

THE RARE MUSHROOMS OF WALES II

A REVISED RED DATA LIST
OF WELSH MACROFUNGI

by

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EXECUTIVE SUMMARY

A new and substantially revised red list of Welsh macrofungi is presented, embodying the threat categories and criteria prescribed by the IUCN Species Survival Commission. The revised list comprises 248 taxa, compared to 267 in the provisional list produced in 1998. Of these, 29 species are regarded as being Extinct in Wales, not having been recorded since 1960. One species, the Nail Fungus, *Poronia punctata*, is listed as being Critically Endangered, while two others are given the Endangered status. The remaining 216 species are listed as Vulnerable. Only one species, the Monkey Head, *Hericiium erinaceum*, receives protection under the Schedule to the Wildlife and Countryside Act of 1981. The limitations imposed by use of the IUCN criteria are discussed. A further list of species which do not meet the IUCN criteria but which are regarded as being of Conservation Concern is given in an Annex. All the traceable records of Welsh Red List species, totalling 520, are itemised in an Appendix. Locations found to have the highest number of red list species recorded are listed in order to highlight their importance for conservation and management. The compilation of this revised red data list of Welsh macrofungi has been a scientifically rigorous exercise and it is suggested that it may serve as a model for others engaged in producing red lists for fungi in the future.

CRYNODEB GWEITHREDOL

Cyflwynir rhestr goch o macroff yngau Cymreig newydd ac sydd wedi ei diwygio yn sylweddol, sy'n cynnwys y categorïau a'r meini prawf yn ymwneud â bygythiad a nodwyd gan Gomisiwn Goroesiad Rhywogaethau IUCN. Mae'r rhestr ddiwygiedig yn cynnwys 248 tacs, o'i gymharu â 267 yn y rhestr dros dro a gynhyrchwyd ym 1998. O blith y rhain, ystyrir 29 rhywogaeth fel rhai sydd wedi diflannu yng Nghymru, oherwydd nad ydynt wedi eu cofnodi ers 1960. Rhestrir un rhywogaeth, y Ffwng *Poronia Punctata*, fel un sydd mewn Perygl Critigol, tra rhoddir statws o dan Fygythiad i ddwy arall. Rhestrir y 216 o rywogaethau sy'n weddill fel rhai Diamddiffyn. Dim ond un rhywogaeth, y "Monkey Head", *Hericiium erineacum*, sy'n derbyn gwarchodaeth o dan yr Atodlen i Ddeddf Bywyd Gwyllt a Chefn Gwlad 1981. Trafodir y cyfyngiadau a osodir gan ddefnyddio meini prawf IUNC. Rhoddir rhestr bellach o rywogaethau nad ydynt yn bodloni meini prawf IUCN ond a ystyrir fel rhai sy'n peri Pyder o ran Cadwraeth mewn Atodiad. Mae holl gofnodion y gellir eu holrhain rhywogaethau'r Rhestr Goch Gymreig, sy'n gwneud cyfanswm o 520, yn cael eu rhestru mewn Atodiad. Caiff lleoliadau a ganfuwyd i fod â'r nifer uchaf o rywogaethau'r rhestr goch eu cofnodi mewn trefn i dynnu sylw at eu pwysigrwydd ar gyfer cadwraeth a rheolaeth. Mae llunio'r rhestr data goch ddiwygiedig hon o macroff yngau wedi bod yn ymarferiad gwyddonol llym ac awgrymir y gall fod yn fodel i eraill sy'n ymwneud â chynhyrchu rhestrau coch ar gyfer ff yngau yn y dyfodol.

1. INTRODUCTION

It is now five years since the author compiled a provisional Red Data List for Macrofungi in Wales (Rotheroe, 1998). This generated much discussion and resulted in a number of mycologists contributing their records to the database. The List was also used by workers in statutory and voluntary bodies to include fungi in their consideration of management and conservation plans. Since then there have been a number of developments which have caused the provisional List to become somewhat out of date:

- a) The international criteria have been altered and only those adopted by the International Union for the Conservation of Nature (IUCN) are now acceptable.
- b) Experience over the last five years has shed more light on the status and distribution of those species included in the List, presenting the opportunity to reduce or increase the risk level of species found to be more or less widespread than previously thought.
- c) Considerable changes in nomenclature have taken place in the last five years, resulting in many of the names used in the 1998 List being amended.
- d) New candidates for inclusion in the List have been identified.
- e) In the opinion of many mycologists red data lists should be routinely revised every five years (Paul Kirk, personal communication).

For these reasons it was decided that a revision of the Welsh List was now appropriate. (This may be referred to as the Revised Welsh Red List, as well as by the full title above.)

2. METHODS

The methods generally followed those employed in the compilation of the 1998 list, but selection of species for the revised list was based on the numbers of known records rather than on the view of the author as to the degree of threat or rarity. Expert opinion was taken into account only for the Annex to the list (see below).

2.1 The IUCN categories

The IUCN Red List categories were approved by the IUCN Council in Switzerland on 30th November, 1994 (Anon, 1994). They are based on a combination of factors such as a high risk of extinction in the foreseeable future; geographical limitation; population decline; and small or sparse populations. There are five criteria, labelled A, B, C, D, and E. Species qualify if they meet any one of these. Criteria B and C contain sub-criteria. To meet criterion B a species needs to meet two out of three sub-criteria – B1, B2 or B3. To meet criterion C a species needs to meet either C1 or C2. Criteria are defined at three levels of risk or threat, so that species included are categorised as Critically Endangered (CR), Endangered (EN) or Vulnerable (VU). Two other relevant categories are Extinct (EX) and Extinct in the Wild (EW). A photocopy of the IUCN red list document is appended (see APPENDIX I).

2.2 Interpretation of the IUCN categories

Mycologists in many countries have had difficulty in producing red lists which follow the IUCN rules and all have found it necessary to bend those rules to a lesser or greater degree. (It is claimed anecdotally that the IUCN rules were drawn up originally for rhinoceroses!) Fungi do not produce identifiable fruit bodies every year and for some species there may be a gap of a quarter of a century or more between the occurrence of a species at a particular site. Thus longer

time periods are necessary for comparisons of both sites and populations. The IUCN categories are also too rigid for fungi since there is such great emphasis on population sizes over a very short time scale for the most endangered categories. The following is quoted directly from a late draft intended for publication as "A Millennium Red Data List of Endangered British Fungi" (Ing, *et al.*) to be published later in 2003:

“ Critically Endangered (CR) is based on a population decline of 80% in the last ten years or a predicted decline of the same size in the next ten years, or the presence of the species in only one 10km grid square or a single site. The likelihood of extinction is 50% in ten years. This category is not used for newly discovered species or additions to the British list until further study is made. It is difficult to use for such ephemeral organisms as fungi, where the rare species may be rare because they are heterothallic or require microclimatic conditions for fruiting which do not occur regularly. Sporadic fruitings, separated by long periods, make this, and the Extinct category, more difficult to use than in most groups.

Endangered (EN) is based on a 50% decline, as above, or presence in 2 - 5 sites or 10km squares. The likelihood of extinction, largely through habitat loss, is up to 20% in 20 years. Most species in this category have lost a high proportion of their sites during the 20th century and are down to a few locations.

Vulnerable (VU) involves a 20% decline or presence in up to 20 sites or squares. The likelihood of complete extinction is placed at 10% in 100 years. For most practical purposes this is the most realistic category to use for fungi, where, in general, we have poor distribution data. The lower categories are assumed to be potentially higher if conservation measures fail.

Extinct (EX), or more realistically, probably extinct, species here defined as those for which no reliable record has been made since 1960. This is an arbitrary date but conforms to those used by several mapping schemes and also marks the modern resurgence in recording in a systematic way. These species may yet be rediscovered, probably as a result of re-colonisation from mainland Europe, but have not been found in spite of searches in old sites and likely new ones.”

In this revised Welsh red list, note has been taken of the above approach of the compilers of the Millennium British red list. The spirit of the IUCN rules has been pursued, but adapted to try to maintain objectivity in the face of the realities of fungal recording. To this end, proposals put forward by Alick Henrici (personal communication) have been followed. The categories have therefore been defined in the following way:

- 'EX' No records since 1st January, 1960. Date of the last record is given.
- CR/B Recorded in 1 10km square since 1960, evidence of decline*
- EN/B Recorded in 2 - 5 10km squares since 1960, evidence of decline
- VU/B Recorded in 6 - 10 10km squares since 1960, evidence of decline
- VU/D2 Recorded in 1 - 5 10km squares since 1960, no evidence of decline

*For a species recorded in n squares since 1960 there is considered to be evidence of decline only if it was recorded in $2n + 2$ squares prior to 1960. (4 'recent' and 5 'older' is hardly 'decline').

Species only added to the British List in the last 10 years (ie since 1st January, 1993) are excluded as Data Deficient, except where the locality of the record has been systematically surveyed over a period of several years. (In this latter exception, the Welsh list departs from the Henrici approach.)

The above definitions are a modification of the IUCN rules for mycological purposes, nevertheless they exclude many species which mycologists would agree are of conservation importance even though they do not fit any of the IUCN categories. For this reason the List is supplemented by an Annex which lists species regarded as being of Conservation Concern. The Annex list is not an arbitrary one, however. Taxa in the Annex include, for example:

- a) Biodiversity Action Plan (BAP) species that do not meet the IUCN criteria.
- b) Species that are well known to be under little threat in Wales but which figure prominently on British or European red lists.
- c) Species rare in Wales but not in England or Scotland.
- d) Species which are characteristic of severely threatened habitats.

2.3 Source of Records

The data used to compile the revised red list were obtained from the following sources:

- a) The author's own personal records collected over the past 35 years.
- b) Notes accompanying packets of dried material at herbaria at the Royal Botanic Gardens, Kew (K); The Royal Botanic Garden, Edinburgh (E); Cabi Bioscience, Egham (IMI); the National Museum of Wales (NMW) and the National Botanic Garden of Wales (NBGW).
- c) The fungus database of the British Mycological Society, comprising more than threequarters of a million records.
- d) Individual databases of other mycologists particularly that compiled by Charles Aron for Gwynedd fungi which contains more than 9,000 records.
- e) Diverse literature references.

3 RESULTS

A list of species included in the Revised Welsh Red List is set out in the database print-out shown in APPENDIX II. Each entry also includes the vernacular name of the taxon, the IUCN category assigned and the reason for its inclusion in the List.

The list contains 248 taxa, compared to 267 on the 1998 list. Of these, 29 species are regarded as being Extinct in Wales, not having been recorded since the cut-off year of 1960. Only one species, the Nail Fungus *Poronia punctata*, is listed as being Critically Endangered, since there were records from four Welsh sites prior to 1960 but only once since that date, ie in 2001 at Newborough Warren. Two species qualify for the Endangered status. These are the Fragile Amanita, *Amanita friabilis*, and the Mousy Milkcap, *Lactarius volemus*. They have been recorded at only two locations since 1960 and evidence of decline can be shown. The remaining 216 species must be listed as Vulnerable since no evidence of decline can be found from the records. Within this category, some 104 species are known from only one locality in Wales.

All the traceable records of fungi on the Revised Welsh Red List, totalling 520, are detailed in the database print-out given in Appendix III. This database provides the current name of the taxa; earlier synonyms; the year of the record; the number of the Vice-county in which the collection was recorded; the Grid Reference; the location of any herbarium material and the conservation status from reference to the British Red Data List (Ing, 1992); the European Red Data List (Ing, 1993); the list of Biodiversity Action Plan species (Anon, 1995) and Schedule 8 of the Wildlife and Countryside Act, 1981 (Anon, 1996).

One of the four species given protection in the amendment to Section 8 of the Wildlife and Countryside Act (ie the Monkey Head, *Hericium erinaceum*) has been recorded in Wales since the compilation of the provisional Welsh red list in 1998.

NOTE: Not printed out, but included in the database supplied in electronic form, are fields for the day and month of the collection, where known; the Vice-county name; and the names or initials of the collector/identifier/confirmer of the record.

A total of 41 species which fail to meet the IUCN criteria but which, nevertheless, are thought to be of Conservation Concern are listed in Appendix IV (See Methods above).

The final database print-out presented as Appendix V lists the locations which have the highest number of red list species, highlighting their importance for conservation and management. All sites with four or more red list species are listed here, with Whiteford Burrows NNR emerging with the highest score of 26.

4 DISCUSSION

The provision red list of 1998 generated a certain amount of controversy mainly concerning the choice of species for inclusion (this was in common with reception of the provisional British red list of Ing, 1992, and the provisional European red list of Ing, 1993). Such criticism cannot be levelled at the present work, since its selection of species was made purely on the basis of consideration of numerical data. Indeed, the initial reaction of many mycologists is likely to be surprise at the omission of certain species generally considered to be threatened in the United Kingdom.

For example, many might express surprise that more than 100 species listed in the VU/D2 category – the lowest level of threat – have been recorded at only one Welsh site since 1960. The vast majority of species included in this revised list – some 216 – qualify for this lowest category of Vulnerable. The reason for this is that there was no evidence which could show a decline in populations of the species concerned. Because such evidence was lacking, species recorded at more than five but fewer than 10 sites, could not be placed in the VU/B category. In view of these limitations imposed by the IUCN rules, those interpreting the new revised list should perhaps give more weight than usual to species featuring in the VU/D2 category. It was for this reason that the Annex was added to the list to ‘catch’ those species which failed to meet the IUCN criteria, although they might have been recorded at only six to ten sites. As set out above, many of these taxa are BAP species or are linked to ecosystems which are themselves endangered, such as unimproved grasslands or sand dunes.

Reference to Appendix V shows that half of the 12 sites which have records of ten or more red list species are, in fact, sand dune systems. The very high score of 26 for Whiteford Burrows NNR is perhaps a consequence of the intensive recording which has taken place there over the past two decades, and the fact that members of an international sand-dune workshop visited this site in 1994.

It was observed in discussion of the 1998 Welsh red list that a number of species were originally described from Wales and some sites are part of mycological history, the most notable being Coed Coch. It is interesting that this site appears in second place of the highest scoring locations. Sadly many of the 17 species listed from the site are rated as Extinct. This is particularly unfortunate as the site is now lost because it is closed to the public and all the trees have been felled.

5 CONCLUSIONS

At the start of the revision of the red list it was thought that adherence to the stringent IUCN rules and categories might produce a result which did not reflect the true picture of the level of threat to Welsh macrofungi. However, careful examination of the list will hopefully dispel such reservations. The list as presented should provide a valuable tool for those engaged in the conservation and management of nature reserves, SSSIs, etc. and may be used as evidence in consideration of the creation of these protected sites. In such projects, workers should decide for themselves how much importance should be attached to the Annex to the list.

The compilation of this revised red data list of Welsh macrofungi has been a scientifically rigorous exercise and it is suggested that it may serve as a model for others engaged in producing red lists for fungi in the future.

6 REFERENCES

- Anon, 1994: IUCN Red List Categories. IUCN Council, Gland, Switzerland.
- Anon 1995: Biodiversity: The UK Steering Group Report, Volume 2: Action Plans. HMSO, London.
- Anon 1996: Third Quinquennial Review of Schedules 5 and 8 of The Wildlife and Countryside Act, 1981. Report and Recommendations from the Joint Nature Conservation Committee.
- Ing, B. 1992: A provisional Red Data List of British Fungi. *Mycologist* 6: 124-128.
- Ing, B. 1993: Towards a red list of endangered European macrofungi. *In* D.N. Pegler, L. Boddy, B. Ing & P.M. Kirk (Eds.) *Fungi of Europe: Investigation, Recording and Conservation*, 231-237. Royal Botanic Gardens, Kew.
- Ing, B., Henrici, A., Evans, S. and Rotheroe, M. (in preparation): A Millennium Red Data List of Endangered British Fungi.
- Rotheroe, M. 1993: The macrofungi of British sand dunes. *In* D.N. Pegler, L. Boddy & P.H. Kirk (Eds), *Fungi of Europe: Investigation, recording and conservation*, 121-137. Royal Botanic Gardens, Kew.
- Rotheroe, M. 1995: Mycoflora of sand-dune systems in Wales. Report to Countryside Council for Wales. (Unpub.)

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IUCN RED LIST CATEGORIES

**PREPARED BY THE
IUCN SPECIES SURVIVAL COMMISSION**

**AS APPROVED BY THE
40TH MEETING OF THE IUCN COUNCIL
GLAND, SWITZERLAND**

30 NOVEMBER 1994

9. Extent of occurrence

Extent of occurrence is defined as the area contained within the shortest continuous imaginary boundary which can be drawn to encompass all the known, inferred or projected sites of present occurrence of a taxon, excluding cases of vagrancy. This measure may exclude discontinuities or disjunctions within the overall distributions of taxa (e.g., large areas of obviously unsuitable habitat) (but see 'area of occupancy'). Extent of occurrence can often be measured by a minimum convex polygon (the smallest polygon in which no internal angle exceeds 180 degrees and which contains all the sites of occurrence).

10. Area of occupancy

Area of occupancy is defined as the area within its 'extent of occurrence' (see definition) which is occupied by a taxon, excluding cases of vagrancy. The measure reflects the fact that a taxon will not usually occur throughout the area of its extent of occurrence, which may, for example, contain unsuitable habitats. The area of occupancy is the smallest area essential at any stage to the survival of existing populations of a taxon (e.g. colonial nesting sites, feeding sites for migratory taxa). The size of the area of occupancy will be a function of the scale at which it is measured, and should be at a scale appropriate to relevant biological aspects of the taxon. The criteria include values in km², and thus to avoid errors in classification, the area of occupancy should be measured on grid squares (or equivalents) which are sufficiently small (see Figure 2).

11. Location

Location defines a geographically or ecologically distinct area in which a single event (e.g. pollution) will soon affect all individuals of the taxon present. A location usually, but not always, contains all or part of a subpopulation of the taxon, and is typically a small proportion of the taxon's total distribution.

12. Quantitative analysis

A quantitative analysis is defined here as the technique of population viability analysis (PVA), or any other quantitative form of analysis, which estimates the extinction probability of a taxon or population based on the known life history and specified management or non-management options. In presenting the results of quantitative analyses the structural equations and the data should be explicit.

IV. THE CATEGORIES¹

EXTINCT (EX)

A taxon is Extinct when there is no reasonable doubt that the last individual has died.

EXTINCT IN THE WILD (EW)

A taxon is Extinct in the wild when it is known only to survive in cultivation, in captivity or as a naturalised population (or populations) well outside the past range. A taxon is presumed extinct in the wild when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), throughout its historic range have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form.

CRITICALLY ENDANGERED (CR)

A taxon is Critically Endangered when it is facing an extremely high risk of extinction in the wild in the immediate future, as defined by any of the criteria (A to E) on pages 15, 16 and 17.

ENDANGERED (EN)

A taxon is Endangered when it is not Critically Endangered but is facing a very high risk of extinction in the wild in the near future, as defined by any of the criteria (A to E) on pages 17 and 18.

VULNERABLE (VU)

A taxon is Vulnerable when it is not Critically Endangered or Endangered but is facing a high risk of extinction in the wild in the medium-term future, as defined by any of the criteria (A to D) on pages 19, 20 and 21.

LOWER RISK (LR)

A taxon is Lower Risk when it has been evaluated, does not satisfy the criteria

for any of the categories Critically Endangered, Endangered or Vulnerable. Taxa included in the Lower Risk category can be separated into three subcategories:

1. **Conservation Dependent (cd).** Taxa which are the focus of a continuing taxon-specific or habitat-specific conservation programme targeted towards the taxon in question, the cessation of which would result in the taxon qualifying for one of the threatened categories above within a period of five years.
2. **Near Threatened (nt).** Taxa which do not qualify for Conservation Dependent, but which are close to qualifying for Vulnerable.
3. **Least Concern (lc).** Taxa which do not qualify for Conservation Dependent or Near Threatened.

DATA DEFICIENT (DD)

A taxon is Data Deficient when there is inadequate information to make a direct, or indirect, assessment of its risk of extinction based on its distribution and/or population status. A taxon in this category may be well studied, and its biology well known, but appropriate data on abundance and/or distribution is lacking. Data Deficient is therefore not a category of threat or Lower Risk. Listing of taxa in this category indicates that more information is required and acknowledges the possibility that future research will show that threatened classification is appropriate. It is important to make positive use of whatever data are available. In many cases great care should be exercised in choosing between DD and threatened status. If the range of a taxon is suspected to be relatively circumscribed, if a considerable period of time has elapsed since the last record of the taxon, threatened status may well be justified.

NOT EVALUATED (NE)

A taxon is Not Evaluated when it is has not yet been assessed against the criteria.

1 Note: As in previous IUCN categories, the abbreviation of each category (in parenthesis) follows the English denominations when translated into other languages.

V. THE CRITERIA FOR CRITICALLY ENDANGERED, ENDANGERED AND VULNERABLE

CRITICALLY ENDANGERED (CR)

A taxon is Critically Endangered when it is facing an extremely high risk of extinction in the wild in the immediate future, as defined by any of the following criteria (A to E):

- A. Population reduction in the form of either of the following:
1. An observed, estimated, inferred or suspected reduction of at least 80% over the last 10 years or three generations, whichever is the longer, based on (and specifying) any of the following:
 - (a) direct observation
 - (b) an index of abundance appropriate for the taxon
 - (c) a decline in area of occupancy, extent of occurrence and/or quality of habitat
 - (d) actual or potential levels of exploitation
 - (e) the effects of introduced taxa, hybridisation, pathogens, pollutants, competitors or parasites.
 2. A reduction of at least 80%, projected or suspected to be met within the next ten years or three generations, whichever is the longer, based on (and specifying) any of (b), (c), (d) or (e) above.
- B. Extent of occurrence estimated to be less than 100 km² or area of occupancy estimated to be less than 10 km², and estimates indicating any two of the following:

E. Quantitative analysis showing the probability of extinction in the wild is at least 50% within 10 years or 3 generations, whichever is the longer.

ENDANGERED (EN)

A taxon is Endangered when it is not Critically Endangered but is facing a very high risk of extinction in the wild in the near future, as defined by any of the following criteria (A to E):

A. Population reduction in the form of either of the following:

1. An observed, estimated, inferred or suspected reduction of at least 50% over the last 10 years or three generations, whichever is the longer, based on (and specifying) any of the following:
 - (a) direct observation
 - (b) an index of abundance appropriate for the taxon
 - (c) a decline in area of occupancy, extent of occurrence and/or quality of habitat
 - (d) actual or potential levels of exploitation
 - (e) the effects of introduced taxa, hybridisation, pathogens, pollutants, competitors or parasites.

2. A reduction of at least 50%, projected or suspected to be met within the next ten years or three generations, whichever is the longer, based on (and specifying) any of (b), (c), (d) or (e) above.

B. Extent of occurrence estimated to be less than 5000 km² or area of occupancy estimated to be less than 500 km², and estimates indicating any two of the following:

1. Severely fragmented or known to exist at no more than five locations.

1. Severely fragmented or known to exist at only a single location.
2. Continuing decline, observed, inferred or projected, in any of the following:

- (a) extent of occurrence
- (b) area of occupancy
- (c) area, extent and/or quality of habitat
- (d) number of locations or subpopulations
- (e) number of mature individuals.

3. Extreme fluctuations in any of the following:

- (a) extent of occurrence
- (b) area of occupancy
- (c) number of locations or subpopulations
- (d) number of mature individuals.

C. Population estimated to number less than 250 mature individuals and either:

1. An estimated continuing decline of at least 25% within 3 years or one generation, whichever is longer or

2. A continuing decline, observed, projected, or inferred, in numbers of mature individuals and population structure in the form of either:

- (a) severely fragmented (i.e. no subpopulation estimated to contain more than 50 mature individuals)
- (b) all individuals are in a single subpopulation.

D. Population estimated to number less than 50 mature individuals.

2. Continuing decline, inferred, observed or projected, in any of the following:

- (a) extent of occurrence
- (b) area of occupancy
- (c) area, extent and/or quality of habitat
- (d) number of locations or subpopulations
- (e) number of mature individuals.

3. Extreme fluctuations in any of the following:

- (a) extent of occurrence
- (b) area of occupancy
- (c) number of locations or subpopulations
- (d) number of mature individuals.

C. Population estimated to number less than 2500 mature individuals and either:

1. An estimated continuing decline of at least 20% within 5 years or 2 generations, whichever is longer, or

2. A continuing decline, observed, projected, or inferred, in numbers of mature individuals and population structure in the form of either:

- (a) severely fragmented (i.e. no subpopulation estimated to contain more than 250 mature individuals)
- (b) all individuals are in a single subpopulation.

D. Population estimated to number less than 250 mature individuals.

E. Quantitative analysis showing the probability of extinction in the wild is at least 20% within 20 years or 5 generations, whichever is the longer.

VULNERABLE (VU)

A taxon is Vulnerable when it is not Critically Endangered or Endangered but is facing a high risk of extinction in the wild in the medium-term future, as defined by any of the following criteria (A to E):

A. Population reduction in the form of either of the following:

1. An observed, estimated, inferred or suspected reduction of at least 20% over the last 10 years or three generations, whichever is the longer, based on (and specifying) any of the following:

- (a) direct observation
- (b) an index of abundance appropriate for the taxon
- (c) a decline in area of occupancy, extent of occurrence and/or quality of habitat
- (d) actual or potential levels of exploitation
- (e) the effects of introduced taxa, hybridisation, pathogens, pollutants, competitors or parasites.

2. A reduction of at least 20%, projected or suspected to be met within the next ten years or three generations, whichever is the longer, based on (and specifying) any of (b), (c), (d) or (e) above.

B. Extent of occurrence estimated to be less than 20,000 km² or area of occupancy estimated to be less than 2000 km², and estimates indicating any two of the following:

- 1. Severely fragmented or known to exist at no more than ten locations.
- 2. Continuing decline, inferred, observed or projected, in any of the following:

- (a) extent of occurrence
- (b) area of occupancy

- (c) area, extent and/or quality of habitat
- (d) number of locations or subpopulations
- (e) number of mature individuals.

3. Extreme fluctuations in any of the following:

- (a) extent of occurrence
- (b) area of occupancy
- (c) number of locations or subpopulations
- (d) number of mature individuals.

C. Population estimated to number less than 10,000 mature individuals and either:

1. An estimated continuing decline of at least 10% within 10 years or 3 generations, whichever is longer, or
2. A continuing decline, observed, projected, or inferred, in numbers of mature individuals and population structure in the form of either
 - (a) severely fragmented (i.e. no subpopulation estimated to contain more than 1000 mature individuals)
 - (b) all individuals are in a single subpopulation.

D. Population very small or restricted in the form of either of the following:

1. Population estimated to number less than 1000 mature individuals.
2. Population is characterised by an acute restriction in its area of occupancy (typically less than 100 km²) or in the number of locations (typically less than 5). Such a taxon would thus be prone to the effects of human activities (or stochastic events whose impact is increased by human activities) within a very

short period of time in an unforeseeable future, and is thus capable of becoming Critically Endangered or even Extinct in a very short period.

E. Quantitative analysis showing the probability of extinction in the wild is at least 10% within 100 years.

APPENDIX II: Revised List of Red Data Species in Wales

Key to Columns and their Contents

IUCN

EX:	Extinct – not recorded in Wales since 1960
CR/B:	Critically Endangered – Recorded in 1 10km square since 1960, evidence of decline
EN/B	Endangered – Recorded in 2-5 10km squares since 1960, evidence of decline
VU/D2	Vulnerable – Recorded in 1-5 10km squares since 1960, no evidence of decline

Reason for Inclusion

W=n	Number of sites at which species have been recorded in Wales since 1960.
E=n	Ditto: No. of sites in England
S=n	Ditto: No. of sites in Scotland
NI=n	Ditto: No. of sites in Northern Ireland

(Note: If recorded at many sites outside Wales, numbers are not given)

APPENDIX II: Revised List of Red Data Species in Wales

Name of Fungus	IUCN	Reason for Inclusion	Vernacular Name
<i>Agaricus bresadolanus</i>	VU/D2	W=1	Bresadola's Mushroom
<i>Agaricus comtulus</i>	VU/D2	W=3	Small white mushroom
<i>Agaricus essettei</i>	VU/D2	W=4	Essette's Mushroom
<i>Agaricus koelerionensis</i>	VU/D2	W=1	A sand-dune mushroom
<i>Agaricus luteomaculatus</i>	VU/D2	W=1, E=7	Yellow Spotted Mushroom
<i>Agaricus porphyrizon</i>	VU/D2	W=1	Purple-root Mushroom
<i>Agaricus porphyrocephalus</i>	VU/D2	W=2	Purple-cap Mushroom
<i>Agaricus xanthodermus</i> var <i>lepiotoides</i>	VU/D2	W=2, E=3	Scurfy Yellow Stainer
<i>Agrocybe arenaria</i>	VU/D2	W=1, none elsewhere	Sandy Agrocybe
<i>Amanita battarae</i>	VU/D2	W=4, E=6, S=1	Battar's Amanita
<i>Amanita eliae</i>	VU/D2	W=1	Eli's Amanita
<i>Amanita franchetii</i>	VU/D2	W=1	Franchet's Amanita
<i>Amanita friabilis</i>	EN/B	W=2, E=2	Fragile Amanita
<i>Amanita lividopallescens</i>	VU/D2	W=2, E=6	Livid Amanita
<i>Amanita nivalis</i>	VU/D2	W=1, E=0, S=6	Snowy Amanita
<i>Armillaria ectypa</i>	VU/D2	W=1	Fen Honey Fungus
<i>Ascobolus behntziensis</i>	VU/D2	W=1, E=1, S=2	A tiny cup fungus
<i>Astraeus hygrometricus</i>	EX	W, 1946	Barometer Earthstar
<i>Aurantiporus fissilis</i>	VU/D2	W=1	A white bracket
<i>Bolbitius pluteoides</i>	VU/D2	W=2	A deliquescent toadstool
<i>Bolbitius reticulatus</i>	VU/D2	W=1	A deliquescent toadstool
<i>Boletinus cavipes</i>	VU/D2	W=1	Hollow-stemmed Bolete
<i>Boletus aereus</i>	VU/D2	W=1	Sepia Cep
<i>Boletus fechtneri</i>	VU/D2	W=1	Fechtner's Bolete
<i>Boletus impolitus</i>	VU/D2	W=2	Iodine-scented Bolete
<i>Boletus radicans</i>	VU/D2	W=3	Rooting Bolete
<i>Camarophylloopsis foetens</i>	VU/D2	W=2	A small, umbilicate waxcap
<i>Camarophylloopsis micacea</i>	EX	EX, 1878, E=8, S=1	Yellow-stemmed Waxcap
<i>Camarophyllus schulzeri</i>	VU/D2	W=1	Schulzer's Waxcap
<i>Cantharellus aurora</i>	VU/D2	EX, 1924	Yellow-stemmed Chanterelle
<i>Cantharellus cinereus</i>	VU/D2	W=2	Grey Chanterelle
<i>Cantharellus pallens</i>	VU/D2	W=4	Pale Chanterelle
<i>Chamaemyces fracidus</i>	VU/D2	W=4	Dewdrop Parasol
<i>Chrysomphalina grossula</i>	EX	EX, 1950, E=1, S=4	Mrs Wynne's Field Toadstool
<i>Ciboria dumbrensis</i>	VU/D2	W=1, none elsewhere	Small purple cup fungus
<i>Clavaria crosslandii</i>	EX	EX, 1958, E=2	Crossland's Fairy Club
<i>Clavaria flavipes</i>	VU/D2	W=1	Straw-yellow Fairy Club
<i>Clavaria rosea</i>	VU/D2	W=3	Pink Fairy Club

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Name of Fungus	IUCN	Reason for Inclusion	Vernacular Name
<i>Clavariadelphus pistillaris</i>	VU/D2	W=2	Giant Fairy Club
<i>Clavulinopsis laeticolor</i>	VU/D2	W=5	An orange fairy club
<i>Clavulinopsis luticola</i>	VU/D2	W=1, none elsewhere	A yellow fairy club
<i>Clavulinopsis umbrinella</i>	VU/D2	W=4	Brown Fairy Club
<i>Clitocybe graminicola</i>	VU/D2	W=2, none elsewhere	A whitish grassland toadstool
<i>Clitocybe leucodiatreta</i>	VU/D2	W=1, none elsewhere	A brownish grassland toadstool
<i>Collybia racemosa</i>	VU/D2	W=3	Grape-stemmed Tough Shank
<i>Conocybe lenticulospora</i>	VU/D2	W=1, E=5, S=2	A grassland toadstool
<i>Coprinus cinereofloccosus</i>	VU/D2	W=1	Grey-cottony Inkcap
<i>Coprinus laanii</i>	VU/D2	W=2	Laan's Inkcap
<i>Coprinus sterquilinus</i>	VU/D2	W=1	A dung inkcap
<i>Coprinus tigrinellus</i>	VU/D2	W=1	Little Tiger Inkcap
<i>Coprinus urticicola</i>	VU/D2	W=2	Nettle Inkcap
<i>Cordyceps entomorrhiza</i>	VU/D2	W=2	A caterpillar fungus
<i>Cordyceps forquignonii</i>	VU/D2	W=2	A caterpillar fungus
<i>Cordyceps tuberculata</i>	VU/D2	W=1	A caterpillar fungus
<i>Cortinarius amoenolens</i>	VU/D2	W=2	Beautiful Cobweb-veil
<i>Cortinarius balteatocumatilis</i>	VU/D2	W=1, E=3, S=0	A belted cobweb-veil
<i>Cortinarius cinnabarinus</i>	EX	EX, 1924	Vermilion Cobweb-veil
<i>Cortinarius cohabitans</i>	VU/D2	W=5, E=2, S=0	A white-booted cobweb-veil
<i>Cortinarius diabolicus</i>	VU/D2	W=2, E=4, NI=3	Diabolic Cobweb-veil
<i>Cortinarius epsomiensis</i>	VU/D2	W=1, E=5, S=0	Grassland Cobweb-veil
<i>Cortinarius fulvosquamosus</i>	VU/D2	W=1, E=5	Brown Scurfy Cobweb-veil
<i>Cortinarius infractus</i>	VU/D2	W=1	Incurved Cobweb-veil
<i>Cortinarius microspermus</i>	VU/D2	W=1, E=0, S=1	Small-spored Cobweb-veil
<i>Cortinarius mucosus</i>	VU/D2	W=2	Slimy Cobweb-veil
<i>Cortinarius palustris</i>	VU/D2	W=1, E=0, S=1	Bog-dwelling Cobweb-veil
<i>Cortinarius purpurascens</i>	VU/D2	W=2	Purplish Cobweb-veil
<i>Cortinarius rubricosus</i>	VU/D2	W=1, E=0, S=3, NI=1	Ruddy Cobweb-veil
<i>Cortinarius safranopes</i>	VU/D2	W=1, E=1, S=0	Saffron-stemmed Cobweb-veil
<i>Cortinarius sanguineus</i>	VU/D2	W=2	Blood-red Cobweb-veil
<i>Cotylidia pannosa</i>	VU/D2	W=1	A stipitate stereum
<i>Crepidotus lundellii</i>	VU/D2	W=4	Lundell's Soft-slipper
<i>Crepidotus luteolus</i>	VU/D2	W=4	Yellow Soft-slipper
<i>Cystolepiota moelleri</i>	VU/D2	W=2	Pink Parasol
<i>Entoloma aethiops</i>	EX	EX, 1950	Blackish Pink-gill
<i>Entoloma asprellum</i>	VU/D2	W=2	A striate pink-gill
<i>Entoloma bloxamii</i>	VU/D2	W=3	Bloxam's Blue Pink-gill

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Name of Fungus	IUCN	Reason for Inclusion	Vernacular Name
<i>Entoloma cruentatum</i>	VU/D2	W=1, E=3, S=Many	Bloodstained Pink-gill
<i>Entoloma euchroum</i>	VU/D2	W=3	Well-coloured Pink-gill
<i>Entoloma exile</i>	VU/D2	W=3	Meagre Pink-gill
<i>Entoloma lividocyaneum</i>	VU/D2	W=1	Livid-blue Pink-gill
<i>Entoloma mougeotii</i>	VU/D2	W=3	Mougeot's Pink-gill
<i>Entoloma prunuloides</i>	VU/D2	W=3	Plummy Pink-gill
<i>Entoloma querquedula</i>	VU/D2	W=1	Olivaceous Pink-gill
<i>Entoloma roseum</i>	VU/D2	W=2	Rosy Pink-gill
<i>Entoloma sericeum v cineroopacum</i>	VU/D2	W=1, none elsewhere	Dark Grey Pink-gill
<i>Entoloma wynnei</i>	EX	EX, 1887	Mrs Wynne's Pink-gill
<i>Fayodia leucophylla</i>	VU/D2	W=1, E=1	Fayod's White-gill
<i>Flammulaster saliciphila</i>	VU/D2	W=1, none elsewhere	A saprotrophic toadstool
<i>Flavoscypha cantharella</i>	VU/D2	W=1, E=0, S=1	A sulphur-yellow cup fungus
<i>Galerina paludinella</i>	VU/D2	W=1, E=1	Marsh Galerina
<i>Ganoderma resinaceum</i>	VU/D2	W=1	Lacquered Bracket
<i>Geastrum corollinum</i>	EX	EX, 1813, E=1(CR)	Weathered Earthstar
<i>Geastrum coronatum</i>	VU/D2	W=4	Crowned Earthstar
<i>Geastrum elegans</i>	VU/D2	W=2, E=1, S=1	Elegant Earthstar
<i>Geastrum lageniforme</i>	VU/D2	W=1	Flask-shaped Earthstar
<i>Geastrum pectinatum</i>	VU/D2	W=4	Beaked Earthstar
<i>Geastrum striatum</i>	VU/D2	W=5	Striated Earthstar
<i>Geoglossum glutinosum</i>	VU/D2	W=4	Sticky Earth Tongue
<i>Geoglossum starbaeckii</i>	EX	EX, 18XX, E=4, S=many	Starbaeck's Earth Tongue
<i>Geoglossum umbratile</i>	VU/D2	W=4	Shady Earth Tongue
<i>Graddonia coracina</i>	VU/D2	W=3	A tiny brown cup fungus
<i>Gymnomyces xanthosporus</i>	VU/D2	W=2, E=1, S=0	A milk-cap truffle
<i>Gyrodon lividus</i>	VU/D2	W=2	An alder-loving bolete
<i>Hebeloma dunense</i>	VU/D2	W=2, E=0, S=0	Dune Hebeloma
<i>Helvella costifera</i>	VU/D2	W=1, E=1	Ribbed Helvella
<i>Helvella leucopus</i>	VU/D2	W=2, E=0, S=0	White-footed Helvella
<i>Helvella queletii</i>	VU/D2	W=1, E=8, S=0	Quelet's Helvella
<i>Hericium erinaceum</i>	VU/D2	W=1	Monkey Head
<i>Hohenbuehelia culmicola</i>	VU/D2	W=4, E=1, S=1	Marram-culm Toadstool
<i>Hydnellum concrescens</i>	VU/D2	W=1	Concrescent Corky Spine Fungus
<i>Hydnellum ferrugineum</i>	EX	EX, 1924	Reddish-brown Corky Spine Fungus
<i>Hydnellum scrobiculatum</i>	VU/D2	W=2	Pitted Corky Spine Fungus
<i>Hydnellum spongiosipes</i>	VU/D2	W=1	Velvety Corky Spine Fungus
<i>Hygrocybe angustifolia</i>	VU/D2	W=1, none elsewhere	Pure White Waxcap

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Name of Fungus	IUCN	Reason for Inclusion	Vernacular Name
<i>Hygrocybe aurantia</i>	VU/D2	W=1, E=1, S=0	A yellow waxcap
<i>Hygrocybe calciphila</i>	VU/D2	W=2	Lime-loving Waxcap
<i>Hygrocybe coccineocrenata</i>	VU/D2	W=1	Red-toothed Waxcap
<i>Hygrocybe lacmus</i>	VU/D2	W=3	Lacquered Waxcap
<i>Hygrocybe nitiosa</i>	VU/D2	W=1	A nitrous-scented waxcap
<i>Hygrocybe phaeococcinea</i>	VU/D2	W=2	Dark-scarlet Waxcap
<i>Hygrocybe radiata</i>	VU/D2	W=2, E=4, S=4	A grey, translucent waxcap
<i>Hygrocybe subminutula</i>	VU/D2	W=2	Subminute Waxcap
<i>Hygrophorus arbustivus</i>	EX	EX, ?	Shrubby Waxcap
<i>Hygrophorus cossus</i>	VU/D2	W=4	Goat Moth Waxcap
<i>Hygrophorus mesotephrus</i>	VU/D2	W=1	Mid-grey Waxcap
<i>Hymenogaster hessei</i>	VU/D2	W=1	Hesse's Nut Truffle
<i>Hymenogaster olivaceus</i>	VU/D2	W=2	Olive Nut Truffle
<i>Hymenogaster sulcatus</i>	EX	EX, 1880, E=2, S=0	Furrowed Nut Truffle
<i>Hypocreopsis lichenoides</i>	VU/D2	W=1, E=1	A bracket-like ascomycete
<i>Hypsizygos ulmarius</i>	VU/D2	W=1	Elm Oyster Mushroom
<i>Inocybe adequata</i>	VU/D2	W=1	Adequate Inocybe
<i>Inocybe arenicola</i>	VU/D2	W=5, E=2, S=0	Sand-dwelling Inocybe
<i>Inocybe godeyi</i>	EX	EX, 1950	Godey's Inocybe
<i>Inocybe impexa</i>	VU/D2	W=3, E=3, S=2	Maritime Inocybe
<i>Inocybe splendens v splendens</i>	VU/D2	W=1, E=5	Splendid Inocybe
<i>Inonotus hispidus</i>	VU/D2	W=3	A felty bracket fungus
<i>Lactarius azonites</i>	VU/D2	W=1	A white-stemmed milkcap
<i>Lactarius controversus</i>	VU/D2	W=3	A white milkcap
<i>Lactarius evosmus</i>	VU/D2	W=1, E=2	A yellowish, zoned milkcap
<i>Lactarius flavidus</i>	VU/D2	W=2	A viscid yellow milkcap
<i>Lactarius helvus</i>	VU/D2	W=4	Liquorice Milkcap
<i>Lactarius lacunarum</i>	VU/D2	W=1	Warm Brown Milkcap
<i>Lactarius lilacinus</i>	VU/D2	W=3	Lilac Milkcap
<i>Lactarius mammosus</i>	VU/D2	W=1	Umber Milkcap
<i>Lactarius pterosporus</i>	VU/D2	W=2	Wing-spored Milkcap
<i>Lactarius quieticolor</i>	VU/D2	W=3	Tranquil Milkcap
<i>Lactarius repraesentaneus</i>	VU/D2	W=2	Lilac-staining Milkcap
<i>Lactarius ruginosus</i>	VU/D2	W=2	Reddening Milkcap
<i>Lactarius spinosulus</i>	VU/D2	W=2	Spiny Milkcap
<i>Lactarius violascens</i>	VU/D2	W=2	Violet Milkcap
<i>Lactarius volemus</i>	EN/B	W=2	Mousey Milkcap
<i>Lanzia vacini</i>	VU/D2	W=1	Dun-coloured Cup Fungus

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Name of Fungus	IUCN	Reason for Inclusion	Vernacular Name
<i>Lepista nuda</i> v <i>pruinosa</i>	VU/D2	W=1	Powdery Wood Blewit
<i>Lepista sordida</i> v <i>aianthina</i>	VU/D2	W=1	A small drab blewit
<i>Lepista sordida</i> v <i>obscura</i>	VU/D2	W=1	A small drab blewit
<i>Leucoagaricus badhamii</i>	VU/D2	W=3	Badham's Parasol
<i>Leucoagaricus pinguipes</i>	VU/D2	W=2, E=1	Spindle-shanked Parasol
<i>Leucocoprinus pilatianus</i>	VU/D2	W=2, E=4	Pilat's Parasol
<i>Leucocortinarius bulbiger</i>	VU/D2	W=1	White-spored Cobweb-veil
<i>Limacella delicata</i> v <i>glioderma</i>	VU/D2	W=2	A russet toadstool
<i>Limacella delicata</i> v <i>vinosorubescens</i>	VU/D2	W=1	A vinaceous toadstool
<i>Limacella guttata</i>	VU/D2	W=2	A ringed, white toadstool
<i>Lyophyllum gangraenosum</i>	VU/D2	W=4	Blackening Greyling
<i>Macrolepiota fuliginosquarrosa</i>	VU/D2	W=1, none elsewhere	Brown Scaly Parasol
<i>Marasmius rosellus</i>	VU/D2	W=1	A rosy grassland toadstool
<i>Melanoleuca albifolia</i>	VU/D2	W=4, E=3	A white-gilled toadstool
<i>Melanoleuca leucophylloides</i>	VU/D2	W=1	A sand-dune toadstool
<i>Melanoleuca rasilis</i> v <i>pseudoluscina</i>	VU/D2	W=2	A sand-dune toadstool
<i>Melanoleuca schumacheri</i>	VU/D2	W=5, E=3, NI=1	Schumacher's Toadstool
<i>Melanoleuca subpulverulenta</i>	VU/D2	W=3	A grey toadstool
<i>Melanophyllum eyrei</i>	VU/D2	W=3	A small white parasol
<i>Morchella elata</i>	VU/D2	W=2	Tall Morel
<i>Naucoria salicetorum</i>	VU/D2	W=2, E=3, S=1	A willow carr toadstool
<i>Naucoria scolecina</i>	VU/D2	W=5	A willow carr toadstool
<i>Omphalina galericolor</i>	VU/D2	W=2, E=2	A helmet-shaped grassland toadstool
<i>Omphalina galericolor</i> v <i>lilacinicolor</i>	VU/D2	W=2, E=0, S=0	A lilac grassland toadstool
<i>Omphalina luteovitellina</i>	VU/D2	W=3	A chrome-yellow grassland toadstool
<i>Omphalina mutila</i>	VU/D2	W=1, E=1, S=4	A grassland toadstool
<i>Omphalina oniscus</i>	EX	EX, ?	A grassland toadstool
<i>Pachyphloeus citrinus</i>	EX	EX, 1847	Lemon Truffle
<i>Panaeolus cinctulus</i>	VU/D2	W=3, none elsewhere	Dune Mottle-gill
<i>Perenniporia ochroleuca</i>	VU/D2	W=1	Small bracket fungus
<i>Pezicula cinnamomea</i>	EX	EX, 1958	Cinnamon Cup Fungus
<i>Peziza gerardii</i>	VU/D2	W=1, E=2, S=1	Gerard's Cup Fungus
<i>Peziza palustris</i>	VU/D2	W=1	Marsh Cup Fungus
<i>Phellodon confluens</i>	VU/D2	W=2	Strongly Scented Spine Fungus
<i>Phellodon melaleucus</i>	VU/D2	W=4	Black & White Scented Spine Fungus
<i>Phellodon niger</i>	EX	EX, 1924	Black Scented Spine Fungus
<i>Phellodon tomentosus</i>	VU/D2	W=1	Goblet Scented Spine Fungus
<i>Phylloporia ribis</i>	VU/D2	W=1	Spindle-tree Bracket

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Name of Fungus	IUCN	Reason for Inclusion	Vernacular Name
<i>Phylloporus pelletieri</i>	VU/D2	W=3	Golden-gill Bolete
<i>Poronia punctata</i>	CR/B	W=1	Nail Fungus
<i>Psathyrella caput-medusae</i>	EX	EX, 1910, E=EX, S=1	Marram Brittle-cap
<i>Psathyrella flexispora</i>	VU/D2	W=1, E=EX, S=2	A sand-dune brittle-cap
<i>Psathyrella setulosa</i>	VU/D2	W=1, none elsewhere	Hairy Brittle-cap
<i>Ramaria formosa</i>	EX	EX, 1950	Handsome Coral Fungus
<i>Ramaria gracilis</i>	VU/D2	W=1	Graceful Coral Fungus
<i>Ramariopsis tenuiramosa</i>	VU/D2	W=1, E=4, S=0	Slender Coral Fungus
<i>Rimbachia bryophila</i>	VU/D2	W=1, E=1, S=1	Moss-loving Oyster Mushroom
<i>Rubinoboletus rubinus</i>	VU/D2	W=1	A small crimson-brown bolete
<i>Russula aquosa</i>	VU/D2	W=3	A pale red sphagnum-loving russula
<i>Russula aurata</i>	VU/D2	W=3	Red & Gold Russula
<i>Russula azurea</i>	EX	EX, 1924	A purplish-grey russula
<i>Russula cessans</i>	VU/D2	W=3	A pine-loving russula
<i>Russula curtipes</i>	VU/D2	W=3	Short-stemmed Russula
<i>Russula helodes</i>	VU/D2	W=1	A red sphagnum-loving russula
<i>Russula laccata</i>	VU/D2	W=1	Reddish-black Russula
<i>Russula lilacea</i>	VU/D2	W=1, E=6, S=1	A lilac russula
<i>Russula melzeri</i>	VU/D2	W=1, E=6, S=0	Melzer's Russula
<i>Russula minutula</i>	VU/D2	W=1, none elsewhere	Minute Russula
<i>Russula persicina</i>	VU/D2	W=2	Peach-coloured Russula
<i>Russula polychroma</i>	EX	EX, 1950	Many-coloured Russula
<i>Russula pumila</i>	VU/D2	W=3	Pygmy Russula
<i>Russula raoultii</i>	VU/D2	W=2	Raoult's Russula
<i>Russula rutila</i>	VU/D2	W=1	A reddish russula
<i>Russula solaris</i>	VU/D2	W=4	Sunny Russula
<i>Russula torulosa</i>	VU/D2	W=2	Bulging Russula
<i>Russula veternosa</i>	EX	EX, 1950	Gingerbread Russula
<i>Russula violacea</i>	VU/D2	W=2	Violaceous Russula
<i>Sarcoleotia turficola</i>	VU/D2	W=1	Fleshy peat-dweller
<i>Scleroderma cepa</i>	VU/D2	W=5	Onion Earthball
<i>Scutellinia cejpai</i>	VU/D2	W=1, E=2, S=2	Cejp's Eyelash Fungus
<i>Scutellinia paludicola</i>	VU/D2	W=1, E=1, S=1	Marsh-dwelling Eyelash Fungus
<i>Simocybe maritima</i>	VU/D2	W=1, none elsewhere	A sand-dune saprotrophic toadstool
<i>Sistotremella perpusilla</i>	VU/D2	W=2, E=5	A resupinate corticioid
<i>Spathularia flavida</i>	VU/D2	W=3	Yellow Fan Earth Tongue
<i>Squamanita paradoxa</i>	VU/D2	W=1	Grey & Red Toadstool Parasite
<i>Strobilomyces strobilaceus</i>	VU/D2	W=2	Old Man of the Woods

APPENDIX II: Revised List of Red Data Species in Wales

Name of Fungus	IUCN	Reason for Inclusion	Vernacular Name
<i>Stropharia halophila</i>	VU/D2	W=1	Salt-loving Hay-cap
<i>Stropharia luteonitens</i>	VU/D2	W=1, E=1, S=0	Bright Yellow Hay-cap
<i>Stropharia melanosperma</i>	EX	EX, 1910	A dung hay-cap
<i>Suillus aeruginascens</i>	VU/D2	W=4	Grey Larch Bolete
<i>Thuemenidium atropurpureum</i>	EX	EX, 1953	Purple-black Earth Tongue
<i>Trichoglossum rasum</i>	VU/D2	W=1, E=1	An Earth Tongue
<i>Tricholoma acerbum</i>	VU/D2	W=1	Bitter Tricholome
<i>Tricholoma caligatum</i>	VU/D2	W=1, E=0, S=0	A booted tricholome
<i>Tricholoma focale</i>	EX	EX, 1880	A booted tricholome
<i>Tricholoma inamoenum</i>	VU/D2	W=1	A whitish tricholome
<i>Tricholoma pessundatum</i>	EX	EX, 1880	A brown tricholome
<i>Tuber aestivum</i>	VU/D2	W=2	Summer Truffle
<i>Tuber borchii</i>	VU/D2	W=2	Borch's Truffle
<i>Tuber excavatum</i>	VU/D2	W=2	Hollowed Truffle
<i>Tuber maculatum</i>	VU/D2	W=1	Spotted Truffle
<i>Tuber puberulum</i>	EX	EX, 1950	Downy Truffle
<i>Tuber rapaeodorum</i>	VU/D2	W=1	Turnip-scneted Truffle
<i>Tuber rufum</i>	EX	EX, 1950	Reddish Truffle
<i>Tulostoma melanocyclum</i>	VU/D2	W=2	Scaly Stalk Puffball
<i>Verpa krombholzii</i>	EX	EX, 1910	Krombholz's Morel

APPENDIX III: All Records of Revised Red List Species in Wales

Key to Some Columns and their Contents

<u>Herb</u>	Location of herbarium material
<u>Cons Status</u>	General conservation status of species:
BAP	Biodiversity Action Plan species
BRDL	British Red Data List (Ing, 1992): E = Endangered; V = Vulnerable; R = Rare
ERDL	Towards a Red List of Endangered European Macrofungi (Ing, 1993) B = Widespread losses, evidence of steady decline, some national extinctions, medium-level concern
Wildlife Act	Species on Schedule of the Wildlife and Countryside Act, 1981

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Name of Fungus	Earlier Synonym	Year	VC	Site	Grid Ref	Herb	Cons Status
<i>Agaricus bresadolanus</i>		1983	41	Cwm George, Dinas Powys	31/146721	NMW	
<i>Agaricus comtulus</i>		1997	42	Caecommin Coch SSSI			
<i>Agaricus comtulus</i>		1913	48	Fairbourne	SH6113		
<i>Agaricus comtulus</i>		1924	50	Fairy Glen	SH85		
<i>Agaricus comtulus</i>		1915	41	Gower, Smear Moor & Ilston Valley	SH59		
<i>Agaricus comtulus</i>		2002	48	Morfa Dyffryn			
<i>Agaricus comtulus</i>		1985	46	Ynyslas NNR	SH60-93-		
<i>Agaricus essettei</i>	<i>Agaricus abruptibulbus</i>	1991		Cefn Mine Farm			
<i>Agaricus essettei</i>	<i>Agaricus abruptibulbus</i>	1997	35	Lady Park Wood	SO549144	Anon	
<i>Agaricus essettei</i>	<i>Agaricus abruptibulbus</i>	1998	52	Newborough Forest			
<i>Agaricus essettei</i>	<i>Agaricus abruptibulbus</i>	1994	44	Pembrey Country Park	SN4000		
<i>Agaricus koelerionensis</i>		1991	52	Newborough Forest			
<i>Agaricus luteomaculatus</i>		1992	41	Whiteford Burrows NNR	SS4495	NBGW	
<i>Agaricus porphyizon</i>		1995	52	Aberffraw			
<i>Agaricus porphyrocephalus</i>		1996		Glynlyfon			
<i>Agaricus porphyrocephalus</i>		1989	49	Snowdon	SH5752		
<i>Agaricus xanthodermus</i> var <i>lepiotoides</i>		2001	48	Morfa Dyffryn	SH574221		
<i>Agaricus xanthodermus</i> var <i>lepiotoides</i>		1985	46	Ynyslas NNR	SH60-93-	K(M)	BRDL-VU
<i>Agrocybe arenaria</i>		1985	46	Ynyslas NNR	SH60-93-	K(M)	BRDL-VU
<i>Amanita battarae</i>	<i>Amanita inaurata</i>	1997	42	Nant Irfon NNR, Abergwesyn, Brecon	SN8452	NBGW	
<i>Amanita battarae</i>	<i>Amanita inaurata</i>	2001	52	Plas Newydd			
<i>Amanita battarae</i>	<i>Amanita inaurata</i>	1998	49	Treborth	SH57		
<i>Amanita battarae</i>	<i>Amanita inaurata</i>	2000	49	Vaynol Park	SH5470		
<i>Amanita eliae</i>		1999	49	Coedydd Aber	SH6671		
<i>Amanita franchetii</i>	<i>Amanita aspera</i>	1984	50	Abergele, Glan-yr-Afon, Marli	SH97	K(M)	
<i>Amanita friabilis</i>		1996	35	Redbrook, River Wye		K(M)	BRDL-E
<i>Amanita lividopallescens</i>		2000	46	Hafod Estate	SN756731	NBGW	
<i>Amanita lividopallescens</i>		1995	35	The Hendre	SO4514	SEE	BRDL-VU
<i>Amanita nivalis</i>		1999		Elidir Fach	SH605613		
<i>Armillaria ectypa</i>		2002	44	Ffwrdd Fen, Llanelli	SN419023	K(M)	
<i>Ascobolus behnitzensis</i>		1994	44	Pembrey Country Park	SN4000	K(M)	
<i>Astraeus hygrometricus</i>	<i>Geastrum hygrometricus</i>	1946	46	Penbryn Beach path	SN25	K(M)	BRDL-VU
<i>Aurantiporus fissilis</i>	<i>Tyromyces fissilis</i>	1973	47	Coed Coesau-whips	SO1985		
<i>Bolbitius pluteoides</i>		1994		Lligwy Woods			
<i>Bolbitius pluteoides</i>		1994		Tan-y-Rhiw Fachwen			
<i>Bolbitius reticulatus</i>	<i>Pluteolus aleuriatus</i>	1918	41	Bishops Wood			
<i>Bolbitius reticulatus</i>	<i>Pluteolus aleuriatus</i>	2000	49	Vaynol Park	SH5470		
<i>Boletinus cavipes</i>		2001	41	Parc Slip NR	SS880840	A.E. Hi	
<i>Boletus aereus</i>		1996	35	The Park, Abergavenny	SO1729		
<i>Boletus fechtneri</i>		1996	47	Llanymynech Quarry	SJ2622	NBGW	ERDL-B
<i>Boletus impolitus</i>		1994	35	Abergavenny, St Mary's Vale	SO2816		ERDL-B
<i>Boletus impolitus</i>		1985	50	Erddig Big Wood	SJ3248		ERDL-B
<i>Boletus radicans</i>		1997	42	Gillfach Farm, Llangorse	SO1426		
<i>Boletus radicans</i>		1978	41	Swansea	SS3248		
<i>Boletus radicans</i>		1995	46	Winllan, Talsarn	SN567575		
<i>Camarophyllopsis foetens</i>	<i>Omphalia abhorrens</i>	1878	50	Coed Coch	SH8874	K(M)	BRDL-R
<i>Camarophyllopsis foetens</i>	<i>Omphalia abhorrens</i>	1997	42	Gospel Pass, Hay-on-Wye	SO2439		BRDL-R
<i>Camarophyllopsis foetens</i>	<i>Omphalia abhorrens</i>	1992		Nant Porth NR			
<i>Camarophyllopsis micacea</i>	<i>Hygrophorus micaceus</i>	1878	50	Coed Coch	SH8874	K(M)	BRDL-R
<i>Camarophyllopsis schulzeri</i>	<i>Hygrophorus schultzeri</i>	2002		Trawscoed	SH846331		
<i>Cantharellus aurora</i>	<i>Cantharellus lutescens</i>	1924	49	Betws-y-Coed, Llanrwst	SH76		BRDL-VU
<i>Cantharellus aurora</i>	<i>Cantharellus lutescens</i>	1924	50	Erddig, Hafod Wood	SJ3248		BRDL-VU
<i>Cantharellus aurora</i>	<i>Cantharellus lutescens</i>	1924	49	Swallow Falls	SH7657		BRDL-VU
<i>Cantharellus cinereus</i>	<i>Pseudocraterellus cinereus</i>	1950	49	Bangor, Betws-y-Coed	SH75		BRDL-VU

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Name of Fungus	Earlier Synonym	Year	VC	Site	Grid Ref	Herb	Cons Status
Cantharellus cinereus	Pseudocraterellus cinereus	1876	50	Coed Coch	SH87	K(M)	BRDL-VU
Cantharellus cinereus	Pseudocraterellus cinereus	1988	49	Coed Gorswen NNR	SH77	K(M)	BRDL-VU
Cantharellus cinereus	Pseudocraterellus cinereus	1966	47	Gregynog	SO0897		BRDL-VU
Cantharellus pallens	Cantharellus ferruginascens	2000	35	Abergavenny, St Marys Vale	SO2816	K(M)	
Cantharellus pallens	Cantharellus ferruginascens	1996	42	Clydach, Dan-y-Coed	SO228127		
Cantharellus pallens	Cantharellus ferruginascens	1992	35	Fiddler's Elbow, Blorenge	SO2713		
Cantharellus pallens	Cantharellus ferruginascens	1979		Lligwy Woods			
Chamaemyces fracidus		1984	42	Afon Mellta, Pont Nedd Fechan	22/9108	NMW	ERDL-B
Chamaemyces fracidus		1997	35	Capel Newydd, Blaenavon	SO2707	NBGW	ERDL-B
Chamaemyces fracidus		1988	49	Coed Dolgarrog	SH7766		ERDL-B
Chamaemyces fracidus		1995	41	Old Castle Down	SS9075		ERDL-B
Chrysomphalina grossula	Omphalina wynniae	1878	50	Coed Coch	SH87	K(M)	
Chrysomphalina grossula	Omphalina wynniae	1950	49	Halfway Woods	SH6266		
Ciboria dumbrensis		1974	45	Narberth		K(M)	
Clavaria crosslandii		1958	46	Penglais, Institute of Rural Science	SN5982		
Clavaria flavipes	Clavaria straminea	1988	49	Great Orme	SH7683		BRDL-VU
Clavaria rosea		1997	42	Clydach railway	SO2212	SEE	
Clavaria rosea		1999	35	Coed Ffyddlwn, Clydach	SO218124		
Clavaria rosea		1997	35	The British, Abertillery	SO2403	SEE	
Clavariadelphus pistillaris		1996	42	Clydach railway	SO2212	SEE	
Clavariadelphus pistillaris		1995	35	Lady Park Wood	SO5414		
Clavulinopsis laeticolor		1999	43	Begwns Common NT	SO1844		
Clavulinopsis laeticolor		1997	43	Cwm Coel	SO8964		
Clavulinopsis laeticolor		1994	41	Llethrid Wood	SS5391		
Clavulinopsis laeticolor		1988		Nant Porth NR	SH5672		
Clavulinopsis laeticolor		1996	42	Priory Grove, Brecon	SO0428		
Clavulinopsis luticola		1985	50	Erddig Big Wood	SJ3348	BI	BRDL-R
Clavulinopsis umbrinella		1871	35	Abergavenny		K(M)	BRDL-VU
Clavulinopsis umbrinella		1978	50	Abergele: Glan-yr-Afon	SH97	K(M)	BRDL-VU
Clavulinopsis umbrinella		1997	42	Craig y Castell NNR	SO1716		BRDL-VU
Clavulinopsis umbrinella		2002	42	Epynt Ranges, Site B	SN893350	NBGW	
Clavulinopsis umbrinella		1924	50	Erddig, Hafod Wood	SJ3248		BRDL-VU
Clavulinopsis umbrinella		1997	35	Garn Ddyrys, Blaenavon	SO2512	NBGW	BRDL-VU
Clitocybe graminicola		1992	41	Kenfig Burrows	SS7981		
Clitocybe graminicola		1992	41	Whiteford Burrows NNR	SS4495		
Clitocybe leucodiatreta		1992	41	Whiteford Burrows NNR	SS4495		
Collybia racemosa		1976	44	Llanelli		K(M)	BRDL-R
Collybia racemosa		1994	44	Pembrey Forest	SN4000	K(M)	BRDL-R
Collybia racemosa		1976	44	Trimsaran, Burry Port	22/4404	NMW	BRDL-R
Conocybe lenticulospora		1994	44	Tywyn Burrows, Pembrey			
Coprinus cinereofloccosus		1993	48	Morfa Harlech			
Coprinus laanii		1988		Caen y Coed	SH7657		
Coprinus laanii		1973	41	St Gwynno Forest			
Coprinus sterquilinus		1950	49	Bangor area	SH5872		
Coprinus sterquilinus		1994		Ugly House			
Coprinus tigrinellus		1994		Tan-y-Rhiw Fachwen			
Coprinus urticicola		1973	41	Dinas Powis Woods	ST1571		
Coprinus urticicola		1994		Lligwy Woods			
Cordyceps entomorrhiza		19XX		Alyn Valley			
Cordyceps entomorrhiza		1998	49	Beddgelert Forest	SH5750		
Cordyceps forquignonii		19XX		Alyn Valley			
Cordyceps forquignonii		1913	48	Dolgellau, Torrent Walk	SH7518		
Cordyceps forquignonii		1924	50	Hafod Woods	SJ3248		
Cordyceps forquignonii		1995		Lligwy Woods			

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Name of Fungus	Earlier Synonym	Year	VC	Site	Grid Ref	Herb	Cons Status
<i>Cordyceps tuberculata</i>		1990		Lligwy Woods			
<i>Cortinarius amoenolens</i>		19XX	35	Lady Park Wood	SO5414	K(M)	
<i>Cortinarius amoenolens</i>		1997	42	Priory Grove, Wales	SO0428	SEE	
<i>Cortinarius balteatocumatilis</i>		1994	44	Pont Felin Gat, Middleton Estate	SN5218	K(M)	BRDL-VU
<i>Cortinarius cinnabarinus</i>		1924	50	Hafod Woods	SJ3248		
<i>Cortinarius cinnabarinus</i>		1924	49	Swallow Falls, Betws-y-Coed	SH7657	NMW	
<i>Cortinarius cohabitans</i>			52	Newborough Warren	SH46		
<i>Cortinarius cohabitans</i>		1994	41	Oxwich Burrows	SN5086	K(M)	
<i>Cortinarius cohabitans</i>		1993	44	Pendine	SN20		
<i>Cortinarius cohabitans</i>		1992	41	Whiteford Burrows NNR	SS4495		
<i>Cortinarius cohabitans</i>		1985	46	Ynyslas NNR	SN69	NBGW	
<i>Cortinarius diabolicus</i>		1997	35	Craig-yr-Allt, Upper Llanover	SO2907	NBGW	
<i>Cortinarius diabolicus</i>		1994	44	Crymlyn Burrows	SS7193	K(M)	
<i>Cortinarius epsomiensis</i>		1994	41	Oxwich Burrows NNR	SS5086	K(M)	
<i>Cortinarius fulvosquamosus</i>		1986	48	Harlech NNR	SH5731	NBGW	
<i>Cortinarius infractus</i>		1993	50	Maeshafn	SJ2030	BI	
<i>Cortinarius microspermus</i>		1985	50	Erd dig Big Wood	SJ3248		
<i>Cortinarius mucosus</i>			44	Pembrey Country Park	SN4000	K(M)	
<i>Cortinarius mucosus</i>		1993	46	Trawscoed			
<i>Cortinarius palustris</i>		1997	43	The Bog, Newbridge-on-Wye	SO0157	NBGW	
<i>Cortinarius purpurascens</i>		1997	43	Cors-y-Llyn	SO0155	NBGW	
<i>Cortinarius purpurascens</i>		1995	48	Rhyd-y-Sarn	SH692423		
<i>Cortinarius rubricosus</i>		1994	44	Pont Felin Gat, Middleton Estate	SN5218	K(M)	
<i>Cortinarius safranopes</i>		1994	44	Pont Felin Gat, Middleton Estate	SN5218	K(M)	
<i>Cortinarius sanguineus</i>		1997	35	Derl, Abergavenny	SO2916		
<i>Cortinarius sanguineus</i>		1950	49	Nant Hellyn	SH56		
<i>Cortinarius sanguineus</i>		1997	35	Wern Fawr, Goytre	SO3205		
<i>Cotylidia pannosa</i>		1880	50	Coed Coch	SH87	K(M)	BRDL-VU
<i>Cotylidia pannosa</i>		1994	41	Nedd Valley	SN9009	K(M)	BRDL-VU
<i>Crepidotus lundellii</i>		1997		Brynteg			
<i>Crepidotus lundellii</i>		1994	41	Llethrid Wood	SS5391	K(M)	
<i>Crepidotus lundellii</i>		1995		Lligwy Woods			
<i>Crepidotus lundellii</i>		1991		Maes-y-Porth		E(M)	
<i>Crepidotus luteolus</i>		1988	49	Coedydd Aber	SH6671		
<i>Crepidotus luteolus</i>		1985	51	Loggerheads	SJ2062		
<i>Crepidotus luteolus</i>		1994	44	Pembrey Forest	SN4000		
<i>Crepidotus luteolus</i>		1988	50	Rhyd-y-Cruau	SH8057		
<i>Cystolepiota moelleri</i>	<i>Lepiota rosea</i>	1983	51	Wepre Valley Country Park	SJ2967		
<i>Cystolepiota moelleri</i>	<i>Lepiota rosea</i>	1978	51	Ysceifiog	SJ1571		
<i>Entoloma aethiops</i>		1950	49	Betws-y-Coed	SH8056		
<i>Entoloma asprellum</i>		1950	49	Betws-y-Coed	SH8056		
<i>Entoloma asprellum</i>		1997	43	Craig-y-Bwlch	SN8961		
<i>Entoloma asprellum</i>		1950	49	Cwm Idwal	SH6459		
<i>Entoloma asprellum</i>		2001	49	Nant Bwlch yr Haiarn: Gwydyr Forest		K(M)	
<i>Entoloma asprellum</i>		1950	49	Vaynol Park	SH5470		
<i>Entoloma bloxamii</i>	<i>Entoloma madidum</i>	1997		Clwt-y-Bont			BRDL-E
<i>Entoloma bloxamii</i>	<i>Entoloma madidum</i>	1997	46	Llanerchaeron		NBGW	BRDL-E
<i>Entoloma bloxamii</i>	<i>Entoloma madidum</i>	1989	49	Snowdon	SH625149	Yes	BRDL-E
<i>Entoloma cruentatum</i>		1996	44	Llety Wen SSSI, Cwmddu, Carm. s.	SN63-30-		
<i>Entoloma euchroum</i>		1990	35	Abergavenny, St Mary's Vale	SO2816		
<i>Entoloma euchroum</i>		1980	50	Abergele, Glan-yr-Afon	SH97	K(M)	
<i>Entoloma euchroum</i>		1991	42	Glangrwyney Court	SO2416		
<i>Entoloma exile</i>	<i>Entoloma pyrospilum</i>	1997	46	Hafod, Cards.	SN756731	NBGW	
<i>Entoloma exile</i>	<i>Entoloma pyrospilum</i>	1996	44	Llety Wen SSSI, Cwmddu, Carm. s.	SN63-30-		

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Name of Fungus	Earlier Synonym	Year	VC	Site	Grid Ref	Herb	Cons Status
Entoloma exile	Entoloma pyrospilum	1989	49	Snowdon	SH645549		
Entoloma exile	Entoloma pyrospilum	1989	49	Snowdon	SH6455		
Entoloma lividocyanulum		1997	46	Falcondale lakeside, Lampeter	SN5649	NBGW	
Entoloma mougeotii		1997		Marianglas			
Entoloma mougeotii		1993	44	Pendine	SN20	NBGW	
Entoloma mougeotii		1989	49	Snowdon	SH6255		
Entoloma prunuloides		1997	42	Clydach railway	SO2212		
Entoloma prunuloides		1988	42	Elan Village		K(M)	
Entoloma prunuloides		1997	35	Garn Ddyrys Farm, Blaenavon	SO2612		
Entoloma querquedula		1997		Bwlch-yr-Haiarn			
Entoloma roseum		1997	42	Clydach railway	SO2212	NBGW	BRDL-VU
Entoloma roseum		2000		Marianglas Pavement			
Entoloma roseum		1994	41	Oxwich Woods	SS5086		BRDL-VU
Entoloma sericeum v cinereoacum		1992	41	Kenfig Burrows	SS7981	NBGW	
Entoloma wynei		1887	50	Coed Coch	SH87	K(M)	
Fayodia leucophylla		1992	41	Kenfig Burrows	SS7981	EEE	
Flammulaster saliciphila		1992	41	Whiteford Burrows NNR	SS4495	FC	
Flavoscypha cantharella		1973	41	Welsh St. Donats	ST0276		
Galerina paludinella		1987	48	Harlech	SH5831	E	
Ganoderma resinaceum		1994	44	Dinefwr Castle	SN6122		
Ganoderma resinaceum		1910	50	Erdclig	SJ3248		
Ganoderma resinaceum		1930	41	Pontyclun		NMW	
Ganoderma resinaceum		1910	50	Worlds End	SJ2347		
Gastrum corollinum		1813	52	Holyhead Mountain	SH28		
Gastrum coronatum		?	50	Abergele	SH97	K(M)	
Gastrum coronatum		1986	51	Cilcain	SJ16		
Gastrum coronatum		1879	50	Garthewin	SH97		
Gastrum coronatum		1986	51	Lixwm	SJ17		
Gastrum coronatum		1992	46	Llangeitho	SN6161		
Gastrum coronatum		1813	52	Treffos	SH57		
Gastrum coronatum		1996	50	Ty-mawr	SH9046	K(M)	
Gastrum elegans		1999	52	Aberffraw		K(M)	
Gastrum elegans		1987	46	Ynyslas NNR	SN69		
Gastrum lageniforme		1997	43	St Peters Churchyard, Glasbury	32/177385	NMW	BRDL-EX
Gastrum pectinatum		1984	41	Leckwith Woods, nr Cardiff	31/1575	NMW	
Gastrum pectinatum		1953	50	Leete Walk, Coed Pwll-y-blawd, Denbigh	SJ16	K(M)	
Gastrum pectinatum		1979	51	Nercwys Hall	SJ25		
Gastrum pectinatum		1989	44	Pembrey	SN40		
Gastrum pectinatum		2000	52	Plas Newydd			
Gastrum pectinatum		1952	50	Pont-y-Mwyn, Loggerheads, Wales		K(M)	
Gastrum striatum		1998		Coed Mor			
Gastrum striatum		1962	51	Dyserth	SJ07		
Gastrum striatum		1904	48	Harlech	SH5831	K(M)	
Gastrum striatum		1992	41	Roath Park		NMW	
Gastrum striatum		1988	43	Smatcher Cottage	SO221596		
Gastrum striatum		1991	49	Treborth	SH57		
Geoglossum starbaeckii		18XX	50	Coed Coch	SH87	K(M)	
Geoglossum umbratile		1997	42	Clydach railway	SO2212	NBGW	
Geoglossum umbratile		1998	44	Pal-y-Cwrt, Trapp	SN6718		
Geoglossum umbratile		1991	41	Whiteford Burrows NNR	SS4495	K(M)	
Geoglossum umbratile		1978	46	Ynyslas NNR	SN69		
Graddonia coracina		1979	42	Cwm Dyfnant		K(M)	BRDL-R
Graddonia coracina		1985	51	Ddol Uchaf NR	SJ1471		BRDL-R
Graddonia coracina		1987	45	Tycanol Wood	SN0936	K(M)	BRDL-R

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Name of Fungus	Earlier Synonym	Year	VC	Site	Grid Ref	Herb	Cons Status
<i>Gymnomyces xanthosporus</i>		1950	49	Swallow Falls, Betws-y-Coed		K(M)	
<i>Gymnomyces xanthosporus</i>		1950	49	Vaynol Park	SH5470	K(M)	
<i>Gyrodon lividus</i>	<i>Uloporus lividus</i>	1997	42	Gellirhyd Farm, Llangenny	SO2419		BRDL-VU
<i>Gyrodon lividus</i>	<i>Uloporus lividus</i>	1994	41	Oxwich Burrows	SN5086	K(M)	BRDL-VU
<i>Hebeloma dunense</i>		1992	41	Kentfig Burrows	SS7981	K(M)	
<i>Hebeloma dunense</i>		1992	41	Oxwich Burrows	SN5086	FC	
<i>Helvella costifera</i>		1991	41	Whiteford Burrows NNR	SS4495	K(M)	
<i>Helvella leucopus</i>		1985	44	Pembrey Forest	SN4000	K(M)	
<i>Helvella leucopus</i>		1996	41	Whiteford Burrows NNR	SS4495	K(M)	
<i>Helvella queletii</i>		1996	41	Whiteford Burrows NNR	SN4595	K(M)	
<i>Hericium erinaceum</i>		1999	49	Coed Gorllwyn	SH587427	CEA	Wildlife Act
<i>Hohenbuehelia culmicola</i>		1994	44	Pembrey Country Park	SN4000	K(M)	BRDL-R
<i>Hohenbuehelia culmicola</i>		1994	44	Pembrey Old Harbour		K(M)	BRDL-R
<i>Hohenbuehelia culmicola</i>		1978	51	Point of Air	SJ1587	E	BRDL-R
<i>Hohenbuehelia culmicola</i>		1996	41	Whiteford Burrows NNR	SS4495		BRDL-R
<i>Hydnellum conrescens</i>		1872	50	Coed Coch	SH8773	K(M)	BAP, BRDL-VU
<i>Hydnellum conrescens</i>		2001	48	Llyn Mair		K(M)	BAP, BRDL-VU
<i>Hydnellum ferrugineum</i>		1924	49	Betws-y-Coed, Swallow Falls	SH75		BAP, BRDL-E
<i>Hydnellum scrobiculatum</i>		1980	49	Conway Valley, Coed Dolgarrog	SH7667		BAP, BRDL-E
<i>Hydnellum scrobiculatum</i>		2002	48	Mawddach Valley		K(M)	BAP, BRDL-E
<i>Hydnellum spongiosipes</i>		2002	48	Mawddach Valley		K(M)	BAP, BRDL-R
<i>Hygrocybe angustifolia</i>	<i>Camorophyllus angustifolius</i>	1988	49	Great Orme	SH7683		
<i>Hygrocybe aurantia</i>		1980	44	Pembrey Country Park	SN4000	K(M)	
<i>Hygrocybe calciphila</i>		1997	52	Aberffraw			
<i>Hygrocybe calciphila</i>		2000	42	Clydach railway	SO223125		
<i>Hygrocybe coccineocrenata</i>		1989	49	Snowdon	SH6355		
<i>Hygrocybe lacmus</i>		1981	50	Abergele; Marli; Glan-yr-Afon	SH97	K(M)	ERDL-B
<i>Hygrocybe lacmus</i>		1878	50	Coed Coch	SH87	K(M)	ERDL-B
<i>Hygrocybe lacmus</i>		1950	49	Cwm Idwal	SH6459		ERDL-B
<i>Hygrocybe lacmus</i>		1924	50	Fairy Glen	SH85		ERDL-B
<i>Hygrocybe lacmus</i>		1989	49	Snowdon	SH6251		ERDL-B
<i>Hygrocybe nitiosa</i>		1987	48	Harlech	SH5731	E	
<i>Hygrocybe phaecoccinea</i>		1988	49	Cwm Idwal	SH6460		
<i>Hygrocybe phaecoccinea</i>		1997	46	Llanerchaeron		NBGW	
<i>Hygrocybe radiata</i>		1997	43	Cors-y-Llyn, Newbridge-on-Wye	SO0155	NBGW	ERDL-B
<i>Hygrocybe radiata</i>		1997	42	Elan Village		K(M)	ERDL-B
<i>Hygrocybe subminutula</i>		1978	50	Glan-yr-Afon, Abergele	SH9578	K(M)	
<i>Hygrocybe subminutula</i>		1985	51	Loggerheads	SJ2062		
<i>Hygrophorus arbustivus</i>			49	Conway		K(M)	BRDL-VU
<i>Hygrophorus cossus</i>		1993	42	Clydach NNR, Coed Flyddlwn	SO2212		
<i>Hygrophorus cossus</i>		1990	35	Coed y Prior	SO2809		
<i>Hygrophorus cossus</i>		1991	35	Craig yr Allt, Upper Llanover	SO2906		
<i>Hygrophorus cossus</i>		1910	50	Erdig Woods	SJ3248		
<i>Hygrophorus cossus</i>		1984		Glynllifon Park			
<i>Hygrophorus mesotephrus</i>		1966	48	Myherin Forest (The Arch)	SN768758	K(M)	ERDL-B
<i>Hygrophorus mesotephrus</i>		1910	50	World's End	SJ2347		ERDL-B
<i>Hymenogaster hessii</i>		1993	51	Loggerheads	SJ2062	yes	
<i>Hymenogaster hessii</i>		1950	49	Swallow Falls, Betws-y-Coed		K(M)	
<i>Hymenogaster olivaceus</i>		1993	51	Loggerheads	SJ2062	yes	
<i>Hymenogaster olivaceus</i>		1993	50	Maeshafn	SJ2060	yes	
<i>Hymenogaster sulcatus</i>		1880	50	Nant-y-Glyn	SJ0061?	K(M)	
<i>Hypocreopsis lichenoides</i>		1989	43	Near Nant-Glas	SN986646	K(M)	BRDL-E
<i>Hypsizygus ulmarius</i>		1881	50	Coed Coch	SH87	K(M)	BRDL-R
<i>Inocybe adequata</i>	<i>Inocybe jurana</i>	1999	52	Plas Newydd			

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Name of Fungus	Earlier Synonym	Year	VC	Site	Grid Ref	Herb	Cons Status
<i>Inocybe arenicola</i>		1993	48	Harlech	SH5731	E	BRDL-VU
<i>Inocybe arenicola</i>		1994	52	Newborough Warren	SH4063		BRDL-VU
<i>Inocybe arenicola</i>		1986	44	Pembrey Country Park, Wales	SN43-03-	K(M)	BRDL-VU
<i>Inocybe arenicola</i>		1993	44	Pendine	SN20		BRDL-VU
<i>Inocybe arenicola</i>		1992	41	Whiteford Burrows NNR	SS4495		BRDL-VU
<i>Inocybe godeyi</i>		1950	52	Newborough Warren	SH4063		
<i>Inocybe godéyi</i>		1924	49	Swallow Falls	SH7657		
<i>Inocybe impexa</i>	<i>Inocybe maritima</i>	1995	52	Aberffraw			
<i>Inocybe impexa</i>	<i>Inocybe maritima</i>	1985	52	Rhosnelgr			
<i>Inocybe impexa</i>	<i>Inocybe maritima</i>	1965	41	Whiteford Burrows NNR	SS45-95-	K(M)	
<i>Inocybe splendens</i> var. <i>splendens</i>		1993	45	Colby Woodland Gardens, Amroth	SN1607	K(M)	
<i>Inonotus hispidus</i>		1993	35	Abergavenny, Pentre Lane	SO2815		
<i>Inonotus hispidus</i>		1991	42	Glangrwyney Court	SO2416		
<i>Inonotus hispidus</i>		1994	41	Oxwich Woods	SS5086		
<i>Lactarius azonites</i>		1973	41	Dinas Powys Woods	ST1571		
<i>Lactarius controversus</i>		1994	44	Crymlyn Burrows	SS7193		
<i>Lactarius controversus</i>			52	Newborough Warren	SH46		
<i>Lactarius controversus</i>		1994	41	Oxwich Burrows NNR	SS5086		
<i>Lactarius evosmus</i>		1989	49	Great Orme	SH7683		
<i>Lactarius flavidus</i>		1999		Marianglas			
<i>Lactarius flavidus</i>		1994	45	Walwyn's Castle, NNW of Rosemoor	12/874111	NMW	
<i>Lactarius helvus</i>		1997	42	Carn Gafallt	SN9364	NBGW	
<i>Lactarius helvus</i>		1978	52	Newborough Warren	SH46		
<i>Lactarius helvus</i>		1979	52	Plas Newydd			
<i>Lactarius helvus</i>		1980	49	Vaynol park	SH5470		
<i>Lactarius lacunarum</i>		1999		Llyn Padarn			
<i>Lactarius lilacinus</i>		1950	49	Clydach	SH8056		
<i>Lactarius lilacinus</i>		1992	42	Cwm Dyar,	SO232128		
<i>Lactarius lilacinus</i>		2001	49	Glaslyn Marshes		K(M)	
<i>Lactarius lilacinus</i>		1994	41	Oxwich Burrows NNR	SS5086		
<i>Lactarius mammosus</i>		1988		Bryn Meurig			
<i>Lactarius pterosporus</i>		1997	42	Clydach railway	SO2212	SEE	
<i>Lactarius pterosporus</i>		1994	46	Llanerchaeron Estate	SN4860		
<i>Lactarius quieticolor</i>		1999	49	Nant Bwlch-yr-Haiarn			
<i>Lactarius quieticolor</i>		1989	49	Nant Gwynant	SH6251	AJEL	
<i>Lactarius quieticolor</i>		2000		Penrhos Garnedd	SH555698		
<i>Lactarius repraesentaneus</i>		1994		Capel Curig			
<i>Lactarius repraesentaneus</i>		1994		Llyn Padarn			
<i>Lactarius ruginosus</i>		1985	50	Erddig Big Wood	SJ3248		
<i>Lactarius ruginosus</i>		1994	44	Pont Felin Gat, Middleton Estate	SN5218	NBGW	
<i>Lactarius spinosulus</i>		2000		Bethesda			
<i>Lactarius spinosulus</i>		1950		Betws-y-Coed			
<i>Lactarius spinosulus</i>		1917	35	Lady Park Wood	SO549144		
<i>Lactarius spinosulus</i>		1973	41	St Gwynno Forest			
<i>Lactarius violascens</i>		1997	43	Coed-y-Llyn	SO0155	NBGW	
<i>Lactarius violascens</i>		1999		Marianglas		CEA	
<i>Lactarius volemus</i>		1999		Capel Curig NR			
<i>Lactarius volemus</i>		1950	49	Cwm Idwal	SH6459		
<i>Lactarius volemus</i>		1924	50	Fairy Glen	SH85		
<i>Lactarius volemus</i>		1991	35	Fiddler's Elbow, Blorengø	SO2713		
<i>Lactarius volemus</i>		1950	49	Halfway Woods	SH6266		
<i>Lactarius volemus</i>		1924	49	Swallow Falls	SH7657		
<i>Lanzia vacini</i>	<i>Peziza vacini</i>	1985	51	Ddol Uchaf Reserve	SJ2855	K(M)	
<i>Lepista nuda</i> v <i>pruinosa</i>		1992	41	Whiteford Burrows NNR	SS4495		

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Name of Fungus	Earlier Synonym	Year	VC	Site	Grid Ref	Herb	Cons Status
<i>Lepista sordida</i> v <i>aianthina</i>		1992	41	Kenfig Burrows	SS7981		
<i>Lepista sordida</i> v <i>obscura</i>		1992	41	Kenfig Burrows	SS7981		
<i>Leucoagaricus badhamii</i>		1978	50	Abergele, Glan-yr-afon	SH97	K(M)	BRDL-VU
<i>Leucoagaricus badhamii</i>		1998	41	Gower, Park Mill area	SS5599		BRDL-VU
<i>Leucoagaricus badhamii</i>		1978	52	Plas Newydd			BRDL-VU
<i>Leucoagaricus pilatianus</i>		1994	41	Oxwich Burrows	SN5086	K(M)	BRDL-R
<i>Leucoagaricus pilatianus</i>		1991	41	Whiteford Burrows NNR	SS4495	K(M)	BRDL-R
<i>Leucoagaricus pinguipes</i>		1993	45	Castlemartin		NBGW	
<i>Leucoagaricus pinguipes</i>		1983	49	Treborth Bot Gdn., Bangor	SH57	K(M)	
<i>Leucocortinarius bulbiger</i>		1993	51	Loggerheads	SJ2062		BRDL-E
<i>Limacella delicata</i> v <i>glioderma</i>		1978	50	Abergele, Glan-yr-afon	SH97	K(M)	BRDL-R
<i>Limacella delicata</i> v <i>glioderma</i>		1886	50	Coed Coch	SH87	K(M)	BRDL-R
<i>Limacella delicata</i> v <i>glioderma</i>		2000	52	Plas Newydd			
<i>Limacella delicata</i> v <i>vinosorubescens</i>		1999	49	Coedydd Aber	SH6671		
<i>Limacella guttata</i>		1980	50	Abergele, Glan-yr-afon	SH97	K(M)	
<i>Limacella guttata</i>		1886	50	Coed Coch	SH87	K(M)	
<i>Limacella guttata</i>		1980		Lligwy Woods			
<i>Lyophyllum gangraenosum</i>	<i>Lyophyllum fumatofoetens</i>	1984	49	Coedydd Aber	SH6671		
<i>Lyophyllum gangraenosum</i>	<i>Lyophyllum fumatofoetens</i>		52	Newborough Forest			
<i>Lyophyllum gangraenosum</i>	<i>Lyophyllum fumatofoetens</i>	1994	41	Pembrey Country Park	SN4000	K(M)	
<i>Lyophyllum gangraenosum</i>	<i>Lyophyllum fumatofoetens</i>	1996	46	Winllan, Talsarn	SN567575	NBGW	
<i>Macrolepiota fuliginosquarrosa</i>		1996	52	Newborough Warren	SH46	K(M)	
<i>Marasmius rosellus</i>	<i>Omphalina rosella</i>	1992	41	Whiteford Burrows NNR	SS4495	K(M)	
<i>Melanoleuca albifolia</i>	<i>Melanoleuca leucophylla</i>	1990	41	Kenfig Burrows NR	SS79-81-	K(M)	BRDL-VU
<i>Melanoleuca albifolia</i>	<i>Melanoleuca leucophylla</i>	1993	44	Pendine	SN20		BRDL-VU
<i>Melanoleuca albifolia</i>	<i>Melanoleuca leucophylla</i>		44	Tywyn Burrows, Pembrey			BRDL-VU
<i>Melanoleuca albifolia</i>	<i>Melanoleuca leucophylla</i>	1996	41	Whiteford Burrows NNR	SS4495		BRDL-VU
<i>Melanoleuca leucophylloides</i>		1992	41	Whiteford Burrows NNR	SS4495		
<i>Melanoleuca rasilis</i> v <i>pseudoluscina</i>	<i>Melanoleuca pseudoluscina</i>		41	Kenfig Burrows	SS7981		
<i>Melanoleuca rasilis</i> v <i>pseudoluscina</i>	<i>Melanoleuca pseudoluscina</i>	1992	41	Whiteford Burrows NNR	SS4495		
<i>Melanoleuca schumacheri</i>		1999	49	Great Orme	SH7683		BRDL-VU
<i>Melanoleuca schumacheri</i>			46	Gwbert			BRDL-VU
<i>Melanoleuca schumacheri</i>		1985	52	Newborough Forest			BRDL-VU
<i>Melanoleuca schumacheri</i>		1997	49	Treborth	SH57		BRDL-VU
<i>Melanoleuca schumacheri</i>		1985	46	Ynyslas NNR	SH60-93-	K(M)	BRDL-VU
<i>Melanoleuca subpulverulenta</i>			52	Newborough Warren	SH46		BRDL-VU
<i>Melanoleuca subpulverulenta</i>		1993	44	Pendine	SN20		BRDL-VU
<i>Melanoleuca subpulverulenta</i>		1991	41	Whiteford Burrows NNR	SS4495		BRDL-VU
<i>Melanophyllum eyrei</i>		1977	35	Lady Park Wood	SO549144		BRDL-R
<i>Melanophyllum eyrei</i>		1985	51	Loggerheads	SJ2062		BRDL-R
<i>Melanophyllum eyrei</i>		1978	51	Ysselfiog	SJ1571		BRDL-R
<i>Morchella elata</i>		1991	41	Merthyr Mawr	SS8777	K(M)	
<i>Morchella elata</i>		1996	41	Whiteford Burrows NNR	SN4595		
<i>Mycena roseofusca</i>		1992	41	Kenfig Burrows	SS7981		
<i>Naucoria salicetorum</i>		1993	35	Coed Bryntovey, Little Mill	SO3102		BRDL-E
<i>Naucoria salicetorum</i>		1991	41	Whiteford Burrows NNR	SS4495		BRDL-E
<i>Naucoria scolecina</i>		1950	49	Betws-y-Coed	SH8056		BRDL-VU
<i>Naucoria scolecina</i>		1969	48	Knighton, Treburvagh			BRDL-VU
<i>Naucoria scolecina</i>		1993	44	Pendine	SN20		BRDL-VU
<i>Naucoria scolecina</i>		1998	48	Traeth Glaslyn			BRDL-VU
<i>Naucoria scolecina</i>		1973	41	Welsh St Donats	ST0276		BRDL-VU
<i>Omphalina galericolor</i>		1992	41	Oxwich Burrows	SS5087	FC	
<i>Omphalina galericolor</i>		1992	41	Whiteford Burrows NNR	SS4495	NBGW	
<i>Omphalina lilacinicolor</i>		1992	41	Oxwich Burrows	SS5087	FC	

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Name of Fungus	Earlier Synonym	Year	VC	Site	Grid Ref	Herb	Cons Status
<i>Omphalina lilacinicolor</i>		1992	41	Whiteford Burrows NNR	SS4495	NBGW	
<i>Omphalina luteovittellina</i>		1987	46	Cwmystwyth		K(M)	
<i>Omphalina luteovittellina</i>		1976	49	Rhyd-Dhu	SH5252		
<i>Omphalina luteovittellina</i>		1989	49	Snowdon	SH6255		
<i>Omphalina mutila</i>		1985	46	Ynyslas NNR	SN69	K(M)	
<i>Omphalina oniscus</i>			50	Coed Coch	SH87	K(M)	
<i>Pachyphloeus citrinus</i>		1847	41	Penllergaer	SS6199	K(M)	
<i>Panaeolus cinctulus</i>	<i>Panaeolus dunensis</i>	1992	41	Kenfig Burrows	SS7981		
<i>Panaeolus cinctulus</i>	<i>Panaeolus dunensis</i>	1992	41	Oxwich Burrows	SS5087	FC	
<i>Panaeolus cinctulus</i>	<i>Panaeolus dunensis</i>	1992	41	Whiteford Burrows NNR	SS4495		
<i>Perenniporia ochroleuca</i>		2001	45	West Pill	SH80	K(M)	
<i>Pezizula cinnamomea</i>	<i>Peziza cinnamomea</i>	1958	49	Nant Gwynant	SH65	K(M)	
<i>Peziza gerardii</i>	<i>Peziza ionella</i>	1980	44	Pembrey Country Park	SN4120	K(M)	
<i>Peziza palustris</i>		1961	44	Laugharne Burrows	SN30	K(M)	
<i>Phellodon confluens</i>		1862	49	Dolgarrog	SH7766		BRDL-E
<i>Phellodon confluens</i>		2001	48	Llyn Mair	SH653414	K(M)	BRDL-E
<i>Phellodon confluens</i>		2002	48	Mawddach Valley		K(M)	BRDL-E
<i>Phellodon melaleucus</i>		1984	50	Abergele, Marli, Glan-yr-Afon	SH97		BAP, BRDL-VU
<i>Phellodon melaleucus</i>		2000		Coed Mor			BAP, BRDL-VU
<i>Phellodon melaleucus</i>		1862	49	Dolgarrog	SH76		BAP, BRDL-VU
<i>Phellodon melaleucus</i>		19XX	48	Dolgellau	SH7217		BAP, BRDL-VU
<i>Phellodon melaleucus</i>		1999		Miners Bridge			BAP, BRDL-VU
<i>Phellodon niger</i>		1924	49	Swallow Falls	SH7657		BRDL-R
<i>Phellodon tomentosus</i>		1980	44	Cynwyl Elfed, Rock & Fountain Pub	SN3825		BAP, BRDL-E
<i>Phylloporia ribis</i>	<i>Phellinus ribis</i>	1999		Parciau			
<i>Phylloporus pelletieri</i>	<i>Phylloporus rhodoxanthus</i>	1997	42	Below Estyn Brook	SN993584	NBGW	ERDL-B
<i>Phylloporus pelletieri</i>	<i>Phylloporus rhodoxanthus</i>	1997	42	Brochen	SN997585		ERDL-B
<i>Phylloporus pelletieri</i>	<i>Phylloporus rhodoxanthus</i>	1999	45	Cilwendeg	SN223388	NBGW	ERDL-B
<i>Poronia punctata</i>		1841	48	Barmouth	SH6016	K(M)	BAP, BRDL-E
<i>Poronia punctata</i>		1890	41	Kenfig Burrows	SS8081	K(M)	BAP, BRDL-E
<i>Poronia punctata</i>		1925	48	Mocras (Shell Island)	SH5526	K(M)	BAP, BRDL-E
<i>Poronia punctata</i>		2001	52	Newborough Warren	SH4264		BAP, BRDL-E
<i>Poronia punctata</i>		1934	41	Pennard Golf Course	SS5588	K(M)	BAP, BRDL-E
<i>Psathyrella caput-medusae</i>		1910	50	Worlds End	SJ2347		BRDL-R
<i>Psathyrella flexispora</i>			51	Point of Air	SJ1587		
<i>Psathyrella setulosa</i>		1992	41	Kenfig Burrows	SS7981	FC	
<i>Ramaria formosa</i>		1950	49	Vaynol Park	SH8056	K(M)	
<i>Ramaria gracilis</i>		1995	44	Stradey Wood	SN487019		
<i>Ramariopsis tenuiramosa</i>		1988	49	Rhyd-y-Creuau	SH8057		BRDL-VU
<i>Rimbachia bryophila</i>		1988	49	Coedydd Aber	SH6671		BRDL-VU
<i>Rubinoletus rubinus</i>	<i>Chalciporus rubinus</i>	1995	41	Clyne Gardens, Swansea	SS6190	SEE	BRDL-VU
<i>Russula aquosa</i>		1966	46	Clettwr Valley	SN665920		
<i>Russula aquosa</i>		1988	49	Coed Hafod, Bettws	SH8058	K(M)	
<i>Russula aquosa</i>		2001	49	Coed Llyn Mair	SH653414	K(M)	
<i>Russula aurata</i>		1997	35	Abergavenny, St Mary's Vale	SO2816		BRDL-VU
<i>Russula aurata</i>		1997	42	Llanstephan House grounds, Brecon	SO1141	NBGW	BRDL-VU
<i>Russula aurata</i>		1993	48	Morfa Dyffryn			BRDL-VU
<i>Russula azurea</i>		1910	50	Erdidg	SJ3248		BRDL-VU
<i>Russula azurea</i>		1924	49	Swallow Falls	SH7657		BRDL-VU
<i>Russula azurea</i>		1910	50	Worlds End	SJ2347		BRDL-VU
<i>Russula azurea</i>		1910	50	Wynnstay	SJ3042		BRDL-VU
<i>Russula cessans</i>		1973	41	Merthyr Mawr	SS8877		BRDL-VU
<i>Russula cessans</i>		2001	52	Newborough Warren	SH46	K(M)	BRDL-VU
<i>Russula cessans</i>		1994	44	Pembrey Country Park	SN4000	K(M)	BRDL-VU

APPENDIX III Page: 4

Name of Fungus	Earlier Synonym	Year	VC	Site	Grid Ref	Herb	Cons Status
Russula curtipes		2000	49	Coch y Rhwd	SH456544	K(M)	
Russula curtipes		1985	50	Erd dig Big Wood	SJ3248		
Russula curtipes		1992		Plas Bodafon			
Russula helodes		1973	41	Welsh St Donats	ST0276		
Russula intermedia	Russula lundellii	2001	42	Carn Gafallt	SN9364		
Russula laccata	Russula atrorubens	1992	41	Oxwich Burrows	SS5087		BRDL-VU
Russula lilacea var. carnicolor		1994	44	Crymlyn Burrows	SS7193		BRDL-VU
Russula melzeri		1994	41	Clyne Gardens	SS69	K(M)	BRDL-R
Russula minutula		1997	42	Clydach railway	SO2212		BRDL-VU
Russula persicina			41	Kenfig Burrows	SS7981		BRDL-VU
Russula persicina			52	Newborough Warren	SH46		BRDL-R
Russula polychroma		1950	49	Cwm Idwal	SH6459		BRDL-VU
Russula pumila		1994	42	Gellirhyd Farm, Llangenny	SO2419		BRDL-R
Russula pumila		1994	41	Oxwich Dunes	SS5086		BRDL-R
Russula pumila		1990		Padarn Woods			
Russula raoultii				Lligwy Woods			
Russula raoultii		1994	41	Nedd Valley	SN8908	K(M)	BRDL-R
Russula rutila		1977	35	Lady Park Wood	SO549144	K(M)	BRDL-VU
Russula solaris		1999		Penrhyn Castle			
Russula solaris		1997	52	Plas Newydd			
Russula solaris		1997	44	Pont Felin Gat, Middleton	SN526187	NBGW	BRDL-VU
Russula solaris		1995	44	Stradey Wood	SN487019		BRDL-VU
Russula torulosa		1988	52	Newborough Forest	SH635632		
Russula torulosa		2000		Ysbyty Gwynedd	SH557703		
Russula veterinosa		1950	49	Halfway Bridge	SH6266		
Russula veterinosa		1950	49	Vaynol Park	SH5470		
Russula violacea		1966	47	Gregynog	SO0897		
Russula violacea		1977	35	Lady Park Wood	SO549144		
Sarcoleotia turficola		2002		Bwlch y Fign, E of Dolgellau	SH822183		
Scleroderma cepa		1994	41	Clyne Hall	SS69		
Scleroderma cepa		1985	51	Ddol Uchaf NR	SJ1471		
Scleroderma cepa		1985	50	Erd dig Big Wood	SJ3248		
Scleroderma cepa		1994	41	Llethrid	SS5390		
Scleroderma cepa		1997	42	Llysdinam	SO0058		
Scutellinia cejpilii		2002		Trawscoed	SH844325		
Scutellinia paludicola		1993	44	Pendine	SN20	K(M)	
Simocybe maritima		1992	41	Whiteford Burrows NNR	SS4495	FC	
Sistotremella perpusilla		1997	42	Elan Valley, Carn Gafallt	SN9365	NBGW	
Sistotremella perpusilla		1992		Gwent			
Spathularia flava		1996	42	Buckland Hill, Bwlch	SO1321		BRDL-VU
Spathularia flava		1985	50	Loggerheads	SJ26	K(M)	BRDL-VU
Spathularia flava		1971	49	Vaynol Park	SH5470	K(M)	BRDL-VU
Squamanita paradoxa		1996	35	Abergavenny, Clydach	SO2212		BRDL-VU
Strobilomyces strobilaceus		1997	42	0.6km SW of Coed Cowyn, Llanynis	SN982494		BRDL-VU
Strobilomyces strobilaceus		1997	50	Coed Poeth	SJ42	NBGW	BRDL-VU
Strobilomyces strobilaceus		1945	43	Stanner, Worsell Wood	SO25	K(M)	BRDL-VU
Stropharia halophila		1985	46	Ynyslas NNR	SN69		
Stropharia luteonitens	Psilocybe luteonitens	195X	45	Skokholm Island	SM0574		
Stropharia luteonitens	Psilocybe luteonitens	1991	41	Whiteford Burrows NNR	SS4595	K(M)	
Stropharia melanosperma		1859	50	Coed Coch	SH87	K(M)	
Stropharia melanosperma		1910	50	World's End	SJ2347		
Suillus aeruginascens		1984		Lligwy Woods			
Suillus aeruginascens		1985	51	Loggerheads	SJ2062		
Suillus aeruginascens		2001	49	Nant Bwlch-yr-Haiarn, Gwydyr Forest		K(M)	

APPENDIX III Page: 10

Name of Fungus	Earlier Synonym	Year	VC	Site	Grid Ref	Herb	Cons Status
<i>Suillus aeruginascens</i>		1984	52	Treborth	SH57		
<i>Suillus aeruginascens</i>		1985	50	Worlds End	SJ2347		
<i>Thuemenidium atropurpureum</i>		1871	35	Abergavenny, Werddu		K(M)	BRDL-R
<i>Thuemenidium atropurpureum</i>		1924	49	Betws-y-Coed, Fairy Glen			BRDL-R
<i>Thuemenidium atropurpureum</i>		1866	50	Coed Coch	SH87		BRDL-R
<i>Thuemenidium atropurpureum</i>		19XX	51	Flintshire		BI/Ano	BRDL-R
<i>Thuemenidium atropurpureum</i>		1953		Glyn Cau, Wales		K(M)	BRDL-R
<i>Thuemenidium atropurpureum</i>		19XX	46	Lampeter			BRDL-R
<i>Trichoglossum rasum</i>		1985	46	Ynyslas NNR	SN69	K(M)	
<i>Tricholoma acerbum</i>		1996	42	Clydach railway	SO2212		BRDL-VU
<i>Tricholoma caligatum</i>		1984	42	Afon Mellte, Pont Nedd Fechan	22/91/08	NMW	BRDL-E
<i>Tricholoma focale</i>		1880	50	Coed Coch	SH87	K(M)	BRDL-E
<i>Tricholoma inamoenum</i>		1878	50	Coed Coch	SH87		BRDL-VU
<i>Tricholoma inamoenum</i>		1994	41	Gelli-Hir Wood	SS5692		BRDL-VU
<i>Tricholoma pessundatum</i>		1880	50	Nantyglyn	SJ00617	K(M)	BRDL-VU
<i>Tuber aestivum</i>			50	Abergele	SH97	K(M)	
<i>Tuber aestivum</i>		1969	45	Picton Castle		NMW	
<i>Tuber aestivum</i>		1950	49	Vaynol Park, Bangor	SH5470	K(M)	
<i>Tuber borchii</i>		1966	47	Gregynog	SO0897	K(M)	
<i>Tuber borchii</i>		1993	51	Loggerheads	SJ2062	Yes	
<i>Tuber excavatum</i>		1993	51	Loggerheads	SJ2062	Yes	
<i>Tuber excavatum</i>		1993	50	Maeshafn	SJ2060	yes	
<i>Tuber maculatum</i>		1993	50	Maeshafn	SJ2060	BI	
<i>Tuber puberulum</i>		1950	49	Betws-y-Coed	SH8056		
<i>Tuber puberulum</i>		1950	49	Vaynol Park	SH5470		
<i>Tuber rapaeodorum</i>		1996	47	Gregynog	SO0897		
<i>Tuber rufum</i>		1950	49	Betws-y-Coed	SH8056		
<i>Tuber rufum</i>		1950	49	Vaynol Park	SH5470		
<i>Tulostoma melanocyclum</i>		1917	41	Gower, Oxwich	SS4986	K(M)	BRDL-R
<i>Tulostoma melanocyclum</i>		1914	48	Harlech	SH5731	K(M)	BRDL-R
<i>Tulostoma melanocyclum</i>		1998	41	Merthyr Mawr, nr Bridgend	SS8777	K(M)	BRDL-R
<i>Tulostoma melanocyclum</i>			41	Old Walls		K(M)	BRDL-R
<i>Tulostoma melanocyclum</i>		1970	41	Porthcawl		K(M)	BRDL-R
<i>Verpa krombolzii</i>		1910	50	Erdig Woods	SJ3248		

APPENDIX IV: Annex – Species of Conservation Concern

Name of Fungus	Name of Fungus cont
Bovista limosa	Hygrocybe quieta
Boletus queletii	Hygrocybe spadicea
Clavaria zollingerii	Hygrocybe splendidissima
Coprinus ammophilae	Hygrocybe vitellina
Cyathus stercoreus	Hygrophorus eburneus
Entoloma griseocyaneum	Hygrophorus hypothejus
Geastrum fornicatum	Inocybe arenicola
Geastrum schmidelii	Inocybe vulpinella
Geoglossum glutinosum	Lactarius fuliginosus
Hebeloma vaccinum	Melanoleuca cinereifolia
Hygrocybe aurantiosplendens	Microglossum olivaceum
Hygrocybe calyptriformis	Microglossum viride
Hygrocybe flavipes	Porpoloma metapodium
Hygrocybe fornicata	Pulveroboletus lignicola
Hygrocybe insipida	Ramaria kunzei
Hygrocybe intermedia	Phaeolus schweinizii
Hygrocybe irrigata	Tremiscus helvelloides
Hygrocybe nitrata	Trichoglossum walteri
Hygrocybe ovina	Tulostoma brumale
Hygrocybe perplexa	Verpa conica
Hygrocybe punicea	

APPENDIX V: Important Sites for Welsh Red List Fungi

Name of Location	No of Species
Whiteford Burrows NNR	26
Coed Coch	17
Newborough	15
Erddig	14
Oxwich Burrows	14
Kenfig Burrows	13
Pembrey Country Park	13
Clydach	12
Abergele, Glan-yr-Afon	11
Loggerheads	11
Vaynol Park	11
Ynyslas NNR	10
Lligwy Woods	9
Swallow Falls	9
Snowdon	8
Betws-y-Coed	7
Lady Park Wood	7
Pendine	7
Plas Newydd	7
Morfa Harlech	6
World's End	6
Coedydd Aber	5
Dolgarrog	5
Pont Felin Gat, Middleton	5
Treborth	5
Aberffraw	4
Abergavenny, St Mary's Vale	4
Cwm Idwal	4
Fairy Glen	4
Great Orme	4
Gregynog	4
Marianglas Pavement	4