

Mistletoe *Viscum album* L. (Loranthaceae) on oaks in Britain

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ABSTRACT

Information on oaks with parasitical mistletoe (*Viscum album* L.) was sought from herbaria, county botanical recorders and biological record centres in conjunction with site visits and an extensive search of published records and reports. Currently there are eleven confirmed mistletoe-oaks in Britain. Evidence from past records, reports and general accounts of mistletoe on oak indicates that the rarity of mistletoe-oaks in Britain has not changed since the 17th century. The current results, together with the various reports of mistletoe-oaks in the 19th century and early 20th century, suggest a population of mistletoe-oaks which is apparently fairly stable in number but with some turnover as losses are compensated by the discovery of new sites. The existing mistletoe-oaks are concentrated in Herefordshire and the current range is very much more restricted than the historical range. Pedunculate oak (*Quercus robur* L.) is the most frequent host amongst the existing mistletoe-oaks. The presence of mistletoe on red oak (*Q. borealis* Michx. f.) at three separate sites, as well as on a scarlet oak (*Q. coccinea* Muenchh.), is notable. The estimated ages of the existing oak hosts range from 90 to 400 years. The existing mistletoe-oaks are not found in woodland but prefer hedges, woodland edges, parks and a churchyard.

KEYWORDS: pedunculate oak, common oak, parasitism, plant distribution, red oak, *Quercus*.

INTRODUCTION

Mistletoe (*Viscum album* L.) has a wide range of hosts in Britain (Bull 1864a, 1864b, 1907; Somerville 1914; Nicholson 1932; Perring 1973). The commonest hosts are apple (*Malus sylvestris* (L.) Mill.), lime (*Tilia* × *europaea* L.), hawthorn (*Crataegus monogyna* Jacq.) and hybrid black poplars (*Populus* × *canadensis* Moench) (Perring 1973).

Despite the traditional association between mistletoe, oaks and Druids in the minds of many people (Frazer 1922; Kanner 1939; Box 1995), oaks have always been considered to be a rare host for mistletoe in Britain (Evelyn 1664; Ray 1670, 1677; Withering 1796; Loudon 1838; Bull 1864a, 1864b, 1907; Nicholson 1932; Tubuef 1923; Perring 1973).

The Botanical Society of the British Isles (B.S.B.I.) carried out a survey of mistletoe and its hosts from 1969 to 1972 using both B.S.B.I. members and the general public (Perring 1973). Mistletoe was not recorded on sessile oak (*Q. petraea* (Mattuschka) Lieblin) and was recorded on pedunculate oak (*Q. robur* L.) in only twelve 10 km squares in Britain (2.2% of the 539 10 km squares recorded).

In contrast, the most recent survey of mistletoe carried out from 1994 to 1995 by Plantlife and the B.S.B.I. produced some 140 sightings of mistletoe on oak, 1.8% of the 8,000+ sightings of mistletoe sent in by the public and by botanists (Briggs 1995), although there are likely to be errors due to the misidentification of oak in winter (Perring 1973).

An examination of historical records and the confirmation of existing sites of mistletoe-oaks were undertaken in 1996 and 1997 in order to provide firm evidence of their current and historical distribution in Britain.

METHODS

B.S.B.I. RECORDERS AND BIOLOGICAL RECORD CENTRES

B.S.B.I. vice-county recorders, the national Biological Records Centre at Monks Wood, and local Biological Record Centres (usually county based) in England and Wales were asked for any past and present records.

PUBLISHED SOURCES

Mistletoe-oaks referred to in the published literature were followed up, if there was sufficient information to identify the site, through correspondence with the landowner and, if necessary, by a site visit.

County Floras for England and Wales, from Victorian times to the present, were examined for references to mistletoe on oak as were local Floras for Bristol (Swete 1854; White 1912) and Chepstow (Shoolbred 1920) which are in mistletoe-rich areas.

Given the density of mistletoe records in Herefordshire and surrounding counties (Perring 1973; Briggs 1995), sources of local natural history records were checked: botanical records published by the Caradoc & Severn Valley Field Club (Shropshire) from 1892 to 1970 when the botanical records petered out; the Transactions of the Woolhope Naturalists' Field Society (Herefordshire) from 1851 to the present; the Transactions of the Worcestershire Naturalists' Club (1847 to the present); and the Proceedings of the Somerset Archaeological & Natural History Society (1850 to the present).

HERBARIA

Enquiries were made with those herbaria which were considered to have large collections, to be in mistletoe-rich areas, or to be rich in historical material: Bristol Museum & Art Gallery (**BRISTM**); Dept of Plant Sciences, Cambridge University (**CGE**); Royal Albert Memorial Museum, Exeter (**RAMM**); Royal Botanic Gardens, Kew (**K**); Leicester Museum (**LSR**); Liverpool Museum (**LIV**); Luton Museum (**LTN**); Maidstone Museum (**MNE**); Manchester Museum, University of Manchester (**MANCH**); National Museum of Wales (**NMW**); Natural History Museum (**BM**); Norwich Museum (**NWH**); Daubeny and Field-Druce Herbaria and Morrisonian Collection, Oxford University (**OXF**); University of Reading (**RNG**); South London Botanical Institute (**SLBI**); Warwickshire Museum (**WARMS**).

EXISTING MISTLETOE-OAKS

The oaks listed in Table 1 were visited with the permission of the landowner or occupier. The girth of each tree was measured at 1.3 m above ground level (Hamilton 1975) and used to derive the diameter at breast height (dbh). The age of each tree was estimated using the dbh taking into account the location in which each tree was growing (White 1994); additional estimates of age were derived from published accounts. Mistletoe is dioecious and the mistletoe on each oak was examined for berries in December 1996/January 1997 through 12 × 25 binoculars; mistletoes without berries were checked again in November 1998. Records of the existing mistletoe-oaks in this paper include the 10 km square of the national grid and the nearest village. Further details are deposited with the Biological Records Centre as confidential records.

RESULTS

BIOLOGICAL RECORDS CENTRE

There were 21 records of mistletoe growing on oak. One was the published report of mistletoe on several oaks along the Towy and Cotti rivers in Carmarthenshire (Webster 1885) [see below]. The other records date from 1963 to 1976 with the majority of records dating from 1969 to 1971 as a result of the B.S.B.I. mistletoe survey (Perring 1973). These records were followed up wherever possible in order to confirm the identification of the host tree and its location (Table 2).

PUBLISHED LISTS OF LOCATIONS

Lees (1842, 1851a, 1851b) gives brief details about various sites. Edward Jesse, Surveyor of the Royal Parks & Palaces, lists four sites (Jesse 1844). He made enquiries about mistletoe on oaks in the Royal forests and parks but without success; timber merchants assured him that they had never seen it on oak. Bull (1864a, 1864b, 1907) gives details of various locations; Bull (1869, 1870) gives accounts of newly discovered mistletoe-oaks together with a list of the other known sites (with errors in the spellings). Anon. (1873a) gives a list of sites, and Webster (1885) gives a list without sources (with errors in the spellings of sites) together with further details of one site. Elwes & Henry (1907) give a list as well as some further details for some of the locations; Tubuef (1923) gives a list based on Elwes & Henry (1907). Nicholson (1932) repeats these lists and adds two more reports. Durham (1935) refers to some of these sites, notes that many of the recorded specimens now no longer exist, and adds the report by Anon. (1933).

TABLE 1. CONFIRMED EXISTING MISTLETOE-OAKS IN BRITAIN

Location	Oak species	Dbh (cm)	Estimated age (yrs) ¹	Brief Description
Brampton Bryan (Herefordshire) [SO/3.7]	<i>Q. coccinea</i>	65	90 ²	One "bunch" of mistletoe (probably male) c. 7 m up in the oak which is in a group of three oaks in parkland.
Bredwardine (Herefordshire) [SO/3.4]	<i>Q. robur</i>	185	300–400 ³	Two "bunches" of female mistletoe c. 9.5–10 m up in the hedgerow oak.
Brinsop (Herefordshire) [SO/4.4]	<i>Q. robur</i>	107	160–170	Three "bunches" of female mistletoe c. 9.5 m and c. 15 m up in the streamside oak in arable land.
Deerfold Forest (Herefordshire) [SO/3.6]	<i>Q. petraea</i> × <i>Q. robur</i>	142	190–260 ⁴	One "bunch" of female mistletoe c. 10.5 m up in the hedgerow oak.
Eastnor (Herefordshire) [SO/7.3]	<i>Q. robur</i>	85	210–240 ⁵	Many female plants c. 8 m up in the woodland oak which is adjacent to a drive.
Frampton-on-Severn (Gloucestershire) [SO/7.0]	<i>Q. robur</i>	146	250–270 ⁶	One "bunch" of female mistletoe c. 6 m up in the hedgerow oak.
Gwehelog Common (Monmouthshire) [SO/3.0]	<i>Q. robur</i>	97	140–150	One "bunch" of mistletoe (probably male) c. 10 m up in the oak beside a lane in a small copse.
Leintwardine (Herefordshire) [SO/4.7]	<i>Q. borealis</i>	63	90	One "bunch" of female mistletoe c. 2 m up in the churchyard oak.
Putley (Herefordshire) [SO/6.3]	<i>Q. borealis</i>	74	110	One "bunch" of female mistletoe c. 8 m up in the hedgerow oak.
Stretton Sugwas (Herefordshire) [SO/4.4]	<i>Q. robur</i>	180	380 ⁷	One "bunch" of female mistletoe c. 3 m up in the hedgerow oak.
Windsor (Berkshire) [SU/9.6]	<i>Q. borealis</i>	81	115	One "bunch" of mistletoe (probably male) c. 6 m up in the roadside oak.

Notes

¹ Estimated ages are calculated using the methods set out in White (1994) for common/sessile oaks based on "average site" conditions supplemented by additional estimates described below.

² Planted around 1910.

³ Range includes the estimated ages calculated using both the present dbh and the girth given in Anon. (1870).

⁴ Range includes the estimated ages calculated using the present dbh as well as the girths given by Bull (1869), Anon. (1930) and Tonkin (1984).

⁵ Range includes the estimated ages calculated on the basis of "inside normal woodland" conditions (White 1994) using both the present dbh and the girth given by Anon (1866a), as well as the estimated ages derived from the reports by Lees (1842), Bull (1864a, 1864b, 1907) and Anon. (1866a).

⁶ Range includes the estimated age calculated using the present dbh as well as the estimated age derived from the report by Lees (1851a).

⁷ Age estimated without any allowance for the oak being a very old pollard which has been in a stag's-horn condition since at least the 1930s.

TABLE 2. RECORDS OF MISTLETOE-OAKS HELD BY BIOLOGICAL RECORDS CENTRE

Location (county)	NGR	Details of record	Current status
Woodyates Manor (Dorset)	SU/01.19	June 1970. Recorder: M. P. Yule. "Ancient oak tree growing on edge of wood. Two plants obviously dying fast though large".	Followed up in 1997 by letter to the owner of Woodyates Manor (Woodyates, Verwood) without any reply.
Hatfield Forest (Essex)	TL/5.1	1970. Tetrad J. Recorder: P. C. Devlin (Bishop's Stortford).	Followed up in 1997 with P. C. Devlin who has revisited Hatfield Forest but cannot find a mistletoe-oak.
No location given (Gloucestershire)	SO/7.0	1974. Recorder: S. C. Holland. "In lit 29/10/74".	This is the Frampton-on-Severn tree.
No location given (Herefordshire)	SO/3.4	1971. Recorder: A. C. Powell. "First recorded in 1870. Hfd. C. C. Preservation Order 1954. Now has 1 large bunch - 7 small - some berries".	This is the Bredwardine tree.
Deerfold (Herefordshire)	SO/3.6	1963. "Extinct c. 1963. Miss M. Bardel in lit. to D. McClintock 4/12/69".	Presumably the Deerfold Forest tree.
No location given (Herefordshire)	SO/4.4	1971. Recorder: F. H. Perring.	This is the Stretton Sugwas tree (F. H. Perring, pers. comm.).
No location given (Herefordshire)	SO/6.3	1970+. Recorder: D. Moxley (Abertillery).	Followed up in 1997 but Mrs Moxley had moved away.
No location given (Herefordshire)	SO/6.3	1970. Recorder: N. Hadfield (Putley). " <i>Quercus borealis</i> . One bunch".	Followed up in 1997 by letter to Mrs Hadfield but without any reply. Presumably the Putley tree.
No location given (Herefordshire)	SO/7.3	1970+. Recorder: F. H. Perring.	This is the Eastnor tree (F. H. Perring, pers. comm.).
No location given (Lincolnshire)	TF/0.2	1976. Recorder: P. B. Grimes (Grimsthorpe, Bourne). "Oak (only one and the tree has been felled by a gale)".	Followed up in 1997 but Mr Grimes' successor at the Grimsthorpe Estate has no knowledge of a mistletoe-oak.
No location given (Monmouthshire)	SO/5.1	1971. Recorder: F H Perring.	Followed up in 1997 but Franklyn Perring does not remember a mistletoe-oak.
Neen Savage (Shropshire)	SO/67.77	1967. "In lit. to D. Mc Clintock".	Presumably the same tree as below.
Neen Savage (Shropshire)	SO/67.77	1976. Recorder: Mrs Heywood-Waddington. "Photograph given to F. H. Perring".	Branch with mistletoe fell off some two years after record sent in (Mrs Heywood-Waddington, June 1997).
No location given (Shropshire)	SO/6.7	1967. Tetrad T. Recorder: Thomson in lit. to D. McClintock.	This is probably the Neen Savage tree.
No location given (Shropshire)	SO/6.9	1970. Recorder: A. W. Smith (Shrewsbury).	Followed up in 1997 with Mr Smith who cannot remember the oak.
Rookery Farm, Drinkstone (Suffolk)	TL/95.61	1971. Recorder: G. Thomson.	Followed up in 1997 with present owners of Rookery Farm who have no knowledge of a mistletoe-oak.

TABLE 2. CONTINUED

Location (county)	NGR	Details of record	Current status
Orvis House, East Bergholt (Suffolk)	TM/07.34	1971. Recorder: K. Dodgson.	Followed up in 1997 with the Mr F. R. Dodgson, the owner of Orvis House, who remembers mistletoe growing on an oak from the 1930s (when it was artificially planted on the tree) until the late 1970s. There are no other mistletoe-oaks in the vicinity.
No location given (Worcestershire)	SO/7.7	1974. Tetrad T. Recorder: F. Fincher (Bromsgrove). "Prob. <i>Q. petraea</i> in T approx 45 metres". "I only visited this square to check up on oak, the only Worcs Mistletoe Oak known to me and seen some years ago. The original branch fell off about 3 years ago but Mistletoe has been successfully re-established and is now 3 years old, small but app. healthy. This was the only one to take of 30 attempts, all on oak".	Followed up in 1997 but Mr Fincher had moved away. This may be the Bewdley tree.
No location given (Worcestershire)	SO/8.5	1972. Recorder: H. M. Caddick (Chipping Camden).	Followed up in 1997 with Ms Caddick who was not able to provide precise information.
No location given (Worcestershire)	SO/8.6	1970. Tetrad Q. Recorder: I. F. Gravestock (Bristol).	Followed up in 1997 but Mrs Gravestock has died.

RECORDS AND REPORTS

The sites of records and reports are given below in order of the relevant vice-county. For each site, the first record or report is given. Thereafter, records and reports are only given if they add to the knowledge about the mistletoe-oak; those accounts that just include the site in a general list are not given. The following terminology has been used:

Recorded: first-hand observation of mistletoe growing on oak.

Reported: second-hand report of mistletoe on oak (these vary from reports of observations by reliable observers to apparent mis-identifications of the host tree).

DEVON (V.C.C. 3 & 4)

Plymouth. Gissing (1855) reports that Edwin Lees had seen a single bush in July 1854 in the topmost branches of a lofty though scraggy oak in the first wood by the South Devon Railway some 2–3 miles north of Plymouth. Dr R. A. Stevens (Nature Conservation Officer, Plymouth City Council) has not found any mistletoe in the small woods along the old railway, which is now abandoned (pers. comm., September 1996).

Tiverton. Nicholson (1932) notes a report of mistletoe on oak at Cruwys-Morchard by Mr H. M. Fowler in 1910. The landowner at Cruwys Morchard House has no knowledge of this tree (pers. comm., January 1997).

SOMERSET, NORTH (V.C. 6)

Bristol. Roper (1916) records a large bunch of mistletoe near the top of *Q. intermedia* Boenn. [*Q. robur* × *Q. petraea*] in Leigh Woods; the oak was of moderate girth, about 50 feet (16 m) in height, and probably more than a century old; it grew in a fringe of ancient woodland on the Somerset side of the Avon gorge. In her Presidential Address to the Bristol Naturalists' Society on 20 January 1916, Roper records that she had very recently found a magnificent bunch of mistletoe growing near the top of a lofty *Q. intermedia* in Leigh Woods (Roper 1918).

Roe (1981) notes that mistletoe has only ever been recorded on oak in Somerset by I. M. Roper in 1916 in Leigh Woods. Currently, there is no local knowledge of this oak (Tony Robinson, English Nature Site Manager for the Avon Gorge N.N.R., which contains Leigh Woods, pers. comm., July 1996; Tony Titchen, local botanist, pers. comm., November 1996).

WILTSHIRE, SOUTH (V.C. 8)

Salisbury. A report in Webster (1885) of mistletoe on an oak at Clarendon Park. The estate currently has no records of mistletoe on oak (pers. comm., December 1996).

DORSET (V.C. 9)

Good (1984) refers to one record of mistletoe on *Quercus* with no location given.

Edmonsham. The Dorset Environmental Records Centre has a record for Edmonsham from C. Didham dated Nov. 1977–Mar. 1978 at SU/062.119 “on oak trees, about 12”. It seems likely that this is the record referred to by Good (1984). A visit to Edmonsham House in February 1997 found three mature limes near the house and one mature lime on the edge of the wood to the north of the house, all with many bunches of mistletoe, but no mistletoe on oak; the owner has confirmed that mistletoe occurs on lime, maple, sycamore and apple but not on oak (Julia Smith, pers. comm., March 1997).

Woodyates. Record in the Biological Records Centre dated June 1970 for Woodyates Manor (SU/01.19) annotated “Ancient oak tree growing on edge of wood. Two plants obviously dying fast though large.”

HAMPSHIRE (V.C.C. 11 & 12)

Basingstoke. A herbarium sheet of mistletoe from **BM** is inscribed “On an Oak in Lord Bolton’s Park at Hackwood, Hampshire. Rev. P. Roberts. 1808”; there is also a note which indicates that this specimen originally came from Sir Joseph Banks’ herbarium.

Bull (1864a, 1864b, 1907) refers to a report of a mature oak with mistletoe at Hackwood Park which was described by Sir Joseph Banks in the Philosophical Transactions. This reference could not be found after searching both subject and author indexes to Philosophical Transactions at the Royal Society using various keywords (Banks, Hooper, Lord Bolton, Hackwood Park, mistletoe).

Townsend (1883, 1904) refers to another herbarium record of mistletoe - “Hackwood park, on ‘the mistletoe oak’, 1864; Herb. Hill” and indicates that the source for this record was the herbarium of R. S. Hill of Basingstoke which was in the possession of Winchester Natural History Society. Hampshire County Council Museums Service has no knowledge of the Hill Herbarium (pers. comm., Chris Palmer, September 1996) nor does Winchester College which has had a natural history society since 1871 (J. M. Cooper, pers. comm., November 1996).

Morris (1917) reports receiving two recent photographs of the tree bearing a bunch of mistletoe. Rayner (1929) states that “The famous plant on the Mistletoe Oak at Hackwood Park has now (January 1928) disappeared, having apparently been carried off during the last few days, though those on adjacent thorns were untouched.”

The present owner of Hackwood Park has no knowledge of mistletoe on oak (B. C. Spicer, Agent to the Hackwood Estate, pers. comm., August 1996).

Winchester. Britten (1870) refers to mistletoe in **K** labelled “From the Oak near Winchester, T. O. Duke.” Arnold (1887a) refers to a specimen in **BM** labelled “From the oak near Winchester, 1870.”

No record can be found of the Winchester specimen in **K** (Sandy Atkins, pers. comm., November 1996). The only herbarium records for mistletoe on oak in **BM** are from Maidstone (Kent) and Hackwood Park (Hampshire) (Roy Vickery, Curator of Flowering Plants, pers. comm., September 1996).

SUSSEX, WEST (V.C. 13)

Chichester. Bull (1864a, 1864b, 1907) refers to a report of mistletoe on oak on an estate near Shopwyke, Chichester.

Lurgashall. Wolley-Dod (1937) notes a report of mistletoe on an oak near Hempstead Farm, Lurgashall, in 1913 but adds that none was seen in 1915 by E.W.S. on this tree.

Northchapel. Arnold (1887a, 1887b) records seeing mistletoe on a branch of oak in Petworth Rectory which had been collected from Northchapel in the Sussex Weald and taken to the Rectory in the 1840s. Northchapel is close to Lurgashall and may have involved the same tree.

KENT (V.CC. 15 & 16)

Ashford. Bull (1864a, 1864b, 1907) refers to a report of an oak at Mersham Hatch, Ashford, which had been cut down.

Maidstone. Bull (1864a, 1864b, 1907) refers to a report from Mr Dickson in 1817 of mistletoe growing on an oak some 4 miles (7 km) from Maidstone by the side of the Medway. A herbarium sheet with mistletoe stems and leaves in **BM** is annotated "May 20 [28?] 1818. Found in company with Mr Rishon the Mistletoe growing upon the oak about four mills [sic] from Maidstone Kent by the side of the Medway. James Dickson." [James Dickson was one of the founders of the Horticultural Society of London and of the Linnean Society].

Sheldwich. Anon. (1873b) reports mistletoe on oak at Lord Sondes' Park, Lees Court.

Lees Court is at Sheldwich, just south of Faversham. Sir George Sondes, Earl of Faversham, was the owner in the 17th century and ownership continued in the family until late 19th century (Canterbury Library and Faversham Library, pers. comms., December 1996). Lees Court Mansion House and surrounding gardens were sold in 1971; there is no knowledge of any relevant records neither for the formal gardens nor for the parkland (Lees Court Estate, pers. comm., April 1997).

SURREY (V.C. 17)

Dunsfold. Bull (1864a, 1864b, 1907) refers to a report of a 150 year old oak with one bunch of mistletoe growing alone in a pasture at Burningfold Farm. Dunsfold. Salmon (1931) refers to the report in Bull (1864b) and adds that "I saw it there in 1917 - oak is *Q. pendunculata*".

There is an herbarium sheet for mistletoe at **SLBI** which includes both a specimen of mistletoe from an apple as well as a twig with oak leaves which are clearly *Q. robur* (= *Q. pendunculata*) with the annotation "Lower leaves from Oak at Burningfold, Surrey with a twig of the Mistletoe Oak. 28 August 1921. Coll. RWR." This herbarium sheet was originally part of the London Natural History Society herbarium and R. W. Robbins, of Limpsfield, Surrey, was Recorder of the Botanical Section of the London N.H.S. (Peter Holland, Herbarium Curator, pers. comm., October 1996).

Lousley (1976) reports a failure to refind mistletoe on oak in Surrey, including the famous mistletoe-oak at Dunsfold. The present owner of Burningfold Manor, which is the farmhouse, has never seen mistletoe on the mature oaks (M. J. Simmonds, pers. comm., March 1996)

Farnham. Bull (1907) in a postscript refers to a report of mistletoe on an oak at the Bishop's Park at Farnham. Farnham Park was the private deer-park attached to Farnham Castle, home of Bishop of Winchester, and now belongs to Waverley Borough Council. The Ranger has no knowledge of mistletoe on oak (Ron Hills, pers. comm., April 1996).

Godalming. Jesse (1844) records part of an oak branch with mistletoe growing on it being sent to him. Bull (1864a, 1864b) refers to this record but was not able to find out about this tree.

Norwood. Aubrey (1719; vol. II, p. 34) reports mistletoe on an oak which was felled about 1657.

Richmond. Maxwell (1900) notes a report of mistletoe on an oak in Richmond Park which he could not confirm. There is no current knowledge of mistletoe on oak (Jayne Bragham, Assistant Manager, Richmond Park, and Bill Cathcart, Crown Estate Office, Windsor Great Park, pers. comms, June 1996).

ESSEX (V.CC. 18 & 19)

Britten (1870) reports Turner, without giving the source, as saying "I never sawe more plentye of righte Oke miscel, then Hugh Morgan shewed me in London. It was sent to him oute of Essex: where there is more plentye then in anye other place in Englande that I have ben in."

Epping Forest. Jermyn (1974) notes that mistletoe still persists on oak in Epping Forest. The only mistletoe currently present in Epping Forest is growing on apple, hawthorn and poplar at the north end just outside the Forest boundary (Jeremy Dagley, ecologist with the City of London Corporation which owns Epping Forest, pers. comm., April 1996).

Great Dunmow. Jermyn (1974) notes that current records include an oak at Marks Hill, Great Dunmow [the records for this flora no longer exist]. A Phase I habitat survey of this wood in June 1993 found no mistletoe (Adrian Knowles, Essex Wildlife Trust, pers. comm., April 1996) and the owner of this wood has no knowledge of a mistletoe-oak (R. Wallis, pers. comm., April 1996).

Hatfield Forest. Record dated 1970 in the Biological Records Centre. The recorder has revisited Hatfield Forest but cannot locate the tree (P. C. Devlin, pers. comm., January 1998).

Woodford/Laughton. Warner (1771) reports that mistletoe is "Found on an oak, between Woodford Row and The Bald Faced Stag, near The Ten Mile Stone: and on an apple-tree in an Orchard in Loughton: and on several trees, many of them oaks, between that place and Mr Conyers's, Copped Hall." Woodford, Loughton and Buckhurst Hill (Bald Faced Stag) are adjacent to Epping Forest but are now part of the urban fringe around London and the mistletoe-oaks are long gone (Dr K. J. Adams, B.S.B.I. Recorder, pers. comm., April 1996).

BERKSHIRE (V.C. 22)

Windsor. Maxwell (1900) notes a report of mistletoe on oak in Windsor Forest which he was not able to confirm. There is a record of one bunch of mistletoe on red oak (*Q. rubra*, syn. *Q. borealis*) growing as a roadside tree in Windsor Great Park; probably male as no berries present in January 1997 or November 1998 (Bill Cathcart, Crown Estate Office, Windsor Great Park, pers. comm.).

Visit on 12/6/97. Mature *Q. borealis* growing on light sandy soil with acid grassland and heather nearby; tree is in good condition with a girth of 2.54 m at 1.3 m; one globose bunch of mistletoe hangs down from a lateral branch at some distance from the main trunk and c. 5–6 m above the ground.

SUFFOLK (V.C.C. 25 & 26)

Drinkstone. Record dated 1971 for Rookery Farm, Drinkstone in the Biological Records Centre. There is no local knowledge of a mistletoe-oak at Rookery Farm (D. & H. Donaghy, pers. comm., July 1997).

East Bergholt. Record dated 1971 in the Biological Records Centre. The recorder has stated that mistletoe was artificially planted on an oak in the 1930s where it grew until the late 1970s (F. R. Dodgson, pers. comm., June 1997).

NORFOLK, EAST (V.C. 27)

Aldeby, Woodbastwick & Shotesham. Trimmer (1866) reports mistletoe "On oak at Aldeby and Woodbastwick,..." and "...on the oak at Shotesham."

CAMBRIDGESHIRE (V.C. 29)

Borley Wood. Evans (1939) reports that mistletoe is very scarce in the county, but seems to be native on the oak at Borley Wood. The Ancient Woodland Inventory for Cambridgeshire (1987) indicates that 48 ha of this 50 ha wood have been felled and replanted; the wood has been visited by recorders for the Cambridgeshire Flora Project who have not recorded mistletoe (N. P. Millar, Cambridgeshire Biological Information Service, pers. comm., December 1996).

NORTHAMPTONSHIRE (V.C. 32)

Rockingham Forest. Bull (1864a, 1864b, 1907) reports that mistletoe formerly grew on an oak near Moorshay Lawn in Rockingham Forest. The current spelling is "Morehay Lawn". It is a relic from the grassy launds of the medieval compartmented Forest, and there is no mistletoe-oak (Jeff Best, pers. comm., July 1996).

GLOUCESTERSHIRE (V.C.C. 33 & 34)

Riddelsdell, Hedley & Price (1948) report mistletoe on various trees including oak around Cheltenham, on oak at Frampton, on oak at Sedbury Park, and on oak at Drybrook and Aylburton. Holland (1986) notes that the county was well surveyed during the B.S.B.I. Winter Mistletoe Count of the 1970s; refers to the existence of the Frampton oak; but reports that the four other oak trees mentioned by Riddelsdell *et al.* (1948) have not been located.

Cheltenham. Anon. (1873b) reports an account of mistletoe on oak some two miles (3 km) from Cheltenham. Elwes & Henry (1907) were unable to get any confirmation of this report.

Chepstow. Bull (1864a, 1864b, 1907) refers to a report of an 85 year old oak on the northern mound of Badams Court, Sedbury Park with one bunch of mistletoe with berries.

A visit to Badams Court in October 1996 found an oak (*Q. robur*, c. 200 years old) on the raised ground to the north of the house, but no mistletoe; the father-in-law of the present owner moved down to Badams Court seventy years ago and has never seen mistletoe on the oak; there is abundant mistletoe (both sexes) on an apple tree next to the house and two bunches on a nearby aspen.

Frampton-on-Severn. Lees (1851a, 1851b) reports a first-hand account by Professor Buckman of Cirencester Agricultural College of a century old oak with mistletoe. Bull (1864a, 1864b) refers to a report by Mr Clifford of Frampton Court [the landowner] that the mistletoe was dead and the branch decayed. Subsequently, Bull (1907) refers to a report that the mistletoe had sprouted from the trunk of the oak. Elwes & Henry (1907) report that the mistletoe-oak was still living in 1904 on the authority of H. Clifford [the landowner]. Holland (1986) records that the ancient hedgerow oak (*Q. robur*) on farmland near Frampton-on-Severn was still standing in 1974 with one large clump of mistletoe near the trunk.

Visit in February 1997. Mature *Q. robur* growing in a hawthorn hedge with pasture on both sides; appears to be an old pollard that has long grown out; in good condition with some dead branches and a major split in the trunk (? lightning) which has healed; girth is 4.6 m at 1.3 m. One straggly/globose bunch of mistletoe growing at base of a main branch on the north side of the tree at c. 6 m above the ground. There were at least five insertions of mistletoe - two on underside of branch, three on east side of branch; berries were definitely present on one of the insertions but it was too late in the season to be certain about the others.

MONMOUTHSHIRE (V.C. 35)

Goitre. Jesse (1844) reports mistletoe on oak at Penportheleuny in the parish of Goitre. Bull (1864a, 1864b, 1870) refers to this report but notes that the mistletoe had been cut down some 25 years previously.

Gwehelog Common. The only mistletoe-oak currently known in v.c. 35 is at Gwehelog Common (Trevor Evans, B.S.B.I. Recorder, pers. comm., May 1996); this is the *Q. robur* reported without a specific location in Evans (1995).

Visit on 15/2/97. Mature *Q. robur* growing with young hazel, holly, elder and bramble, near other oaks and ash; the tree is on a slope in a small triangular area which appears to have once been common land but is now fenced; the tree is some 50 m north of the fork in the track on the eastern side of the eastern lane; girth is 3.05 m (at right-angles to main axis of tree) at 1.3 m (measured from ground level on upper side of tree). One globose bunch of mistletoe with at least five insertions on north side of main trunk at c. 10 m above ground level; probably male as no berries present. Absence of berries confirmed in November 1998 (Derek Parks, pers. comm.).

Llangattock Lingoed. Bull (1870) includes a sketch and a description of the mistletoe-oak; the sketch shows an oak with spreading branches growing in a wood. The accompanying text records *Q. sessiliflora* [= *Q. petraea*] of around 80 years old with a girth of 4'6" at 5' (1.37 m at 1.5 m) growing in the hedgerow of a narrow coppice at the Hendre; it had one bunch growing from the underside of a branch. Elwes & Henry (1907) report that this tree is not known to exist at the Hendre.

There is an oak (c. 150–200 years old) growing on the east side of the lane some 200 m south of entrance to The Hendre; it has been high pollarded but looks dead and is smothered with ivy; there are two other oaks within 100 m, but both look less than 100 years old. The oak used to be part of a small copse which was cleared for arable land; the family of the current landowner can still remember this being called Gipsy Patch because gipsies would stop under the tree and collect mistletoe up to 20 years ago (Sue Llewelyn, pers. comm., November 1996).

St Dials. Jesse (1844) includes St Dials in a list of mistletoe hosts and locations. Bull (1864a, 1864b) refers to this report but notes that the tree had been cut down about 12 years previously.

Usk. Mistletoe oak was reported near Usk by Jesse (1844). Bull (1864a, 1864b) refers to this report but notes that the tree had been cut down some five years previously.

HEREFORDSHIRE (V.C. 36)

Brampton Bryan. Mistletoe was recorded on scarlet oak, *Q. coccinea*, in Brampton Bryan Park by Geoffrey Messer, a local botanist, in an unpublished MS dated 1988 (Tom Wall, English Nature Site Manager, pers. comm., June 1996).

Visit on 30/12/96. A group of three scarlet oaks (*Q. coccinea*) planted around 1910. The mistletoe is on the northernmost oak; the girth is 2.04 m at 1.3 m. A well developed mistletoe plant growing on the north side of the main trunk at the junction where a side branch has broken off (c. 7 m above ground level); straggly not globose; probably male as no berries present. Absence of berries confirmed in November 1998 (Victoria Harley, pers. comm.).

Bredwardine. Anon. (1870) records the discovery of mistletoe on *Q. pedunculata* [= *Q. robur*] about half a mile west of Moccas Park by Sir George Cornewall in conjunction with a photograph and a description of the mistletoe-oak as one of the "The Remarkable Trees of Herefordshire." The photograph shows the oak as a mature tree with spreading branches which is on the edge of a field; the oak is reported as having a girth of 11'6" at 5' (3.51 m at 1.5 m), being in a hedgerow, and having mistletoe growing in fifteen different places on the tree. Elwes & Henry (1907) record H. J. Elwes being shown this mistletoe-oak by Sir George Cornewall in 1902. A record dated 1971 in the Biological Records Centre states "Now has 1 large bunch - 7 small bunches - some berries". Two bunches of mistletoe were reported on the oak in the 1980s (Stephanie Thomson, B.S.B.I. Recorder, pers. comm., April 1996). The mistletoe-oak is covered by the County of Hereford Tree Preservation Order No. 7 made in 1953.

Visit on 31/12/96. Mature *Q. robur* with many staghorn and dead branches. It is one of a pair of oaks on a fenceline at the top of a steep bank between two fields; the other oak shows signs of pollarding and is not staghorned. Girth of mistletoe-oak is 5.82 m at 1.3 m above ground level on the upper side of the bank. Two bunches of mistletoe were seen on the south-east side of the main trunk at c. 9.5–10 m above the top of the bank; both bunches had berries and neither was globose.

Brinsop. Mistletoe on an oak was first seen in the 1990s (David Lovelace, pers. comm., June 1996); an oak with two bunches of mistletoe at the same place was seen in 1993 (Tom Wall, pers. comm., March 1996); and one good bunch of mistletoe was seen on *Q. robur* by a small stream (Stephanie Thomson, B.S.B.I. Recorder, pers. comm., April 1996).

Visit on 31/12/96. Three bunches of mistletoe on mature *Q. robur* growing on bank of a stream; girth is 3.35 m at 1.3 m. One large globose bunch of mistletoe at c. 9.5 m above ground level which may be more than one plant and is inserted either on the main trunk, or on a small branch which it surrounds, or both; berries present. One of the upper bunches appears dead as the foliage is very brown; there is a third bunch at c. 15 m above ground level which has berries.

Deerfold Forest. Bull (1869a, 1869b, 1907) includes a sketch and a description of the mistletoe-oak; the sketch shows an oak with spreading branches growing in a hedge. The accompanying text records one bunch of mistletoe growing on *Q. sessiliflora* [= *Q. petraea*] which was in a hedge and was some 50–60 years old with a girth of 5'8" at 5' (1.73 m at 1.5 m). Anon. (1930) refers to a visit by the Woolhope Field Naturalists' Club to the mistletoe-oak at Haven Farm which had a circumference of 9' 9 1/2" at 5' [2.98 m at 1.5 m]. The oak was estimated to be 130 years old; the mistletoe was observed to be growing in the same spot on the same branch as it was in 1870 although it was no longer near the top of the tree [the reference is to Bull (1869) which was issued in 1870]. A record in the Biological Records Centre states "Extinct c. 1963". Tonkin (1984) describes a visit to the oak in March 1984, notes that the mistletoe was no longer there, and speculates that the branch with mistletoe was possibly blown off in the gale on 2 January 1976; the girth was measured as 13' 9" at 5' (4.19 m at 1.5 m).

Visit on 31/12/96. Mature oak (which appears to be a hybrid between *Q. robur* and *Q. petraea*) with spreading branches in a hedgerow with hawthorn, blackthorn, honeysuckle, *Rosa* sp.; the oak has no sign of staghorn branches or disease; girth is 4.47 m at 1.3 m. One bunch of mistletoe comprising two major plants and some minor ones at c. 10.5 m above ground level; berries present. The mistletoe is on the west side of the western of the two main trunks (which divide around 6.5 m above ground level). This is different from the position shown in the 1869 sketch (Bull 1869) but a major branch was lost prior to 1984 (Tonkin 1984).

Eastnor. Beaton (1837) records being given a shoot of oak with two mistletoe plants on it from an oak on Earl Somers' estate at Eastnor Castle. It is reported that there are several mistletoe plants, one of which is of great age and nearly 5' (1.5 m) in diameter. The editor of *The Gardener's Magazine* was sent the oak branch with the letter from D. Beaton and notes that the mistletoe appears to be male and the oak appears to be *Q. sessiliflora* [= *Q. petraea*]. Loudon (1838) reports an oak growing near Eastnor Castle with several plants of mistletoe, one of which was of great age and vigour with its branches being nearly 5 feet (1.6 m) in diameter. A large and handsome specimen of this mistletoe was sent to him by Mr Beaton in March 1837 and exhibited on 4 April 1837 at the meetings of the Horticultural Society and the Linnean Society. The former is confirmed by Anon. (1837) who reports that mistletoe on oak from Mr Loudon, to whom it was sent by Mr D. Beaton of Haffield, near Ledbury, was exhibited on 4 April 1837 at the London Horticultural Society. The latter is recorded in the General Minute Book of the Linnean Society for

1830–1837, pp. 348–349. Lees (1842, 1851a) records that in June 1837 he saw a young oak, about 70–80 years old, with four fine bushes of mistletoe in Earl Somers's park, at Eastnor, near Ledbury, on the side of the Ridgeway; enquiries and a careful examination of 300 acres (120 ha) of oak wood revealed no others.

Bull (1864a, 1864b, 1907) records a visit to the 80–90 year old oak on the side of the drive leading from the Park up the Ridgeway hill towards Malvern; both male and female mistletoe was present and it grew in three large bunches and in four other places on the tree. Anon. (1866a) includes a photograph and description of the mistletoe-oak as one of a series of "The Remarkable Trees of Herefordshire"; the photograph shows the oak growing in very open woodland (possibly recently thinned) with a yew tree immediately adjacent to it. The accompanying text refers to mistletoe growing in seven places on *Q. pedunculata* [= *Q. robur*] which is more than 100 years old and has a circumference of 5' 3" at 5' [1.6 m at 1.5 m].

A herbarium specimen of mistletoe held at **K** is annotated "From the oak in Eastnor Park, Ledbury. Two large plants grow on this oak, both are on one branch and run together. The oak was in young leaf . . . J. D. Hooker, April 20, 1878".

Hadfield (1974) refers to the mistletoe-oak reported by Loudon (1838) and confirms that it was still present in 1973.

Visit on 31/12/96. Mature *Q. robur* growing in mixed deciduous woodland (ash, yew, oak, field maple and hazel over dog's mercury) on limestone; the woodland comprises c. 100 year old oak standards over hazel/field maple regrowth; the girth of the oak is 2.67 m at 1.3 m. Luxuriant growth of mistletoe, with many plants inserted into the top and the bottom of branches as well as on the main trunk at c. 8 m above ground level on north/north-east side; berries present. The yew tree next to the oak has a divided main stem and appears to be very similar to the yew in photograph of the mistletoe-oak in Anon. (1866a).

Hereford. Anon. (1933, p. xv) reports mistletoe growing on oak in the garden of Vanham House, Pengrove, within the city boundary. It has not been possible to locate Vanham House nor to trace the name in contemporary reference sources and maps.

Ledbury. Beaton (1837) writing from Haffield, near Ledbury, notes a report of mistletoe on an oak close to a willow loaded with mistletoe on a farm near Ledbury; the oak had been cut down six years previously.

Leintwardine. Report of a mistletoe-oak in the churchyard of St Mary Magdalene, Leintwardine (Paul Hand, pers. comm., December 1996).

Visit in December 1996. Red oak (*Q. borealis*) with a girth of 1.98 m at 1.3 m. One globular bunch of mistletoe made up of a number of separate main stems fused together; inserted on the top, the side and the bottom of an east pointing branch, c. 2 m from the main trunk and c. 2 m above ground level; berries present.

Llangarron. Purchas & Ley (1889) report a large oak with mistletoe at Llangunnock Farm, Llangarren (sic) discovered by Mr T. T. Mayos.

The owners of Llangunnock Farm for 30 years now live in a new house nearby and have not seen mistletoe on the oaks in the area (Mr & Mrs Jenkin, pers. comm., September 1996).

Moccas. There is a report of a tree near Moccas House which was doing well in 1970 with a dozen bunches of mistletoe (Stephanie Thomson, B.S.B.I. Recorder, pers. comm., April 1996). Subsequent inspection of the tree found no mistletoe; but Ivor Saunders, the gardener at Moccas Court, reports that there had been mistletoe on a branch which was blown off in a gale two or three years ago (Stephanie Thomson, pers. comm., February 1997).

Morehampton. Bull (1864a, 1864b, 1907) refers to a report of a mistletoe on oak somewhere in the parish of St Margaret's, Moorhampton (sic). A farmer at Morehampton Park Farm had no knowledge of such a tree (pers. comm., May 1996) neither had the vicar of St Margaret's, Morehampton (F. E. Rodgers, pers. comm., September 1996).

Putley. Record of one bunch on red oak (*Q. borealis*) by roadside (Stephanie Thomson, B.S.B.I. Recorder, pers. comm., April 1996).

Visit on 31/12/96. Healthy, mature red oak (*Q. borealis*) with a spreading crown growing by the roadside in a row of six mature red oaks with hawthorn, hazel, ash and *Prunus* sp.; the girth is 2.31 m at 1.3 m. One globose bunch of mistletoe growing at the base of the main branch on east side of tree at c. 8 m above ground level; inserted on top of the branch; berries present.

Stretton Sugwas. Anon. (1928, page lvi) gives a brief report without details. A herbarium specimen of mistletoe at **K** is annotated "30.vii.35. Stretton Sugwas. *Viscum* "from oak". Coll. 30.7.35. Recd. August 1935. Dr Durham" [mistletoe on oak at Stretton Sugwas is mentioned without any details by Durham (1935)]. There is a record dated 1971 in the Biological Records Centre (see Table 2). In 1996 the tree is much as it appears in a photograph from the 1930s which shows a stag's-horn tree (Stephanie Thomson, B.S.B.I. Recorder, pers. comm., April 1996).

Visit on 31/12/96. *Q. robur* growing in a hedgerow; tree is a very old pollard covered in brambles and ivy; upper branches fairly bare, lower ones showed good leaf growth; approx. girth 5.64 m at 1.3 m measured on the field side; one globose bunch of mistletoe on a lower branch at c. 3 m above ground level; many insertions on top and bottom of branch; berries present.

Tedstone Delamere. Lees (1851b) refers to a report from Rev. Canon Cradock of two young oaks in the parish of Tedstone-de-la-Mere on banks of Sapey Brook near Knightsford's Bridge. Bull (1864a, 1864b, 1907) refers to the discovery in 1853 of a mistletoe-oak by Dr Cradock (Principal of Brasenose College); he reports that the oak is 60 years old, has one bunch of female mistletoe, and has been known about by the woodman for some 30 years. Anon. (1866b) includes a photograph and description of the mistletoe-oak as one of the series "The Remarkable Trees of Herefordshire"; the text refers to mistletoe growing in one bunch of five stems some 40 feet (c. 12 m) above the ground on *Q. pedunculata* (= *Q. robur*) in the corner of a wood on Primrose Hill; the oak was recorded by Dr Cradock in 1851 and a woodman had known of it for more than 20 years before; a Mr Evans (presumably the landowner) is recorded as cutting the ivy from the tree and promising to remove the trees around the mistletoe-oak. Anon. (1867b) reports a visit to the mistletoe-oak and correspondence with the landowner, Mr Bickerton Evans of Whitbourne Hall, concerning the removal of ivy from the tree.

The parish is now incorporated into the parish of Greater Whitbourne. The oaks on the west of the Sapey Brook were felled in the 1950s/1960s (Richard Belville, pers. comm., February 1996); the owners of the woodlands on the other side of the Sapey Brook have looked at the oaks around Primrose Cottage, but found no mistletoe (pers. comm., Julia & Bill Evans, April 1996).

Tretire. There is a herbarium specimen of mistletoe in **BRIST** held in **BRISTM**; annotated "*Viscum album* on large oak tree in meadow on Tredunnock Farm, Tretire, Herefordshire. Sept. 29, 1927. E. Armitage" and "I saw the mistletoe on this tree many years ago, & there are a large number of branches scattered about in the tree. E. A." [Eleanora Armitage studied the flora of Herefordshire and Gloucestershire].

The current owner of Tredunnock Farm has no knowledge of any oaks with mistletoe; there may have been a fairly old oak in the hedgerows which were removed to make way for the airstrip at the back of the farm (Julie Smith, pers. comm., March 1996).

Woodbury Hill. Cornwall (1903, pp. 104–105) records that he discovered a mistletoe-oak in January 1903 on the west side of Woodbury Hill on the Moccas Estate. He estimated the age as 220 years old and noted that the tree was picturesque and gnarled; it was in company with a row of large limes which had been felled.

There has been woodland thinning and conifer planting in the area, and the oaks on Windy Ridge are only around 75 years old (Simon Quarn, farm manager at Wilmaston Farm, pers. comm., June 1996).

WORCESTERSHIRE (V.C. 37)

Bewdley. Rea (1910, p. 272) records a mistletoe-oak growing on the county boundary at Dowles parish. Salter (1928) records one from the grounds of Mr J. Steele Elliot, Dowles Manor, Bewdley. A record by L. C. Lloyd is reported in Dallman (1939) as "A flourishing plant of some years' establishment on an Oak tree (*Q. robur* L.) in Mr J. Steele Elliott's grounds at Dowles Manor, just inside the Shropshire border (Lloyd). The only instance of its growth on oak so far recorded in the county" [the oak is in fact just in Worcestershire - see below].

John Robinson (English Nature Site Manager, Wyre Forest N.N.R.) was shown this oak by Steele Elliot's daughter, Mrs P. Tristram-Ede (pers. comm., December 1996). She can recall one very large bunch of mistletoe on it in the 1940s & 1950s which was too high to pick. This was on a branch which is now dead and has ropes for a swing hanging from it.

Visit in December 1996. It is a 180/200 year old oak which is a hybrid between *Q. robur* and *Q. petraea*, although tending towards *Q. petraea*. The oak grows at the top of the north bank of the

Dowles Brook at a point which is just in Worcestershire (the county boundary deviates from the brook at this point). The oak is in a stream corridor and near to a field.

Bromyard. Anon. (1878) records two oak trees with mistletoe in Buckenhill Coppice, near Bromyard.

Droitwich. Report of *Q. robur* which used to have a single bunch of mistletoe, but the branch with the mistletoe dropped off a couple of years ago; the oak was in the hedgerow which ran along Green Lane, Hadzor, just to the east of the M5 at Droitwich (SO/910.622) (Andrew Fraser, pers. comm., February 1996).

Site visits in March and September 1996 found two oaks in the hedge on the west of the lane, but no sign of mistletoe, although there is an abundance of mistletoe on limes in the vicinity.

Knightsford. An herbarium specimen of mistletoe at **K** is annotated "Viscum album from oak. Knightsford Worcester May 1875. ex Herbario Joannis Fraser MD. Presented by the Trustees of the Shrewsbury Public Library, June 1954." The bridge on the main road over the River Teme at Knightwick is Knightsford Bridge. It is probable that this herbarium specimen came from the Knightwick oak (see below).

Knightwick. Anon. (1871) records mistletoe on oak near Knightwick Church and reports that this is a recent discovery. A local resident describes an oak between Knightwick and Suckley which has always been known as the "mistletoe oak"; this tree is some 400 m from the old church which was replaced by a mortuary chapel about 100 years ago; she does not remember mistletoe growing on it and neither did her parents who were both born in the parish in 1885 (Mary Walker, pers. comm., January 1997).

A visit in February 1997 found a mature *Q. robur* (c. 200 years old) in a hedgerow on east side of the road from Knightwick to Suckley, approx. halfway between Knightwick Manor and the main road. There was no sign of mistletoe on the oak and there were no other mature oaks around.

Lindridge. Anon. (1872) confirms a report of mistletoe on oak.

Stoulton. Anon. (1884) records mistletoe on oak; this was still extant in 1901/1902 (Rea 1903).

STAFFORDSHIRE (V.C. 39)

Stafford. An herbarium sheet with a stem and leaves of mistletoe in the Morisonian collection, **OXF**, is annotated "Viscum quercinum ex agro Staffordiens. donum D. Thurstin, Oriens. 1690" [Translation: Mistletoe of oak from a field near Stafford, given by D. Thurstin of Oriel College].

SHROPSHIRE (V.C. 40)

Sinker *et al.* (1985) indicate that 2% of the mistletoe records for the county are associated with oaks without giving further details [in fact the data came from the 1969/70 B.S.B.I. mistletoe survey (Ian Trueman, pers. comm., January 1996)].

Neen Savage. Records dated 1967 and 1976 are in the Biological Records Centre. The branch with mistletoe fell off some two years after 1976 record was sent in (Mrs Heywood-Waddington, pers. comm., June 1997). A visit to the oak in June 1997 found no mistletoe.

WEST GLAMORGAN (V.C. 41)

Vale of Neath. Bull (1864a, 1864b, 1907) refers to a report of an oak which was 2 miles (3 km) below Aberpergwm House but which was blown down in a storm.

CARMARTHENSHIRE (V.C. 44)

There are reports of mistletoe on several oaks in the remains of the old forest along the courses of the Towy and Cothi rivers (Webster 1885). May (1967) cites this report in an appendix of species presumed lost or extinct in Carmarthenshire. There are no recent records of mistletoe from the Tywi or Cothi valleys nor any current records of mistletoe on oaks in Carmarthenshire (Pryce 1996).

CARDIGANSHIRE (V.C. 46)

Gogerddan. Salter records a mistletoe-oak on 26/12/27 in his unpublished diaries (National Library of Wales MS 14445B) and records that the mistletoe-oak was adjacent to a tall poplar which also had mistletoe (Salter 1928). Subsequently, he mentions the poplar as being felled and refers to mistletoe growing on lime, but makes no reference to the oak (Salter 1935). Currently, there is no mistletoe present at this site (A. O. Chater, B.S.B.I. Recorder, pers. comm., September 1996).

MONTGOMERYSHIRE (V.C. 47)

Trueman *et al.* (1995) report that a recent survey found mistletoe on oak, but no details are given. The records came from David Orton who undertook a mistletoe survey in 1993/94 (Marjorie Wainwright, B.S.B.I. Recorder, pers. comm., January 1996).

Abermule. Report from 1993/94 of a very small mistletoe plant on *Q. robur* at Penybryn; the mistletoe is not growing there now (David Orton, pers. comm., June 1996).

CAERNARVONSHIRE (V.C. 49)

Anglesey. Lees (1842, 1851a) notes that Mr J. F. Dovaston reported in Loudon's *Magazine of Natural History* (vol. 5, p. 203) that he saw mistletoe growing on oak and "what is more singular, hanging almost over a very grand druidical cromlech" in the Marquis of Anglesea's park at Plas Newydd, on the island of Anglesey.

It has not been possible to find the original report by Dovaston. Prior to 1842, there are two complete series of *Loudon's Magazine of Natural History* but there is no reference to Dovaston, nor to mistletoe, in any of the volumes. There is no reference to Dovaston writing about mistletoe in the Catalogue of Scientific Papers 1800–1863 compiled by the Royal Society of London (G. A. Knowles, Manager, Current Information Services, The Royal Society, pers. comm., October 1996).

There are no longer any trees near the cromlech at Plas Newydd; most of the trees are believed to have been felled around the turn of the century and the last by the 1950s (National Trust, pers. comm., March 1996).

LEICESTERSHIRE (V.C. 55)

Leicester. Report by Pulteney (1795, p. clxxix) "In Quorn Wood. On the oak, and other trees. On apple-trees in old orchards." Pulteney (1795) contains a lot of records from Buddon Wood; the entry for *Rubus idaeus* (p. clxxxi) states that it is found in Quorn or Buddon Wood and the names were evidently interchangeable. Buddon Wood lies just to the south of the village of Quorn. It is a large ancient wood which was clear-felled soon after the Second World War and mistletoe has not been seen since Pulteney's day (Michael Jeeves, B.S.B.I. Recorder, pers. comm., September 1996).

NOTTINGHAMSHIRE (V.C. 56)

Ordnoyo (1807) notes that mistletoe occurs on various hosts including oak but gives no details.

Sherwood Forest. Maxwell (1900) includes a report which he could not confirm. There is no current knowledge of mistletoe on oak (Martin Freeman, Sherwood Forest Visitor Centre, pers. comm., February 1997).

DERBYSHIRE (V.C. 57)

Staveley. Arnold (1887a) reports, without giving a source for the quotations, that "in one of Colepeper's MSS. at the British Museum, in a curious notice of Sir Peter Freschville's house at Staveley, Derbyshire, is this passage:- 'Heare my Lord Freschville did live, and heare grows the famous Mistletoe tree, the only oake in England that bears Mistletoe.' And to this tree the following letter, written between 1663 and 1682, from the Countess of Danby to Mrs Colepeper, probably refers: - 'Dear Cozen, -Pray if you have any of the mistleto of yo^r father's oke, oblige me so far as to send sum of it to yo^r most affectionat servant, Bridget Danby.'"

The British Museum has a large collection of letters to and between Colepeper and his wife, including the undated note of Lady Danby to Mrs Colepeper: "Deare Cosen / pray if you haue any of the Miselto of yo^r fathers oke oblige me so fare as to send sume of it to y^e most / affectionat sarviant / Bridgett Danby" (folio 46, Harley MS 7005). Colepeper's lengthy notes relating to Staveley occupy folios 139–289 of Harley MS 7602, the volume covering the letter 'S' of his large collection of miscellaneous notes and observations. A rapid search of the volumes covering both 'M' for mistletoe and 'S' for Staveley has not revealed any mention of mistletoe (W. H. Kelliher, Curator of Manuscripts, The British Library, pers. comm., December 1996). [See record for Sheffield under Yorkshire, south west (V.C. 63)].

YORKSHIRE, SOUTH WEST (V.C. 63) OR DERBYSHIRE (V.C. 57)

Sheffield. A report of an oak with mistletoe near Sheffield in the 2nd edition of Ray's *Catalogus Plantarum Angliae* (Ray 1677) contains details which were omitted from the 1st edition

(Ray 1670). Ray (1677) has “Siquis viscum in Quercu crescentem videre desiderat, Sheffieldiam adeat, a qua non procul inveniri eum a D. Fr. Jessop certior factus sum” [Translation: Anyone who wants to see mistletoe growing on an oak should go to Sheffield, not far from where I have been informed by D. Fr. Jessop, it can be found] whereas Ray (1670) only has “Siquis viscum in Quercu crescentem videre desiderat”. Francis Jessop (1638–1691) of Broomhall, Sheffield, met John Ray in 1668 and Ray published some of Jessop’s plant records (Desmond 1977). It seems probable that this is the same tree as that referred to in the 17th century accounts concerning the mistletoe-oak at Staveley in Derbyshire (Arnold 1887; Folio 46, Harley MS 7005, British Museum); Staveley is only some 14 km from the centre of Sheffield.

PERTSHIRE. EAST (V.C. 89)

Errol. Kanner (1939, p. 913) reports an old account of mistletoe growing in profusion on a vast old oak in the neighbourhood of Errol, not far from the Falcon stone; the fate of the family of Hay was reputed to be linked to the continued existence of this tree [see also Gurney (1848, pp. 576–577) and Melville (1935, p. 156)]. Kanner (1939) also notes that the 13th century Scottish poet, Thomas Rymour of Ercildowne (Thomas the Rhymer, 1220–1297), is credited with the authorship of a poem which deals with the connection between this mistletoe-oak and the fate of the Hay family:

While the mistletoe bats on Errol’s aik,
And that aik stands fast,
The Hays shall flourish, and their good grey hawk
Shall nocht flinch before the blast.
But when the root of the aik decays
And the mistletoe dwines on its withered breast
The grass shall grow on Errol’s hearthstane,
And the corbie roup [raven croak] in the falcon’s nest.

The estate was sold by the Hay family in the 1630s to cover the debts of the 10th Earl (Jeremy Duncan, Local Studies Librarian, A. K. Bell Library, Perth, pers. comm., April 1997).

UNKNOWN LOCATION

Report of three plants of mistletoe on oak seen by a Mr Knowlton in August 1765 on the estate of White Esq. at Watling Wells (Dillwyn 1843). Knowlton worked at Londesborough Hall in the East Riding of Yorkshire (John Edmondson, pers. comm., October 1998), but it has not been possible to trace Watling Wells despite the assistance of the Yorkshire Museum, the English Place-Name Society and the Ordnance Survey Library.

DISCUSSION

The earliest known report of mistletoe on oak in Britain is the poem attributed to the 13th century Scottish poet, Thomas the Rhymer, describing the mistletoe-oak at Errol in Perthshire (Kanner 1939; see also Gurney 1848 and Melville 1935). There are three references to mistletoe on oak in the 17th century: the mistletoe-oak at Norwood (Surrey) felled in 1657 (Aubrey 1719); mistletoe on oak near Sheffield (Yorkshire) reported by Ray (1670, 1677); and the herbarium specimen of mistletoe from an oak from Stafford (Staffordshire) dated 1690.

There was considerable interest in mistletoe and its host species from the 19th century until the early part of the 20th century and various accounts contain details of mistletoe-oaks in Britain (Lees 1842, 1851a; Bull 1864a, 1864b; Anon. 1873a; Webster 1885; Arnold 1887; Purchas & Ley 1889; Bull 1907; Elwes & Henry 1907; Somerville 1914; Tubuef 1923; Nicholson 1932; Durham 1935). Bull (1864a, 1864b) built on the initial observations of Lees (1842, 1851a) and gives details of six records/ authenticated reports of mistletoe-oaks. Footnotes are given in the later reprint of this paper (Bull 1907) which extended the list of records/authenticated reports to eleven trees. Later lists of mistletoe-oaks appear to be derived from earlier accounts, often combined with additional second-hand reports without any first-hand evidence. Nevertheless, the various lists compiled between the middle of the 19th century and the first part of the 20th century usually describe between ten and twenty mistletoe-oaks.

Currently, eleven oaks with mistletoe growing on them have been located and verified in Britain (Table 1 and Figure 1D). The majority of the mistletoe plants are female and the mistletoe-oaks are concentrated in Herefordshire with single examples in Berkshire, Gloucestershire and Gwent. The records cover ten separate 10-km squares with the Brinsop and Stretton Sugwas oaks being in the same 10 km square. This figure is similar to the twelve 10 km squares for which mistletoe-oaks were reported in the 1969–1972 B.S.B.I. survey (Perring 1973).

Written records go back at least a century for the existing mistletoe-oaks at Bredwardine, Deerfold Forest, Eastnor and Frampton-on-Severn. Of these, the mistletoe-oak at Eastnor has the longest recorded history being originally reported by Beaton (1837). Only four of the eleven mistletoe-oaks reported by Bull (1907) are still in existence: Bredwardine, Deerfold Forest, Eastnor (all in Herefordshire) and Frampton-on-Severn (Gloucestershire). Surprisingly, the very old mistletoe-oak at Stretton Sugwas (Herefordshire) was not known to Bull and was not reported in the literature until 1928. The other six existing mistletoe-oaks have not been recorded/reported in the published literature.

These results, together with the lists of between ten and twenty mistletoe-oaks in the 19th and early 20th centuries, suggest a population of mistletoe-oaks which is apparently fairly stable in number, but in which there is a considerable turnover as losses are compensated by the discovery of new sites and the parasitism of new trees.

Pedunculate oak, *Q. robur*, is the most frequent host amongst these existing mistletoe-oaks. The presence of mistletoe on red oak, *Q. borealis*, at three separate sites, as well as on a scarlet oak, *Q. coccinea*, is notable as the B.S.B.I. survey recorded pedunculate oak as the only host species of oak (Perring 1973). It is interesting to note that Somerville (1914) includes a report of mistletoe on *Q. rubra* (syn. *Q. borealis*) in Worcestershire although no details are given. Mistletoe, however, is found on “red oaks” (*Q. rubra*, *Q. coccinea*, *Q. palustris*) in other parts of Europe, particularly in France (Timbal *et al.* 1994).

Pedunculate oak is also the most frequent species of oak identified in past records/reports of mistletoe-oaks which now either no longer exist or where mistletoe is no longer present on the host tree. These records/reports identify pedunculate oak, *Q. robur*, at four sites [Tedstone Delamere (Herefordshire), Abermule (Montgomeryshire), Dunsfold (Surrey), and Bewdley (Worcestershire - although direct observation of leaves from this oak indicates that the tree has characteristics which are more those of a hybrid oak than of a pedunculate oak)]; sessile oak, *Q. petraea*, at one site (Llangattock Lingoed, Gwent); and hybrid oak, *Q. robur* × *Q. petraea*, at one site (Bristol, Somerset).

The estimated ages of the existing oak hosts range from 90–400 years. The hosts include mature trees, but the hosts are not mostly very old, dying trees as the B.S.B.I. survey suggested (Perring 1973). Indeed, a photograph of the Stretton Sugwas oak (Herefordshire) taken in the 1930s shows a stag-headed tree very similar to the present tree.

The existing mistletoe-oaks do not occur in woodland but prefer more open situations such as woodland edges, hedges, parks and even a churchyard. Timbal *et al.* (1994) report a similar finding with mistletoe on “red oaks” in France. Records and reports of other oaks with mistletoe confirm that the trees occur in open situations; locations in woodland tend to be on the edge of the woodland, for example “in the corner of a wood” (Tedstone Delamere, Herefordshire), or in “a fringe of ancient woodland” beside the Avon Gorge (Bristol, Somerset), or near a stream in the Wyre Forest (Bewdley, Worcestershire).

It seems likely that the distribution of early (pre-1800) records and reports of mistletoe-oaks (Figure 1A) reflects the places visited by early botanists and the chance survival of records. There has been no significant change in the distribution of mistletoe-oaks recorded and reported in the 19th century (Figure 1B) compared to that for the 20th century (Figure 1C). The pattern of distribution for all records and reports of mistletoe-oaks (Figure 1D) is similar to the distribution for all mistletoe records given in Perring (1973) and Briggs (1995). However, the range of existing confirmed mistletoe-oaks (Figure 1D, solid circles) is significantly more restricted than the historical range [Figure 1D, all circles], but coincides with the concentration of mistletoe records in Herefordshire and the surrounding counties (Perring 1973; Briggs 1995).

In conclusion, the verification of only eleven mistletoe-oaks confirms the rarity of mistletoe growing on oak in Britain. Past records, reports and general accounts suggest that this rarity has not changed significantly since the 17th century when it was commented on by Ray (1670, 1677)

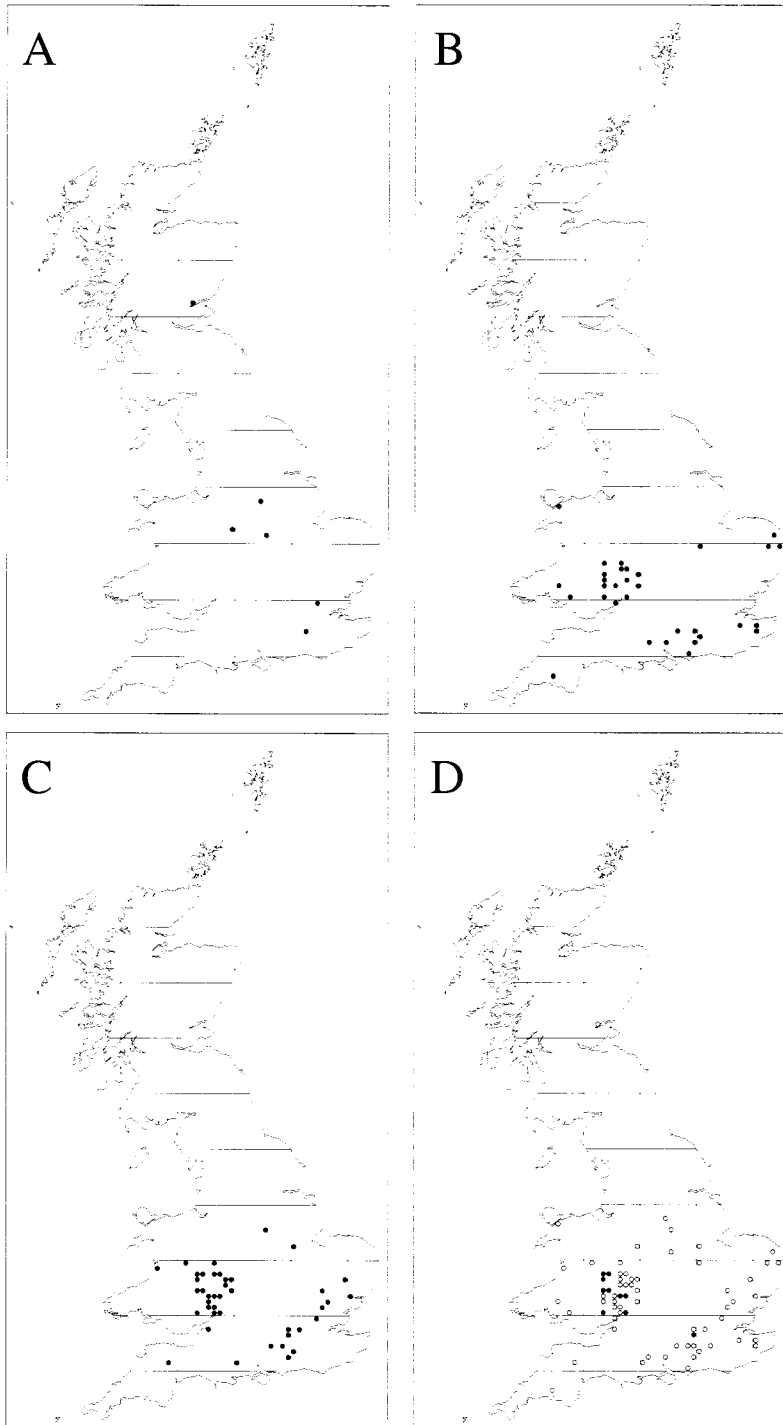


FIGURE 1. A. Distribution of records and reports of mistletoe-oaks pre-1800. B. Distribution of records and reports of mistletoe-oaks in the 19th century. C. Distribution of records and reports of mistletoe-oaks in the 20th century. D. Distribution of records and reports of mistletoe-oaks (○) and existing mistletoe-oaks (●).

and Evelyn (1664). Indeed, mistletoe from the oak at Eastnor was considered sufficiently noteworthy to be exhibited in 1837 at both the Linnean Society and the London Horticultural Society. Mistletoe (*Viscum album*) growing on native oaks (*Q. robur* and *Q. petraea*) is a rare association throughout western Europe (various sources are cited by Tubuef 1923 and Grazi & Urech 1983), although there are at least 150 sites for mistletoe on "red oaks" in France (Timbal *et al.* 1994). The present range of verified mistletoe-oaks is, however, less than the historical range based on past records and reports. This may be due to the clearance of woods and hedges resulting from the intensification of agriculture and the extension of urban areas over the past 50 years. Within the present range, the existing mistletoe-oaks are concentrated in Herefordshire which coincides with the core of the present distribution of mistletoe in Britain (Perring 1973; Briggs 1995).

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