

***Taraxacum dooguei* and *T. dudmanianum* (Asteraceae) - two new species from Britain and Ireland**

A.J. Richards
Hexham, UK

Corresponding author: hightreesgarden@btinternet.com

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Abstract

Two new species of *Taraxacum* are described: *T. dooguei* A.J. Richards, a section *Celtica* species from Ireland related to *T. pietii-oosterveldii*, and *T. dudmanianum* A.J. Richards, a section *Taraxacum* species from Britain and Ireland previously incorrectly recorded as *T. aberrans*. Notes are given on their ecology and distribution.

Key words: Netherlands; Section *Celtica*; Section *Taraxacum*; *Taraxacum aberrans* auct. Angl.

Introduction

While preparing the forthcoming BSBI Field Handbook to British and Irish Dandelions (Richards, 2021), it became clear that it was necessary to describe two new species. These are described and discussed below.

***Taraxacum dooguei* A.J. Richards sp. nov.**

Holotype: Flood debris line, lake shore, Saint's Island, Lough Ree, Co. Longford (v.c.H24), Ireland, N0756, 10/05/2018, D. Doogue no. 2018/26; **DBN**. Isotype: **NMW**. (Fig. 1).

Plant small to medium-sized with ascending, rather flat, homophyllous leaves. Leaves mid-green, lanceolate, unblotched, sometimes with sparse black spots on the upper surface, scarcely hairy, mid-rib purple proximally, becoming greener distally; petioles unwinged at the base, purple. Lateral leaf-lobes 3-5, recurved, triangular, acute, mostly entire. Terminal leaf-lobes triangular, shortly sagittate, acute, entire. Scapes equalling leaves, semi-decumbent, slightly hairy below the capitula, purplish. Exterior bracts 7-10 x 2.5-3.3 mm, erect to appressed, dark green suffused purplish externally, not pruinose, narrowly and inconspicuously bordered. Capitula 30-35 mm diameter, deep yellow. Ligules short, scarcely exceeding inner bracts, striped purple with purple teeth and inner florets tipped reddish. Stigmas discoloured, drying dark; pollen absent. Achene body 4.0 mm, straw-coloured, rugose almost throughout; cone 0.2-0.3 mm.

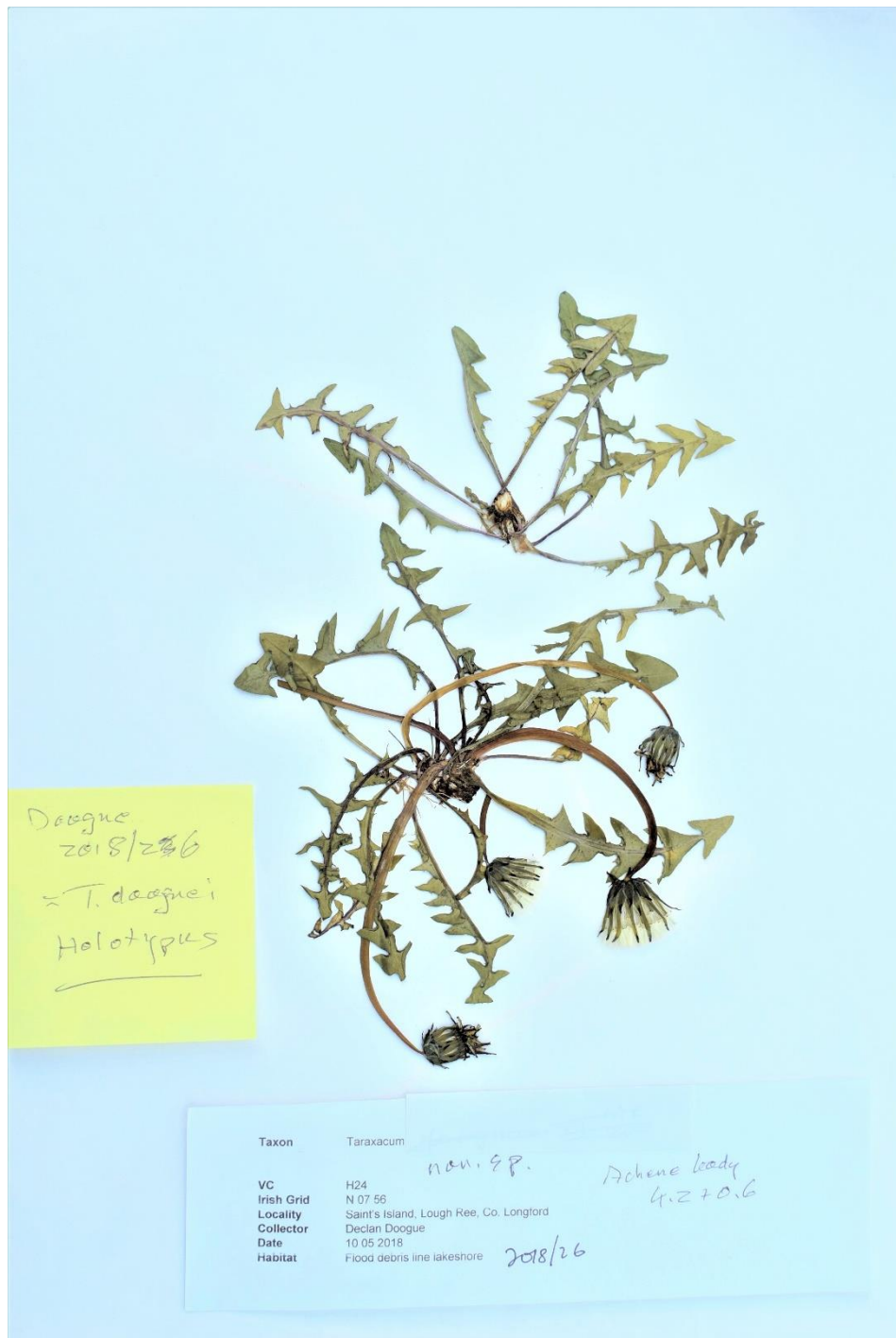


Figure 1. Holotype of *T. dooguei* (DBN)

In April 2009, I was invited by Declan Doogue to visit Dublin, and we spent several days on Taraxacological expeditions into central Ireland. Amongst other sites, we visited the rich wetlands around Faughalstown Holy Well, Lough Derravaragh (N4465) (v.c.H23, Westmeath) and Lough Ree (Westmeath and v.c.H24, Co. Longford) where the section *Palustria* (H. Lindb.) Dahlst. species *T. amarellum* Kirschner & Štěpánek and several other Irish endemics occur (Richards & Doogue, 2017). Here we found a plant which was initially but rather hesitantly identified as *T. anglicum* Dahlst., a rare section *Palustria* species of fen meadows in England, France

and the Netherlands. It had previously been collected there by Doogue in 2006. Smaller but similar material collected later from Lough Ree, v.c.H23 (N0653 and N0956) was not identified, but given a tentative workname 'T. non-texelense'.

Later in 2015, and again in 2018, Doogue collected similar but better material from Saint's Island, Lough Ree (N0756) (v.c.H24, Co. Longford), and in 2019 from the Great Heath of Maryboro (N5301) in Laois (v.c.H14). This was found to differ from *T. anglicum* in several characteristics, notably by having more pairs of lateral leaf-lobes, shorter ligules, an absence of pollen, narrower exterior bracts and larger achenes. It was originally given the workname 'T. turloughense', but is now being described as a new species *T. dooguei* in section *Celtica* A.J. Richards. Its closest relative is considered to be *T. pietii-oosterveldii* H. Øllg., a species which had not been described in 2015, but is currently known to be widespread and frequent through much of Ireland and west Wales in wet habitats, and is also found rarely, perhaps introduced, in England, Netherlands and Denmark. *T. dooguei* and *T. pietii-oosterveldii* are relatives of *T. nordstedtii* Dahlst., sometimes distinguished by Netherlands botanists as central to an informal subgroup 'Frugalia'.

In common with other members of the *T. nordstedtii* group, *T. dooguei* has short ligules with a solid brownish-purple stripe, which scarcely exceed the inner bracts. Like *T. pietii-oosterveldii*, pollen is absent and the stigma branches dry blackish. It differs from *T. pietii-oosterveldii*, with which it sometimes occurs, principally by lacking the abruptly, even acutely, angled distal margin to the lateral leaf-lobes. In fact the lateral lobe distal margins are usually straight, unlike those of both *T. pietii-oosterveldii* and *T. nordstedtii*, so that the reflexed leaf lobes appear sagittate. The achenes are larger than those of *T. nordstedtii*, but similar in size to those of *T. pietii-oosterveldii* although more rugose throughout and with a shorter cone. Unlike *T. pietii-oosterveldii* the leaves sometimes have small black spots on the upper surface. Both *T. pietii-oosterveldii* and *T. dooguei* have narrower exterior bracts than those of *T. nordstedtii*, darker stigmas, and, unlike the latter species, the bracts are not pruinose. *T. olgae*, endemic to the Solway Firth districts of England and Scotland, is similar to *T. dooguei* in many ways, and shares a tendency to produce small scattered black spots on the upper leaf surface, but has much smaller achenes and fewer pairs of lateral leaf lobes. The subsagittate leaves of *T. dooguei* are distinctive and reminiscent of *T. akteum* Hagend., Soest & Zevenb. which is not a member of the *T. nordstedtii* alliance and has spreading exterior bracts and longer ligules. British plants originally identified with *T. texelense* Hagend., Soest & Zevenb are now considered to be *T. akteum*.

Taraxacum dooguei grows in and at the margins of permanently or seasonally wet highly calcareous lake margins where it is often accompanied by the section *Palustria* species *T. amarellum* and *T. webbii* A.J. Richards. At present it is known from five sites in central Ireland (Fig. 2), as follows:

Lake shore with outcropping limestone, Saint's Island. Lough Ree, Co. Longford (v.c.H24), Ireland, N0756, 10/05/2015, D. Doogue no. 2015/146; **DBN**. Muckanagh, E shore of Lough Ree, Co. Longford (v.c.H24), N069535, 04/2009, D. Doogue and A.J. Richards; **DBN**. Derrynabuntale, shore of Lough Ree, Co. Longford (v.c.H24), N099564, 04/2009, D. Doogue & A.J. Richards; **DBN**. The Great Heath of Maryboro', Co. Laois (v.c.H14) N5301, 30/04/2019. D. Doogue nos. 2019/144, 145; **DBN**. Small very wet marsh on the east side of Lough Derravaragh near a holy well in Faughalstown townland, Co. Westmeath (v.c.H23), N4465, 01/05/2006, D. Doogue

no. 2021/35; **DBN**. Ditto, 04/05/2014, D. Doogue no. 2021/27; **DBN**. Ditto 04/2009, D. Doogue & A.J. Richards; **DBN**.

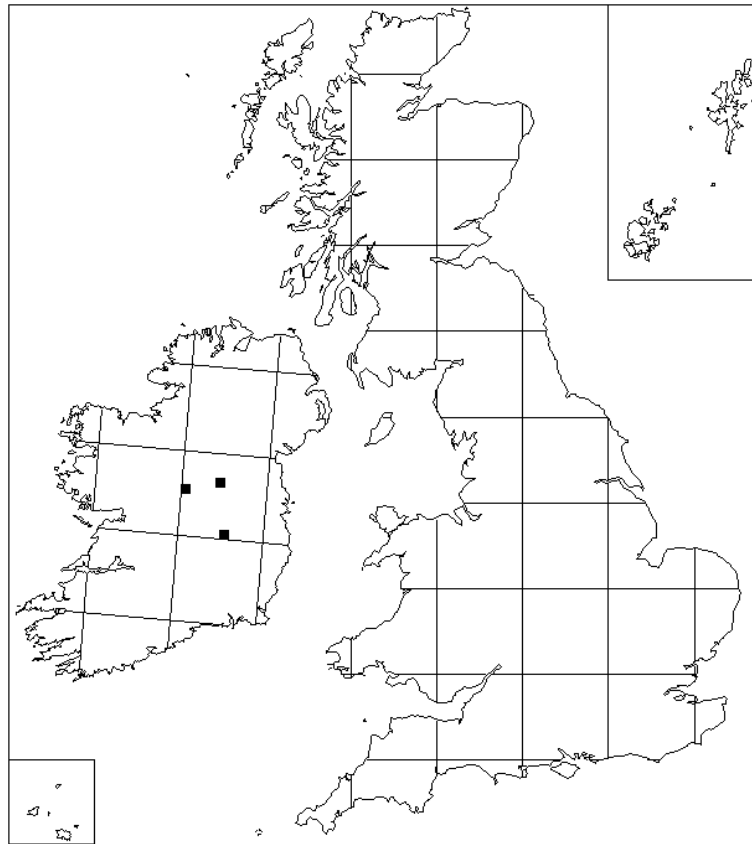


Figure 2. Distribution of *T. dooguei*

Taraxacum dooguei celebrates Dr. Declan Doogue whose copious collections, and encouragement of other Irish botanists to collect likewise, has done much to further the study of Irish *Taraxacum* in recent years.

Taraxacum dudmanianum* A.J. Richards *sp. nov.

Holotype: On verge on west side of road adjacent to NE corner of grass, chapel car park, Salem Chapel, Whitemill, Carmarthenshire (v.c.44), SN46552260, 03/05/2019, R.D. Pryce no. 1901; **NMW**. (Fig. 3).

Plant large with erect, somewhat crisped, heterophyllous leaves. Leaves rather pale green, broadly oblanceolate, unblotched, scarcely hairy, mid-rib green; petioles unwinged to narrowly winged at the base, inner pale pink, outer pallid. Lateral leaf-lobes 3-4, broad, recurved, acuminate, sometimes interspersed with a single tooth, dentate at least on proximal lobes. Terminal leaf-lobes rather short, rounded with an acuminate apex on outer leaves, much larger, to half length of leaf, helmet-shaped and with an acuminate to shortly extenuate and acute apex on inner leaves. Scapes exceeding leaves, greenish, sparsely hairy. Exterior bracts 11-14 x 3.0-3.5 mm, recurved, acute and the outer semi-circular in posture ('claw-shaped'), pale green above, unbordered. Capitula 50 mm diameter, deep yellow. Ligules striped grey-

violet, teeth yellow. Stigmas dark yellow, drying discoloured; pollen plentiful. Achene body 3.0 mm, straw-coloured; cone 0.5 mm.



Figure 3. Holotype of *T. dudmanianum* (NMW). Image: Richard Pryce.

This section *Taraxacum* (previously known as section *Ruderalia* Kirschner, H. Øllg. & Štěpánek) taxon has been known in Britain and Ireland as *T. aberrans* Hagend., Soest & Zevenb. (1974) for four decades, and before that as *T. caudatum* Dahlst. (Dudman & Richards, 1997). However, it is clear from the type description and figures from the website taraxacumnederland.nl that it is not *T. aberrans*. It appears to be identical to the taraxacumnederland.nl figures of *T. breviflorum* Dahlst. (Fig. 4).

However, online representations of the lectotype of *T. breviflorum* (**S**) are of another taxon. The British and Irish plant is familiar, widespread and not uncommon in our islands, but at present we have no valid name for it. Although it may well be recognized elsewhere in Europe, I have not been able to find its counterpart after widespread enquiries, although clearly it also occurs in the Netherlands without a valid name. Amongst recognised British and Irish species, it comes close to *T. pseudoretroflexum* M.P. Christ. in section *Taraxacum*. It differs principally by the notably claw-shaped (half-recoiled) exterior bracts, and the larger, more rounded terminal leaf lobes to the inner leaves.



Figure 4. Plant represented on the taraxacumnederland.nl website as *Taraxacum breviflorum* Dahlst., considered to be *T. dudmanianum*.

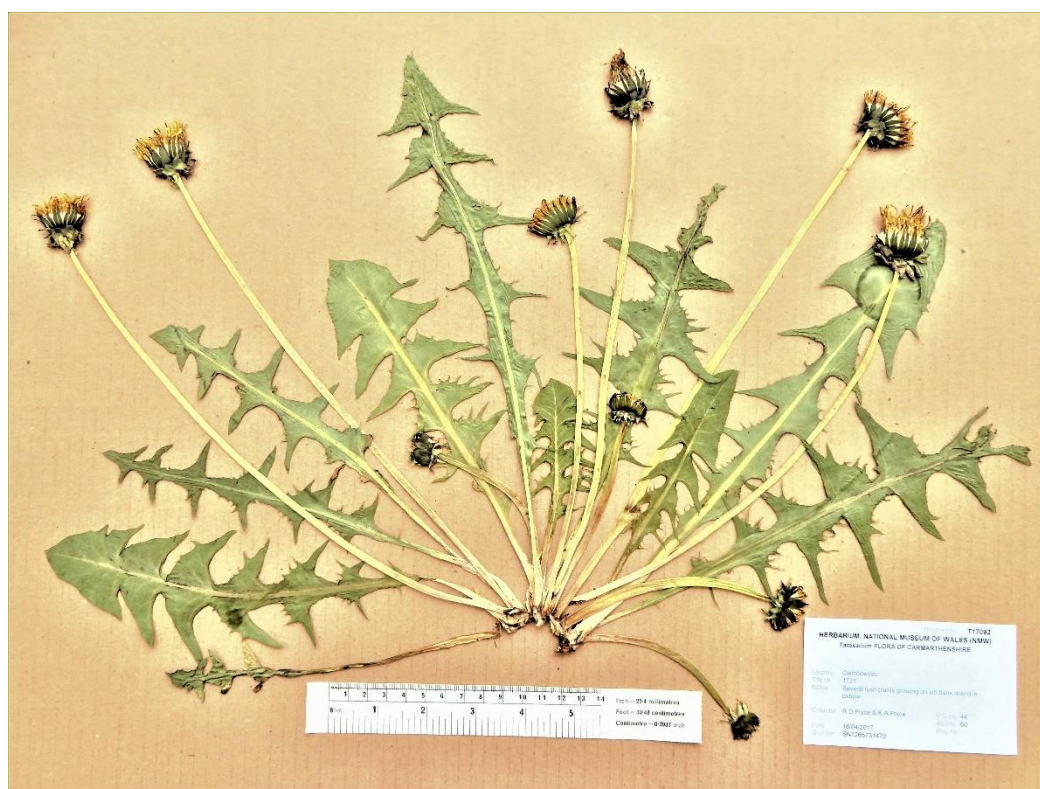


Figure 5. A representative collection of *T. dudmanianum*: several lush plants growing on silt bank island in ox-bow, Cwmcowddu, Carmarthenshire (v.c.44), SN72653147, 18/04/2017, R.D. & K.A. Pryce no. 1721; NMW. Image: Richard Pryce.

Taraxacum dudmanianum has winged petioles which are pink on the inner leaves and whitish on the outer leaves (Fig. 6), and heterophyllous leaves in which the terminal leaf-lobe is much larger in inner leaves than outer leaves at flowering time (Figs. 3 and 5). This places it in the informal group Ekmania of section *Taraxacum* in Richards (2021). In addition, like the familiar and common *T. ekmanii* Dahlst., it has pale green, rather flaccid leaves. However, *T. dudmanianum* has a short apiculate apex to the large terminal lobes to the inner leaves, and lacks the semi-lunate, somewhat sigmoid lateral lobes of the outer leaves of *T. ekmanii*. Distinctively, the outer exterior bracts have a semi-recoiled posture to give a talon-like shape (Fig. 7), an unusual feature which is best known in the otherwise very dissimilar *T. polyodon* Dahlst. This feature is the best discriminant in comparison with *T. pseudoretroflexum*, as noted above, although the two species differ in leaf-shape.



Figure 6. Petioles of *T. dudmanianum*, unwinged to narrowly winged and pink on the inner leaves, white on the outer leaves. Image: Mark Lynes.



Figure 7. Bud involucre of *T. dudmanianum*, showing recoiled outer exterior bracts. Image: Photo Tim Rich

Taraxacum dudmanianum is scattered through Britain from Devon to south-east Scotland, with three records in eastern Ireland where it may be introduced (Table 1; Fig. 8). It apparently occurs in the Netherlands, but as yet its distribution outside Britain and Ireland is uncertain. Like most members of section *Taraxacum* it favours anthropogenic habitats, road-verges and banks, hedge-rows, gardens and waste-places, although it may also occur in open semi-natural habitats.

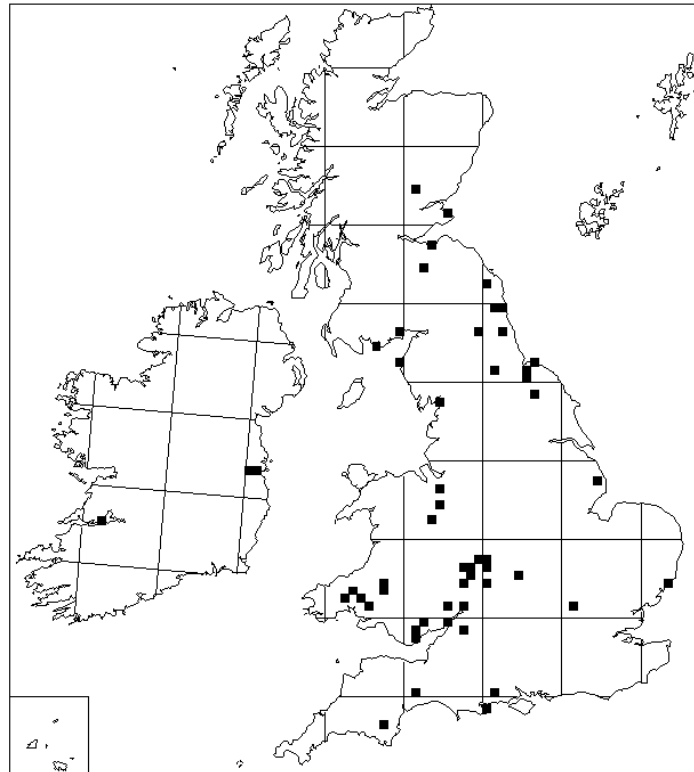


Figure 8. Distribution map of *T. dudmanianum*

Table 1. List of British and Irish records for *T. dudmanianum* authenticated by the author. Many are site records, or identified from photographs.

| V.c. | Grid reference | Locality | Collector | Date |
|------|----------------|------------------------------|----------------|------------|
| 3 | ST1401 | Between Honiton & Awliscombe | Margetts L.J. | 26/04/1992 |
| 3 | ST1500 | Tracey Bridge, Honiton | Margetts L.J. | 02/05/1993 |
| 3 | ST1501 | Tracey Bridge, Honiton | Margetts L.J. | 12/04/1991 |
| 3 | SX750689 | Lane to Pridhamsleigh | Day J.J. | 03/05/2018 |
| 9 | SZ018811 | Swanage | Leadbetter, D. | 16/04/2020 |
| 11 | SU147049 | Bickerley Common, Ringwood | Richards A.J. | 19/04/2015 |
| 20 | TL110123 | Redbourn | Richards A.J. | 15/04/2002 |
| 23 | SP487596 | Godstow Rd., Wolvercote | Flora Oxon | 01/05/1999 |
| 25 | TM3347 | Upper Hollesly Common | Heath J.J. | 08/05/1992 |
| 33 | SO786123 | Hardwicke | Marsden M. | 10/05/1991 |

| | | | | |
|----|----------|---|----------------------------|------------|
| 34 | ST551904 | under Severn Bridge & Beachley Head | Richards A.J. | 04/05/1996 |
| 34 | ST7986 | Swangrove | Rooney P. | 29/04/1989 |
| 35 | SO5210 | Near Penallt Old Church - verge | Evans T.G. | 19/04/1999 |
| 35 | ST246991 | A472, Craig Gwent - verge | Evans T.G. | 30/04/2001 |
| 36 | SO572193 | Goodrich | Marsden M. | 25/04/1998 |
| 37 | SO764458 | West Malvern | Garner P.G. | 27/04/1999 |
| 37 | SO788604 | Venn Lane Wichenford - grass verge | Day J.J. | 21/04/2012 |
| 37 | SO861521 | A4440 Broomhill Way - grassy verge | Reid A.W. | 10/04/2012 |
| 37 | SO887636 | Droitwich by-pass | Reid A.W. | 25/04/1998 |
| 37 | SO890556 | Trotshill Lane (disused section) - grass verge | Day J.J. | 01/05/2007 |
| 37 | SO946778 | Sling pool - wood pasture W side | Day J.J. | 11/05/2005 |
| 37 | SP023625 | Crofts Lane Astwood - grass verge | Day J.J. | 30/03/2008 |
| 37 | SP023711 | Field south of Grange Lane, Cobley - grass bank | Day J.J. | 11/04/2010 |
| 37 | SP036432 | Avonside, Hampton | Knight, T.D. | 19/04/1999 |
| 40 | SJ32 | Bagley | Edmondson T. | 1978 |
| 41 | ST120825 | A4054 below Castle Coch, Tongwynlïas | Rich T.C.G. | 06/04/2008 |
| 41 | ST174778 | Maindy, path west of Marlborough Terrace | Rich T.C.G. | 13/04/2010 |
| 42 | SN565163 | Coetir Bach | Pryce R.D. | 07/05/2015 |
| 44 | SN246253 | 1km SW of Cwmbach - grassy roadside bank | Hutchinson G. & Pryce R.D. | 26/04/1995 |
| 44 | SN353333 | Gorllwyn - roadside bank, side of ravine | Pryce R.D. | 25/04/1992 |
| 44 | SN782436 | Rhandirwyn Mine | Pryce R.D. | 24/04/1993 |
| 54 | TF471719 | Willoughby Village | Lynes, M. | 01/04/2017 |
| 58 | SJ46 | Little Barrow | Edmondson T. | 1979 |
| 58 | SJ430487 | Shocklach Green | Edmondson T. | 13/05/1988 |
| 62 | NZ504052 | A172, by road to Carlton - road verge | Jones V. | 23/04/2010 |
| 62 | NZ513116 | Howe Bank SE of Newby - E road verge | Jones V. | 14/05/2013 |
| 62 | NZ551173 | Flatts Lane - meadow | Jones V. | 29/04/1993 |
| 62 | NZ562110 | Romanby Road, Great Ayton - waste ground, back alley at north end | Jones V. | 21/04/2009 |
| 62 | NZ582157 | S of Windle Bridge Garden Centre - waste ground by lane | Jones V. | 28/04/2012 |
| 62 | NZ583064 | Ingleby Greenhow - road verge by vicarage | Jones V. | 05/05/2008 |
| 62 | NZ633221 | Raisbeck Gardens, Marske - waste ground at edge of footpath | Jones V. | 10/04/2012 |
| 62 | SE613879 | Carlton Park Farm, Helmsley - verge | Jones V. | 04/05/1997 |
| 66 | NZ1115 | Whorlton laneside | Jones V. | 30/04/1995 |
| 67 | NY920643 | Hexham | Richards A.J. | 1979 |

| | | | | |
|-----|----------|---|----------------|------------|
| 67 | NZ1595 | Longhorsley | Richards A.J. | 08/05/1982 |
| 67 | NZ217960 | Chevington Moor | Richards A.J. | 1980 |
| 67 | NZ246655 | Newcastle upon Tyne | Richards A.J. | 1979 |
| 68 | NU0025 | Haugh Head | Richards A.J. | 1979 |
| 69 | SD427788 | Meahop near Grange-Over-Sands | Boucher A.M. | 2012 |
| 70 | NX9828 | Workington church | Dudman A.A. | 19/05/1991 |
| 70 | NX9828 | Workington Docks | Dudman A.A. | 08/05/1991 |
| 73 | NX6145 | Borness | Stewart O.M. | 19/05/1996 |
| 73 | NX9766 | West Maryfield, New Abbey | Stewart O.M. | 12/05/1990 |
| 78 | NT263405 | Soonhope Burn | Pankhurst R.J. | 21/05/1999 |
| 83 | NT308735 | Portobello, Harry Lauder Way | Pankhurst R.J. | 09/05/1998 |
| 85 | NO599127 | Kingsbarns - bank | Pankhurst R.J. | 30/04/2006 |
| 89 | NO179450 | Blairgowrie - road verge and A93 Bankhead railings | Rich T.C.G. | 11/05/2013 |
| H8 | R246518 | Foynes | Reynolds S. | 18/03/2019 |
| H21 | O028361 | St. Catherines estate/woodland, Lucan, Dublin | Fitzgerald R. | 07/04/2020 |
| H21 | O1437 | Cremore Villas, Glasnevin | Doogue D. | 17/04/2020 |

Taraxacum dudmanianum is named in memory of the late Andrew Dudman, co-author of *Dandelions of Great Britain and Ireland* (Dudman & Richards 1997).

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