

EXPLANATORY NOTES FOR CATALOGUE ENTRIES

The second edition of the *Census catalogue of the flora of Ireland* (Scannell & Synnott 1987) is the standard work which includes all the native plants and established aliens with the distribution of each species, as well as two categories of plants ('probably introduced' and 'possibly introduced') whose status is less certain. Many other definitely alien plants not listed in the *Census catalogue* have been recorded in the wild, some of fleeting occurrence and some already established or likely to become so. There is a further group of plants which are showing the potential to escape into the wild. As it is impossible to have clear cut-offs between such groupings, a decision was made to err on the side of inclusion in compiling this Catalogue. The most recent records included are for 2001.

PLANTS INCLUDED IN THE CATALOGUE

Included in this **Catalogue** are:

- c. 270 taxa in *Census catalogue* indicated as 'certainly introduced' (names in bold type);
- c. 640 alien taxa not listed in *Census catalogue* (names in bold type);
- 11 taxa considered alien in the British Isles by Clement & Foster (1994), but in most cases indicated in *Census catalogue* as 'probably introduced' or 'possibly introduced' in Ireland (names in bold type);
- c. 40 cultivated alien taxa recorded in gardens, parks, plantations etc., and not obviously spreading elsewhere (entry placed in { } brackets and names in bold type);
- 44 taxa in *Census catalogue* indicated as 'probably introduced' (names not in bold type);
- c. 70 taxa for which there are erroneous, unreliable or unconfirmed published records (entry placed in [] brackets and names not in bold type).

The **Appendix** includes 48 taxa, mostly native species which may also be represented by plants of foreign origin, and a few species indicated in *Census catalogue* as 'possibly introduced' which may be relics of ancient cultivation.

Nomenclature The term 'taxon' (plural 'taxa') is used for any undefined taxonomic grouping, such as a species, subspecies or hybrid. Nomenclature, including common names, and order of families and genera follow the second edition of *New flora of the British Isles* (Stace 1997). For the small number of taxa not in that work, nomenclature follows Clement & Foster (1994) or Ryves *et al.* (1996), and if not in those works, then Tutin *et al.* (1964-80),

hence some inconsistencies in how authorities are cited. Within genera, species and hybrids are arranged in alphabetical order. Hybrid parent names (in brackets) follow the hybrid name, and subspecies names are only included if taxa were identified to that level. With very few exceptions, there is a common name for each plant.

Synonyms, as used in the Irish literature, are placed in brackets and follow the species name. Authorities for synonyms were often inconsistent in the older publications and they are omitted, for example, *Mycelis muralis* – the authorities for its synonym *Lactuca muralis* were variously given as *L. muralis* DC., *L. muralis* Fresen. and *L. muralis* Gaertn.

In some cases, where the distinction between taxa is not clear or where there has been confusion in identification, they are treated as one ‘group’, see, for example, *Amsinckia*; elsewhere records are given for a species under the headings s.l. (*sensu lato*) and s.s. (*sensu stricto*), for example, *Camelina sativa*.

VICE-COUNTY DISTRIBUTION

Beginning with the publication of *Irish topographical botany* (Praeger 1901a), Ireland has been divided into 40 vice-counties for the purposes of botanical recording. The larger of the 32 counties were subdivided, and for practical and historical reasons there are some differences from modern administrative boundaries. The vice-county system is used to describe distribution in the *Census catalogue of the flora of Ireland* (Scannell & Synnott 1987), and numbers are assigned to each division as follows (see map on page 44):

- | | |
|----------------------------------|---------------------------|
| 1 South Kerry | 16 West Galway |
| 2 North Kerry | 17 North-east Galway |
| 3 West Cork | 18 Offaly (King’s County) |
| 4 Mid Cork | 19 Kildare |
| 5 East Cork | 20 Wicklow |
| 6 Waterford | 21 Dublin |
| 7 South Tipperary | 22 Meath |
| 8 Limerick | 23 Westmeath |
| 9 Clare (including Aran Islands) | 24 Longford |
| 10 North Tipperary | 25 Roscommon |
| 11 Kilkenny | 26 East Mayo |
| 12 Wexford | 27 West Mayo |
| 13 Carlow | 28 Sligo |
| 14 Laois (Leix, Queen’s County) | 29 Leitrim |
| 15 South-east Galway | 30 Cavan |

31 Louth	36 Tyrone
32 Monaghan	37 Armagh
33 Fermanagh	38 Down
34 East Donegal	39 Antrim
35 West Donegal	40 Londonderry (Derry)

In most Catalogue entries, vice-county distribution is given (in bold type) as numbers **1** to **40**, and where the vice-county is unclear, it is shown as, for example, **38/39**. Vice-county numbers for alien taxa listed in the *Census catalogue* are prefixed by ‘*Cens Cat*’, and where there are additional vice-county records, the numbers are prefixed by ‘Also’. There is no prefix for other alien taxa. Vice-county numbers (not in bold type) in { } brackets are for records of cultivated plants, and those in square brackets [] are for erroneous, unreliable or unconfirmed records. It should be noted that the vice-county numbers given for a particular taxon usually represent all records, whether historical or recent.

NOTES ON CATALOGUE ENTRIES

The format of entries is summarized at the end of this section just before the Catalogue itself. Some more general notes follow here.

Alien taxa in the *Census catalogue* are usually dealt with in less detail than other alien taxa because they are considered part of the established Irish flora. The sources for *Census catalogue* vice-county distribution are given in Scannell & Synnott (1989, 1990), originally based on the distribution given in Praeger’s (1934b) Census List. In this Catalogue, additional vice-county records are given for those taxa, as are records for plants considered rare or declining in Ireland. Depending on rarity, there are details of post-1970 (i.e. 1970-2001) or post-1987 (i.e. 1987-2001) records, and for some plants all records are included. The **date classes** ‘post-1970’ (= ‘modern’) and ‘post-1987’ (= ‘recent’) broadly correspond to those used in the Botanical Society of the British Isles *New atlas of the British and Irish flora* (Preston *et al.* 2002) where post-1970 means 1970-1986 and post-1987 means 1987-1999.

For taxa listed in the *Census catalogue* as ‘**probably introduced**’, current standing is given, sometimes post-1970, post-1987 or additional vice-county records, and few, if any, historical records; first and/or early records are not indicated (see below).

For **alien taxa not in the *Census catalogue***, all records are usually given because the information has not previously been compiled, even for casuals which are unlikely to be found again at the same locations.

General comments under each taxon may include current standing (e.g. frequency, distribution, whether the plant is established or not), habitats, source or means of introduction (if known), historical information and taxonomic problems. The different level of detail in entries reflects, in part, the variation in information available.

Frequency (common/frequent, occasional/infrequent, rare etc.) usually indicates the current situation in the country, more rarely in particular habitats, and incorporates information gathered from a preview of the maps for the *New atlas of the British and Irish flora*. If there are no modern records, then frequency indicates the situation in the past.

It was not possible to list all the **habitats** where any one plant was found, so usually the most common ones are given, based on modern and recent records. Casuals tend to occur in disturbed ground, so that habitat is not mentioned each time. More important than occurrence and even frequency is how alien plants are faring in the wild, whether they are casual, just surviving, established or likely to become established, and their impact on natural vegetation.

Casuals by their very nature are usually ephemeral, not persisting in a place without reintroduction. However, a population can maintain itself for a time by self-seeding. Some plants **survive or persist** where they were originally planted or discarded, their population size remaining the same or decreasing because they do not reproduce by seed or effectively spread vegetatively. **Established** alien plants reproduce by seed or by vigorous vegetative growth, and are likely to become permanent members of the flora. The term **naturalized** should mean that an alien species is as well established in natural or semi-natural habitats as are native species, but it is often used loosely in published records. It is quite possible for a species to be established in one place and casual in another.

With regard to the **sources of introduction**, alien plants are mainly of **cultivated origin**. Most are ornamentals which escape from gardens (e.g. bird-sown or by wind-blown fruits and seeds) or are actively thrown out of gardens, sometimes, no doubt, because of their vigorous growth. In Catalogue entries, 'escape from cultivation' or 'garden escape' usually also implies 'garden discard'. Aggressive garden weeds are included, as they could spread if discarded. Crop plants often originate from spilt seed, and both ornamental and crop plants are relics of cultivation in neglected gardens and fields. Some alien plants are accidentally introduced with agricultural and grass seed, also with nursery stock. There are relatively few alien aquatic plants and they probably escape from garden ponds or are discarded from

aquaria. Verges of new motorways and other roads are often sown with foreign variants of native grasses and legumes, while wild flower seed mixtures of unknown origin – but containing rare arable weeds – are increasingly being sown.

Foodstuffs are another source of alien plants, particularly casuals introduced with imported animal feed and grain. However, increased use of herbicides and improved seed cleaning methods have reduced the variety and number of aliens in grain. On rubbish tips, alien plants also originate from food refuse and birdseed. For useful definitions and a wider range of possible sources, see Clement & Foster (1994) and Ryves *et al.* (1996).

First and/or reliable early records are indicated by an asterisk (*). *Contributions towards a Cybele Hibernica* (Moore & More 1866) is usually the oldest reference cited, since it summarizes earlier records. For taxa not in the *Census catalogue*, the earliest records are asterisked under the relevant vice-counties. In some cases, it is not clear which is the earliest record, so none is indicated. Nor is it always known whether the record is of plants in the wild or cultivated, particularly where a herbarium specimen is the source of the record. Additional references are sometimes given for early records, and the general historical progress of many species can be traced by consulting, for example, the two editions of *Cybele Hibernica* (Moore & More 1866, Colgan & Scully 1898), *Irish topographical botany* (Praeger 1901a) and its supplements, and the main Floras.

VICE-COUNTY RECORDS

All vice-county records up to and including 2001 are given for taxa not listed in the *Census catalogue*. For taxa listed in the *Census catalogue*, additional vice-county records are always given; depending on rarity, also other additional records, post-1970, post-1987 or all available records. The level of detail for taxa with only 19th century or early 20th century records is variable, but generally there are more details where voucher specimens for published records have been redetermined. If there is any doubt about species or hybrids described as ‘cf.’ or ‘aff.’, the record is placed in square brackets.

Specific records in Catalogue entries usually include location(s) and year(s) when found, and are attributed to a published reference (name and publication date), voucher specimen in a herbarium (see abbreviations below), personal record (SR) or personal communication (initial(s) and surname). Where there are several published references for the same record, the original one is given and later ones only if they add information. In many cases, the phraseology used is as in the original source. The spelling of place

names is usually as in the published record or on the herbarium label (e.g. *Ilnacullin* or *Ilnacullen*), sometimes with an alternative spelling in brackets. If the exact date is not known, it is shown as, for example, 1893/94 or late 19th/early 20th C.

Records and other unpublished information were provided by John Akeroyd (including records made by Leander Wolstenholme), Charmian Arbuckle, Aideen Austin, Stan Beesley, Catherine Bell, Valerie Bond, Catriona Brady, Con Breen, Joe Caffrey, Martin Cawley, Eric Clement, Joanne Colthup, Don Cotton, Tom Curtis, Graham Day, Declan Doogue, Ro FitzGerald, Howard Fox, Jeanette Fryer, Rosemary Goode, Roger Goodwillie, Philip Grant, Ian Green, Paul Green (including records made by Geraldine Crouch, Mike Stephens, Gerald Spencer, Richard Pankhurst, David Webb), Paul Hackney, John Harron, Toby Hodd, Jim Hurley, Frank Jeal, Matthew Jebb (including records made by Eddie Carty, Philip Moreau), Daniel Kelly, Mark McCorry, Ian McNeill (including joint records with Alan Hill), Vicky Morgan, David Nash, Robert Northridge, Margaret Norton, Murrough O'Brien, Seán O'Gaoithin, Ciaran O'Keeffe, Tony O'Mahony, Jim O'Malley (including record made by Kieran Griffin), Austin O'Sullivan, John Parnell, Chris Preston (including joint record with Jane Croft and David Pearman), Michael Quirke, Paddy Reilly, Julian Reynolds, Tim Rich, Peter Roche, Veronica Rowe, Brian Rushton (including joint record with Susan Woods), Thomas Ryall, Maura Scannell, Micheline Sheehy Skeffington, Clive Stace, Tanya Strevens, Donal Synnott, Maureen Taylor, Nesta Tirard, Steve Waldren (including joint record with Deirdre Lynn), John Wann, Jim White, John Wilde, Shaun Wolfe-Murphy, Mike Wyse Jackson and Peter Wyse Jackson.

HERBARIA AND THEIR ABBREVIATIONS

Records were extracted from specimens in the three main Irish herbaria. All specimens of taxa not listed in the *Census catalogue* were examined, but generally only post-1970 specimens listed in that work as relevant records would already have been incorporated.

Voucher specimens in the following herbaria are cited in the Catalogue. Most have been checked or redetermined by Botanical Society of the British Isles referees and specialists, or by SR.

BEL = Ulster Museum, Belfast (records extracted mainly in 1996)

BM = British Museum (Natural History), London

DBN = National Botanic Gardens, Dublin (records extracted mainly in 1994)

E = Royal Botanic Garden, Edinburgh

GLAM = City Art Gallery and Museum, Glasgow

K = Royal Botanic Gardens, Kew

LIV = Merseyside County Museum, Liverpool

RNG = University of Reading, Plant Science Laboratories

TCD = Trinity College, Dublin, School of Botany (records extracted mainly in 1994)

The herbarium of the Limerick Field Club was transferred to **DBN** in 1983 (Reynolds & Scannell 1992), and a collection of specimens made by J.P. Brunker mainly in 1943-44 at Guinness Brewery, St James's Gate, Dublin was deposited in **DBN** in 2000 (Brunker 1944b). These are currently maintained as separate collections.

ABBREVIATIONS AND SYMBOLS

aff. = *affinis*, taxonomically akin to, bordering

agg. = aggregate species

Anon. = Anonymous, author not named (used in references)

auct. = *auctorum*, name used by various authors, but not by the original author

BSBI = Botanical Society of the British Isles (usually means record made on field meeting)

C = century (for example, 19th C)

c. = *circa*, about, approximately

Cens Cat = *Census catalogue of the flora of Ireland* (Scannell & Synnott 1987)

cf. = *confer*, taxonomically comparable with

Co./Cos = County/Counties

comp. = compiler (used in references)

det. = *determinavit*, determined by

DNFC = Dublin Naturalists' Field Club (usually means record made on field meeting)

E = east, eastern

ed./eds = editor/editors (used in references)

et al. = *et alii*, and others (used in references)

f. = *filius*, son (used with an authority name)

f. = *forma*, form (used with a plant name)

km = kilometre

m = metre

N = north, northern

NE = north-east, often referring to Cos Down, Antrim and Derry

pers. comm. = personal communication

S = south, southern
 s.l. = *sensu lato*, species name used in the broad sense
 sp. = species (singular)
 spp. = species (plural)
 SR = Sylvia Reynolds
 s.s. = *sensu stricto*, species name used in the strict sense
 St = Saint
 subsp. = subspecies (singular)
 var. = *varietas*, variety
 W = west, western
 × indicates a hybrid name

ABBREVIATIONS FOR SELECTED REFERENCES

- Atlas 1962* = Perring, F.H. & Walters, S.M. (eds) (1962) *Atlas of the British Flora*. Thomas Nelson and Sons. (Records for the Catalogue were mainly extracted from the third edition published in 1990 by the Botanical Society of the British Isles, London).
- Atlas 1990* = Rich, T.C.G. & Woodruff, E.R. (1990) *The BSBI Monitoring Scheme 1987-1988*. Two volumes. Report to the Nature Conservancy Council.
- Cens Cat* = Scannell, M.J.P. & Synnott, D.M. (1987) *Census catalogue of the flora of Ireland*. Second edition. Stationery Office, Dublin.
- Cyb 1866* = Moore, D. & More, A.G. (1866) *Contributions towards a Cybele Hibernica*. Hodges, Smith & Co., Dublin.
- Cyb 1898* = Colgan, N. & Scully, R.W. (1898) *Contributions towards a Cybele Hibernica*. Second edition. Edward Ponsonby, Dublin.
- FBel 1997* = Beesley, S. & Wilde, J. (1997) *Urban flora of Belfast*. The Institute of Irish Studies, The Queen's University of Belfast.
- FCB 1983* = Webb, D.A. & Scannell, M.J.P. (1983) *Flora of Connemara and the Burren*. Royal Dublin Society and Cambridge University Press.
- FDub 1904* = Colgan, N. (1904) *Flora of the County Dublin*. Hodges, Figgis & Co., Dublin.
- FDub 1998* = Doogue, D., Nash, D., Parnell, J., Reynolds, S. & Wyse Jackson, P. (eds) (1998) *Flora of County Dublin*. The Dublin Naturalists' Field Club, Dublin.

FID 1984 = Wyse Jackson, P. & Sheehy Skeffington, M. (1984) *Flora of Inner Dublin*. Royal Dublin Society, in association with the Dublin Naturalists' Field Club.

FNE 1888 = Stewart, S.A. & Corry, T.H. (1888) *A flora of the north-east of Ireland*. The Belfast Naturalists' Field Club.

FNE 1938 = Praeger, R.L. & Megaw, W.R. (1938) *A flora of the north-east of Ireland by S.A. Stewart and T.H. Corry*. Second edition. The Quota Press, Belfast.

FNE 1992 = Hackney, P. (1992) *Stewart & Corry's Flora of the north-east of Ireland*. Third edition. Institute of Irish Studies, The Queen's University of Belfast.

ITB 1901 = Praeger, R.L. (1901) Irish topographical botany. *Proceedings of the Royal Irish Academy* Third Series 7: 1-410 (preceded by v-clxxxviii).

FORMAT OF CATALOGUE ENTRIES: SUMMARY NOTES

Nomenclature and order of families and genera follow Stace (1997); within genera, species and hybrids are arranged in alphabetical order.

Cens Cat = as listed in *Census catalogue of the flora of Ireland*, second edition (Scannell & Synnott 1987).

PLAN OF ENTRIES:

Scientific and common names
 Current standing and other comments
 Vice-county distribution
 Details of records

Plant names:

Scientific and common names in **bold** type = 'certainly introduced' in Ireland (*Cens Cat*) / alien,
 e.g. **Amaranthus retroflexus**

Names not in bold type = 'probably introduced' in Ireland (*Cens Cat*),
 e.g. *Descurainia sophia*

Entries in { } and names in **bold** type = cultivated and recorded in gardens, parks, plantations etc., and not obviously spreading elsewhere,
 e.g. {**Cyathea dealbata** ... }

Entries in [] and names not in bold type = all records erroneous, unreliable or unconfirmed,
 e.g. [*Anacyclus radiatus* ...]

Authorities are given for genus, species, hybrid and subspecies names

Hybrid name is indicated by ×

Synonyms and/or hybrid parent species, without authorities, are in italics and given in round brackets after the scientific name.

Vice-county distribution:

Vice-county distribution is given as numbers (see list of vice-counties on pp. 34-35 and map on p. 44); numbers usually represent all records, historical and recent

Vice-county numbers are prefixed by '*Cens Cat*' for taxa in that work; vice-counties are listed without prefix for other taxa

Vice-county numbers prefixed by 'Also' are additional to those given in *Cens Cat*

Vice-county number or record in { } = cultivated in a garden, park, plantation etc.

Vice-county number or record in [] = record erroneous, unreliable or unconfirmed

Vice-county number uncertain, e.g. **38/39**

Details of records:

* = first and/or early record(s) (occasionally omitted if not clear)

Post-1970 records = 1970-2001 = 'modern'

Post-1987 records = 1987-2001 = 'recent'

'No modern records' = no records after 1970

'Formerly' = usually late 19th and/or early 20th century

Date uncertain, e.g. 1893/94 = 1893 and/or 1894

Details of records follow the vice-county number, usually including location(s) and year(s) when found, and source of records

Selected references are cited as an abbreviation with publication date (see pp. 40-41)

Other references are cited as author(s) and publication date (see References and Bibliography for full references)

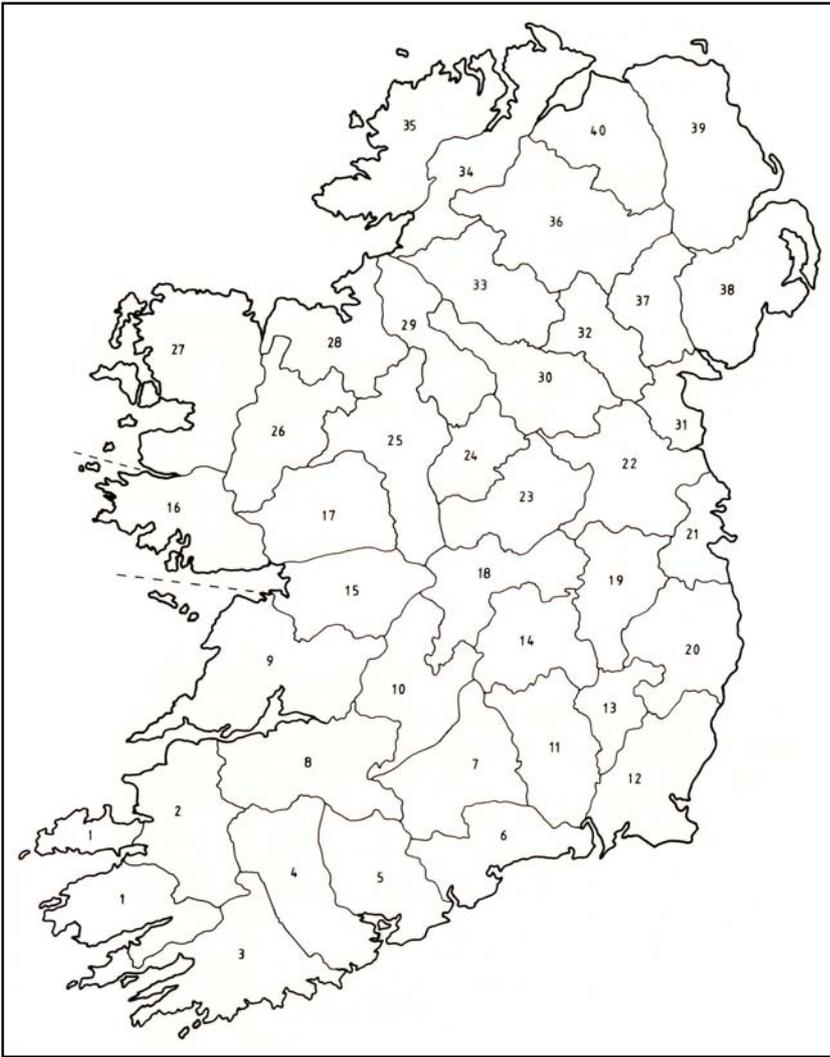
Voucher specimens are cited as standard abbreviations for herbaria (see pp. 38-39)

Personal communications are given as initial(s) and surname (see p. 38)

Abbreviations are listed on pp. 39-40

SR = unpublished record made by Sylvia Reynolds

When using information given in this Catalogue, it is recommended that original published or herbarium sources be consulted.



Map of the Irish vice-counties

1 S Kerry; 2 N Kerry; 3 W Cork; 4 Mid Cork; 5 E Cork; 6 Waterford;
 7 S Tipperary; 8 Limerick; 9 Clare (including Aran Islands); 10 N Tipperary;
 11 Kilkenny; 12 Wexford; 13 Carlow; 14 Laois (Leix, Queen's County);
 15 SE Galway; 16 W Galway; 17 NE Galway; 18 Offaly (King's County);
 19 Kildare; 20 Wicklow; 21 Dublin; 22 Meath; 23 Westmeath; 24 Longford;
 25 Roscommon; 26 E Mayo; 27 W Mayo; 28 Sligo; 29 Leitrim; 30 Cavan;
 31 Louth; 32 Monaghan; 33 Fermanagh; 34 E Donegal; 35 W Donegal;
 36 Tyrone; 37 Armagh; 38 Down; 39 Antrim; 40 Londonderry (Derry).