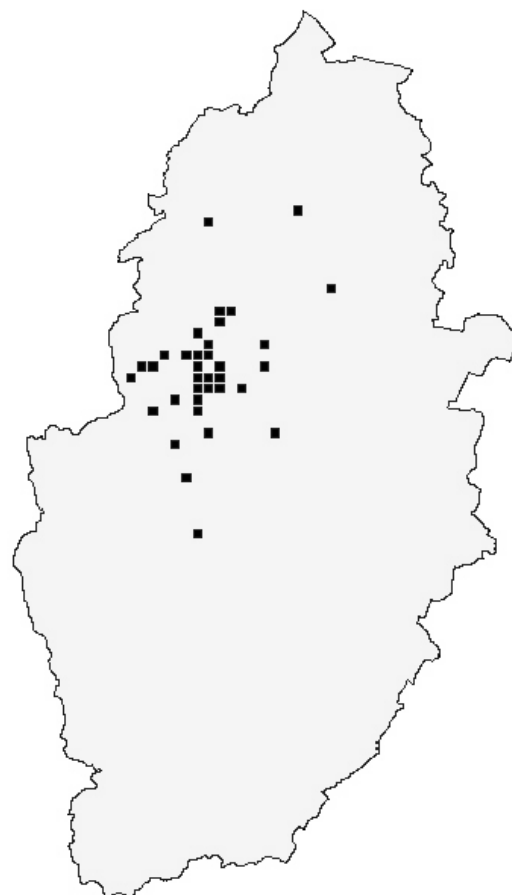
***Taleporia tubulosa***



***Luffia ferchaultella***



***Psyche casta***



## 6.0 Summary

Nottinghamshire, Derbyshire and Leicestershire all share a similar range of Psychidae, although Derbyshire probably has a wider range through having expanses of moorland habitat.

With continued coverage and searching, several other members of this group may yet be found and it is quite possible that *Bankesia conspurcatella*, *Proutia betulina* and *Sterrhopteryx fusca* could all occur somewhere in Nottinghamshire.

The survey has shown that Sherwood Forest contains the widest range of species as a whole, but that there are some considerable variations in either species variety or species population, at many of the forest's survey sites. A significant contributing factor in this, is the variation in forestry use and/or forestry management.

Coniferous plantations have no doubt aided the decline of some species here, but at least the present phase of reverting certain areas of some plantations, back to a more traditional Sherwood habitat of Oak/Birch woodland or heathland, may eventually contribute towards an increase in Psychidae and other lepidoptera.

Fortunately the old Oak remnants were left intact when the forestry plantations were originally planted and this has been a vital aid to the forest's Psychidae species. Psychidae larvae seem to prefer to feed on lichens growing in light shade, rather than lichens growing in areas exposed to full sun.

Remnant Oaks situated deep within dense Pine plantations were often so well shaded and continuously too damp, that they were rendered unsuitable for some species to use annually. Such Oaks though, were often good places to search for the cases of *Diplodoma laichartingella* in the Spring, but this is probably due to the Pines found in plantations, rarely being old enough to have any lichen growth on them at all.

Pine plantations were extremely poor sites to survey and the only other species that regularly turned up was *Psyche casta*, which in such habitat was invariably to be found as late-instar larvae feeding on Bramble.

