

Meadow Dandelions near Oxford

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Originally published December 2000

Published online May 2023

Summary

Almost 30 years ago A.J. Richards published a report on 'Dandelions of the Oxford Meads' (Richards 1971). My interest in dandelions was kindled when I discovered this paper as I began my study of Picksey Mead in 1981. Later the same year I met Richard Pankhurst of the British Museum. We walked across Oxey and West Mead, Yarnton and we talked about species identification, including dandelions which he was collecting at that time. I was fascinated by the idea of asexual seed production and of mother-daughter lines or 'seed clones' each of which could be recognised as a micro-species. Richards and others have been specialising in these taxa. They have increased the knowledge of them in Britain from 132 species in 1972 (Richards 1971) to 235, including c.90 non-native species, in 1997 with some 30,000 records. Identifying them, however, is a problem. Dudman & Richards (1997) list no less than 13 'golden rules' to help sort out the difficulties related to phenotypic plasticity or changes in leaf shape and colour due to different soils, moisture stress, shade, grazing or age.

Introduction

Dandelions are poor competitors yet to city dwellers they seem to be almost everywhere. They appear to invade our gardens in spring before the lawn grasses get going and the herbaceous border is weeded. They grow from cracks in the pavement, on walls and wherever there is disturbance, such as an over-grazed pasture in an urban 'pony paddock'. In other words they often follow human activity. In the countryside they are scarcest in ancient woodland and on wet acidic peat. Dudman & Richards (1997) suggest that if you want to see some 30 species growing together look along road verges and in urban wastelands.

Tim Rich, during the Warburg Lecture in February 1998, suggested that the Ashmolean Natural History Society should examine the type localities for rare species. This was taken up by its Rare Plants Group which decided to study dandelions in the meads and meadows near Oxford where a number of rare and endemic species were known to grow. A Workshop, led by A.J. Richards and A.A. Dudman, took place on the 1st and 2nd May 1999 and 20 botanists from across the country took part. We began by looking at specimens in the Fielding-Druce Herbarium in the University of Oxford Department of Plant Sciences on Saturday. Dr. Richards explained that the micro-species are grouped into nine Sections and that we would be unlikely to find any from Sections *Obliqua*, *Taraxacum* and *Spectabilia* which are confined to coastal sites (dunes), mountain cliffs in Scotland, and montane and sub-montane acid soils, respectively. He then described some of the species we were most likely to find and the critical characteristics we should look out for to aid identification. *T. palustre*, for example, has a similar distribution to the black hairstreak butterfly and is one of the very few British species with very narrow leaves and no pollen.

When doing my 'home-work' beforehand three species had stood out. *T. tamesense*, an uncommon meadow species and *T. oxoniense*, a native and widespread species. For both of these Picksey Mead was the type locality. Then there was the mystery of the endemic *T. cherwellense* which epitomises some of the difficulties within *Taraxacum* (Figure 1). A specimen collected from Shipton, Oxon., by G.C. Druce in 1927 was

designated the holotype (one plant only, collected and preserved in the herbarium which was used for the original description) by A.J. Richards in 1970. In 1988 C.C. Haworth disagreed and a year later he and A.J. Richards designated the specimen as a lectotype (one specimen of a collection of more than one plant, which is cited with the type description) other specimens on the herbarium sheet being described as an isotypes. The specimens were originally identified as *T. stenoglossum* by Dahlstedt. This was only the beginning of a delightful study.

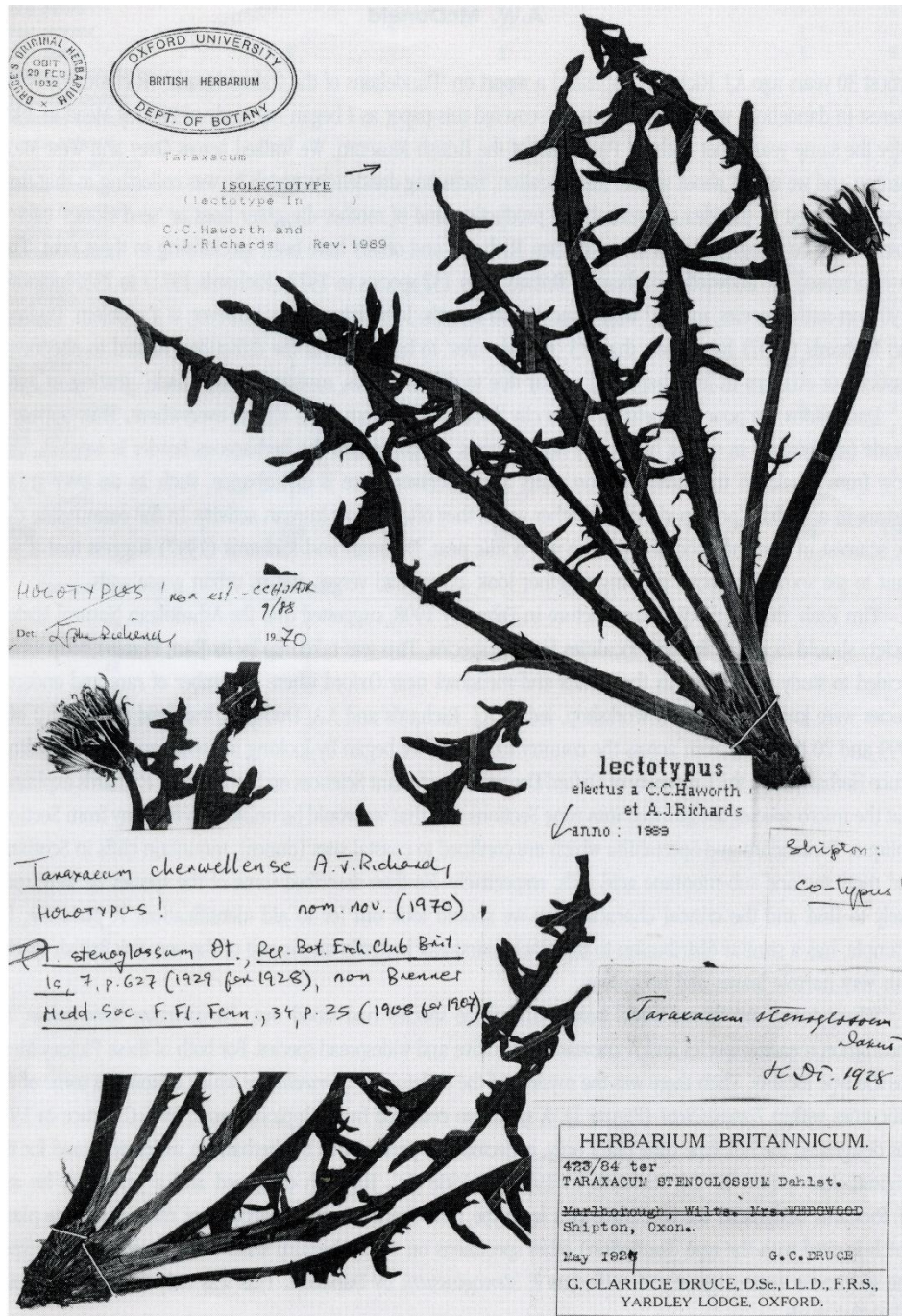


Figure 1. A herbarium sheet from the University of Oxford Department of Plant Sciences Fielding Druce Herbarium showing differences of opinion in the identification of *T. cherwellense* (reproduced by kind permission of the curator).

In beautiful sunny weather we walked through Wolvercote Meadows Site of Special Scientific Interest (SSSI) (Little and Great Baynams) to Picksey Mead SSSI, collecting and discussing dandelions. Then we went on to West Mead SSSI where geese and rabbits had grazed off the tips of dandelion leaves making additional difficulties in their identification. We ended the day with a tutorial session in Wolvercote when students were able to have their own specimens identified. Of these only those from Wolfson Mead North SSSI, Somerford Mead and Oxey Mead SSSI, collected in May 1998, are included in this report. Sunday also dawned fine and sunny. We visited the University Parks, Bernwood Meadows SSSI, Brill Common (for a picnic lunch), Woodsides Meadow (part of Wendlebury Meads SSSI) and Otmoor SSSI. We therefore searched and collected specimens from 20 locations near the river Thames, on Otmoor and in Brill, over the week-end.

Subsequently all pressed specimens were transferred to herbarium sheets, identified and checked by John Richards. Our results are presented in Tables 1 and 2, in the Appendix. The star site was Picksey Mead where we saw *T. akteum*, a new record for Oxfordshire and recorded in only one other vice-county in the UK, *T. anglicum*, another rare native, *T. coartatum*, a rare introduced species, and *T. rubrisquameum* recorded for the first time in Britain in Picksey Mead. This species was later found in Woodsides Meadow and next to Otmoor Rifle Range. It was a particular pleasure to find *T. richardsianum*, named after our leader, on Woodsides Meadow. Rare introduced species included *T. angulare* from Somerford Mead, *T. atonolobum* and *T. remanentilobum* from the University Parks. In contrast, *T. subundulatum* was found on nine sites and was the most collected microspecies in the Flora of Oxfordshire (Killick, Perry & Woodell 1998).

Table 1 (in the Appendix) summarises our results and compares the number of species we found from each *Taraxacum* Section compared with the known number of species in that Section. Overall, 35 native dandelion microspecies, including 4 endemics, were collected. We 'chalked up' one new record for the British Isles, 12 new Oxfordshire records and 10 new Buckinghamshire records. At the end of the weekend I was delighted to say that I did find *T. tamesense*, but on West Mead not Picksey Mead. Sadly, despite this wealth of microspecies, we did not find *T. cherwellense* nor *T. oxoniense* (which I discovered is not a wet meadow species) but I am still looking for them!

Acknowledgements

The Ashmolean Natural History Society of Oxfordshire Rare Plants Group wishes to thank Prof. Leaver, University of Oxford Department of Plant Sciences, Serena Marner of the Fielding Druce Herbarium, and the Superintendent of the University Parks for their support. The Berkshire, Buckinghamshire and Oxfordshire Wildlife Trust, the Ministry of Defence, and other landowners are thanked for access and English Nature for a license to collect specimens.

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Appendix

Table 1: Dandelions collected at the Ashmolean Natural History Society of Oxfordshire's *Taraxacum* Workshop held on 1st and 2nd May 1999 with other specimens collected in May 1998 by A.W. McDonald.

		Species name	Collection date and Place																			
E = endemic; N = native; I = introduced																						
Species no. in Richards & Dudman 1997																						
			Recorded in n vice-counties ^{1,2}																			
			Little Baynams SP485094 ²	01-May-99																		
			Great Baynams SP485098 ²	01-May-99																		
			Picksey south SP485098 ²	01-May-99																		
			Picksey north SP483103	01-May-99																		
			The Green, Wolvercote SP488097	01-May-99																		
			Godstow Rd. Wolvercote SP487596	01-May-99																		
			Layby next to West Mead SP466108	01-May-99																		
			West Mead, Yarnton SP469104	01-May-99																		
			Oxford University Parks SP515074	02-May-99																		
			Bernwood Meadows SP606110	02-May-99																		
			Brill windmill SP452142	02-May-99																		
			Woodside's approach track SP568174	02-May-99																		
			Woodside's meadow SP556117	02-May-99																		
			Otmoor lane SP570125	02-May-99																		
			Next to Otmoor rifle range SP523125	02-May-99																		
			St. Peter's Churchyard SP496098	01-May-99																		
			Wolfson north mead SP517083	11-May-98																		
			Somerford Mead SP461098	06-May-98																		
			Oxey Mead SP461106	15-May-98																		
			Number of occurrences																			
Erythrosperma																						
N	1	<i>T. lacistophyllum</i>	87																		1	
N	2	<i>T. brachyglossum</i>	115																		1	
N	10	<i>T. fulviforme</i>	84																		1	
N	12	<i>T. glauciniforme</i>	41																		1	

Palustria

!N	17	<i>T. anglicum</i>	9			1	1				1		1							4
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Naevosa

!N	24	<i>T. euryphyllum</i>	74													1				1
*!E	29a	<i>T. richardsianum</i>	26			1								1						2

Celtica

N	30	<i>T. gelerti</i>	93									1		1	1				1		4	
N	31	<i>T. bracteatum</i>	77			1				1					1						3	
N	33	<i>T. subbracteatum</i>	67											1							1	
*!N	37	<i>T. excellens</i>	31											1	1		1				3	
N	39	<i>T. fulgidum</i>	22	1			1			1									1		1	5
N	39a	<i>T. tamesense</i>	11							1												1
!N	40	<i>T. haematicum</i>	19									1					1					2
*N	40a	<i>T. akteum</i>	1			1	1															2
N	42	<i>T. nordstedtii</i>	114									1										1

Hamata

N	47	<i>T. hamatum</i>	117									1		1	1		1					4
*N	48	<i>T. subhamatum</i>	58								1					1						2
N	49	<i>T. hamiferum</i>	56	1																		1
*N	49a	<i>T. quadrans</i>	60																1			1
N	50	<i>T. pseudohamatum</i>	82	1		1		1		1						1						5

Ruderalia

! I?	56	<i>T. laeticolor</i>	34										1									1
I?	57	<i>T. pannucium</i>	68				1				1									1		3
!N	59	<i>T. undulatum</i>	19									1										1
N	60	<i>T. alatum</i>	72										1									1
* I	61b	<i>T. atonolobum</i>	2								1											1
I?	63a	<i>T. pallescens</i>	22									1								1	1	3

I?	63c	<i>T. necessarium</i>	18											1							1
!E	64	<i>T. sublaeticolor</i>	29	1									1								2
N	65	<i>T. expallidiforme</i>	75							1					1						2
I?	66a	<i>T. lacerifolium</i>	24	1				1	1					1				1			5
E	67	<i>T. stenacrum</i>	41									1								1	2
! I?	70	<i>T. piceatum</i>	42										1								1
I?	71	<i>T. tumenitlobum</i>	18														1				1
* I	72a	<i>T. angulare</i>	3																1		1
N	73	<i>T. ancistrolobum</i>	63	1		1	1				1	1	1	1							7
* N	74	<i>T. sellandii</i>	68								1										1
! I?	78	<i>T. angustiquameum</i>	23									1				1					2
I?	80	<i>T. aequilobum</i>	45							1	1							1			3
I	80a	<i>T. latissimum</i>	25					1													1
I	86	<i>T. vastisectum</i>	32											1	1						2
I	86a	<i>T. remanentilobum</i>	4								1										1
N	87	<i>T. cordatum</i>	87														1		1		2
*I?	88	<i>T. sagittipotens</i>	34					1													1
N	89	<i>T. ekmanii</i>	70		1						1		1								3
* I	89d	<i>T. coartatum</i>	4			1															1
?*E	90	<i>T. aberrans</i>	9							1											1
N	91	<i>T. oblongatum</i>	60										1								1
E	91a	<i>T. cophocentrum</i>	44								1							1		1	3
! N	93	<i>T. dilatatum</i>	17										1				1				2
I?	94	<i>T. sinuatum</i>	18								1										2
N	95	<i>T. dahlstedtii</i>	83						1	1	1										3
I?	96	<i>T. huelphersianum ?</i>	33															1			1
* I	96a	<i>T. fagerstroemii</i>	19											1					1		2
N	97	<i>T. subundulatum</i>	35			1	1				1		1	1		1		1		1	9
*I	99a	<i>T. planum</i>	12													1					1
I	100a	<i>T. multicolorans</i>	11				1														1

* I	100b	<i>T. nitidum</i>	9			1	1														2	
* I	103b	<i>T. acutifidum</i>	8					1													1	
I ?	105	<i>T. lucidum</i>	9								1										1	2
*!"		<i>T. rubrisquamum</i>				1	1					1			1		1					5

All microspecies were determined by John Richards.

¹ New records. Those for Oxfordshire are species not included in *The Flora of Oxfordshire* (Killick, Perry & Woodell 1998).

² Information taken from Dudman & Richards 1997.

" New record for the British Isles

! New record for Buckinghamshire

* New record for Oxfordshire

Table 2: Summary of the species included in Table 1. Most of these were collected during the *Taraxacum* Workshop, May 1999. The numbers of species we found from each *Taraxacum* Section are compared with the known number of species for that Group.

Taraxacum Section	Number of Species Found in Oxford and Otmoor Meadows	Number of Species in the UK from Dudman and Richards 1997
Erythrosperma	4	30
Palustria	1	4
Naevosa	2	12
Celtica	9	35
Hamata	5	18
Ruderalia	41	122
Total	62	221