

## The status of *Brassica oleracea* L. subsp. *oleracea* (Wild Cabbage) in the British Isles

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### ABSTRACT

The history of wild and cultivated cabbages in the British Isles is reviewed. There have been considerable fluctuations in the number and sizes of wild populations, and the species seems to be declining. Local Floras show that 'wild' sites are usually associated with the activities of man. The possible role of sea-birds in the distribution of wild cabbages is discussed. It is concluded that *Brassica oleracea*, even when growing wild on the coasts of the British Isles, should probably be considered as an introduction.

### THE HISTORY OF CABBAGE IN CULTIVATION

Johnson (1862) provided an extensive history of the cabbage. The ancient Romans and Greeks cultivated three varieties (Greek legend has it that the cabbage sprung from where Zeus' sweat hit the ground). Cato mentioned that it was either boiled or eaten raw. Later, Pliny reported that cabbage was going out of favour with the lower orders, due to the quantity of oil (which was becoming more expensive) required to make it palatable (presumably it was eaten raw). He mentioned several varieties, one of which, 'Halmyridia', grew on the sea-shore and was used as a vegetable on long voyages.

It has been suggested that the Romans first brought the cabbage to Britain (Gates 1950a). Subsequently the Saxons cultivated it (their second month was called Sprout-kale), as did mediaeval religious orders. It was also apparently cultivated in eastern Fife, where it was so popular that the people of the area were known as 'kail-suppers'. As a commercial crop it may have been introduced by Sir Anthony Ashley of Dorset, as late as the 16th century.

The cabbage was also used as a medicine. Pliny recommended gouty people to live on cabbages and the water they have been boiled in. Turner (1551) mentioned the use of cabbage as a general cure for internal disorders. Gerarde (1633) similarly chronicled its healing powers. (Saarivirta, in Virtanen (1962), has shown that one of the mustard oils of cabbage has antibiotic and fungistatic activity). Thus it would appear that the cabbage has been grown in Britain for various reasons, probably since the Roman invasion.

The derivation of the cultivated cabbage is open to question. Schulz (1936) and Gates (1950b) held the view that the range of variation in the wild cabbage, *Brassica oleracea* L. subsp. *oleracea* (*B. sylvestris* (L.) Miller) is insufficient to account for all the present-day varieties, some of which have arisen through hybridisation between *B. oleracea* and other *Brassica* species. However, de Candolle (1824) and Bailey (1922) held the opposite viewpoint.

### BRASSICA OLERACEA IN THE FLORA OF THE BRITISH ISLES

*B. oleracea* was recorded in the earliest Floras. Turner (1551) noted it growing wild at Dover, E. Kent; Gerarde (1633), who called it *B. sylvestris* ('Wild Coleworts'), saw it along the northern coast of Kent and near Colchester (N. Essex). Hudson (1762) mentioned it from Cornwall. From this period the numbers of records increased until by the beginning of the 19th century the present-day range of the species was almost covered. Watson (1847) recorded it from 12 provinces, although he considered it likely to be native in only five of these (Peninsula, Channel, Thames, S. Wales and

TABLE 1. SITING AND FIRST RECORDS OF EXTANT  
*BRASSICA OLERACEA* POPULATIONS

Locality <sup>1</sup>	1st Record	Present day <sup>1</sup> relationships to habitation	Present-day <sup>1</sup> agricultural relationships	Proximity <sup>1</sup> of sea-bird colonies
Denbigh, v.c. 50 Llandulas	1912 Dallman (1913) J. M. Brummitt (pers. comm. 1975)	by Llandulas	?	?
Caernarvon, v.c. 49 Little Orme, Llandudno Great Orme, Llandudno	1895 1805 Griffith (1895) <sup>2</sup>	at edge of town extends from edge of town	none none	nest-site nest-site
Pembroke, v.c. 45 Tenby	1773 Riddlesdell (1905)	within town	none	none
Glamorgan, v.c. 41 Flat Holm	? G. Ellis (pers. comm. 1975)	?	?	?
Southerndown to Nash Point	1850 Trow (1911)	none	none	none
W. Cornwall, v.c. 1 St Ives Prussia Cove	1909 1909 Davey (1909) <sup>2</sup>	within town by small village	none none	none none
E. Cornwall, v.c. 2 Fowey Polruan West Looe	1909 1909 1909 Davey (1909) <sup>2</sup>	at edge of town at edge of town within town	none none none	nest-site nest-site none
S. Devon, v.c. 3 Dartmouth Torquay Babbacombe	1882 1882 1829 Keble-Martin & Frazer (1939) <sup>2</sup>	extends from town within town within town	none none none	nest-site none nest-site
Dorset, v.c. 9 Durdle Door to Lulworth Cove Kimmeridge Bay Winspit to St Alban's Head	1895 1895 1895	none by small village none	none ? cabbage cultivated nearby	nest-site none none
Handfast Point	1895 Mansel-Pleydell (1895) <sup>2</sup>	none	cabbage cultivated nearby	nest-site
Isle of Wight, v.c. 10 Freshwater Bay	1860? Bromfield (1860) R. P. Bowman (pers. comm. 1974)	none	derelict fields	nest-site
E. Kent, v.c. 15 Kingsdown to Folkestone	1551 Turner (1551)	centred by Dover and St Margaret's Bay	derelict fields, cabbage cultivation	nest-site
Stoney Bay (Broadstairs)	1903 Pittock (1903)	within town	cabbage cultivated nearby	none

TABLE 1—*continued.*

Locality <sup>1</sup>	1st Record	Present day <sup>1</sup> relationships to habitation	Present-day <sup>1</sup> agricultural relationships	Proximity <sup>1</sup> of sea-bird colonies
N.E. Yorks., v.c. 62				
Whitby	1906	within town	none	roost?
Staithes	1831	by and amongst	among derelict	nest-site
	Baker (1906) <sup>2</sup>	village	allotments	
S. Northumberland, v.c. 67				
Tynemouth	1805	within town	none	nest-site
	Winch <i>et al.</i> (1805)			
Fife, v.c. 85				
Craik	1840	by harbour	cabbages & kale	nest-site
	G. H. Ballantyne	in village	grown nearby	
	(pers. comm. 1975)			
	Young (1936)			
Forfar, v.c. 90				
Auchmithie	1913	centred on village	cabbages grown	nest-site
	R. & M. Corstophine		close by	
	(1940 MS)			
E. Ross, v.c. 106				
Fortrose	1968	by a town?	?	?
	U.K. Duncan			
	(pers. comm. 1975)			

1. These data are based principally on personal observations

2. The reference applies to all the records for that vice-country

N. Wales) and was surprised it grew wild in so few places. Later (1870) he summed up his view as 'Denizen? . . . Coast cliffs, native? Inland only as an alien . . . Wild on the western coasts of France? - N.B. Exceedingly difficult to trace the native habitats of this plant.' Watson's earlier viewpoint has in essence remained unchanged to the present day (*cf.* Clapham 1962), although the authors of some local Floras were not entirely in agreement. It was considered a denizen or alien in Monmouth (Wade 1970), N. Somerset (Murray 1896), Dorset (Mansel-Pleydell 1895), S. Essex (Gibson 1862), E. Norfolk (Nicholson 1914), N.E. Yorks. (Baker 1906) and Fife (Young 1936). Wolley-Dod (1937) believed some E. Sussex sites to be adventive. However, it was recorded as native in E. Kent (Hanbury & Marshall 1899), S. Devon (Keble-Martin & Frazer 1939), E. and W. Cornwall (Davey 1909) and Glamorgan (Trow 1911). Trow commented 'It was almost certainly a true native with us, or at any rate indistinguishable from one,' although Watson had classed the Glamorgan plants as denizens. Trow's comment is interesting in the light of an observation by Syme (1863), who noted 'Red cabbage of neglected gardens at the sea-side pass back in a few generations to the condition of the wild cabbage.' I have made similar observations. It would seem that the wild derivatives of cultivated plants become morphologically indistinguishable from 'native' plants within a few years.

Through the Floras, much of the history of *B. oleracea* as a member of the British flora may be traced. It is immediately apparent that there was an increase in the number of records during the 19th century, which probably coincides with the increase in plant-recording at that time. This has been followed by a decline in the numbers of populations during the first half of this century. The decline is apparently continuing in most areas.

The sites of *B. oleracea* are nearly always associated with towns and villages, rather than being recorded 'near . . .' or 'between . ..'. This might suggest that it is almost exclusively associated with towns and villages. The ephemeral nature of many occurrences is equally notable; it must be presumed that short-lived populations (accounting for about one third of the total) were introduced.

Further information may be gained from a consideration of the siting and history of the present-day populations (Table 1). I have visited all the extant populations except those at Llandulas (Denbigh), Flat Holm (Glamorgan) and Fortrose (E. Ross), and I have searched for many of those

previously recorded. I have also received much excellent information from vice-county recorders concerning the locality and status of contemporary populations.

The population on the Great Orme (Caernarvon) was recorded as 'rare and local' by Griffith (1895). He gives the first record as 1805, when it was recorded from the north-east side, i.e. above Llandudno. The species is now to be found all around the seaward side of the headland. The Little Orme population (first recorded by Griffith (1895)) is probably derived from that at the Great Orme, possibly by the seeds being carried by sea-birds (see Gillham 1970). The Llandulas (Denbigh) population was first recorded in 1912 (Dallman 1913).

The population at Tenby (Pembroke) was first recorded in 1773 (Riddelsdell 1905), the present-day plants growing around and in back gardens, as well as along the neighbouring cliffs. Falconer (1848) queried whether the plants were '... Truly wild?' The very local siting in association with an old town suggests that the species may have been introduced.

*B. oleracea* has particularly declined in Glamorgan. In the 19th century, populations extended from Southerndown to Barry Island, including a number of towns and villages (Trow 1911), but they have now retreated westward, extending only to Nash Point. The population which became extinct most recently (probably during the 1960s) was at Barry Island (G. Ellis pers. comm. 1975).

During the 19th century there appears to have been an almost continuous series of populations along the Cornish coast from St Germans (E. Cornwall) around to St Ives (W. Cornwall) (Davey 1909), although many of these are now extinct (L. J. Margetts pers. comm. 1975). There are records dating back to the 18th century (Hudson 1762), all of which are associated with towns and villages. Again this suggests the populations are adventive.

In N. and S. Devon populations have come and gone (Keble-Martin & Frazer 1939), although there are still large populations at Dartmouth and Babbacombe. At the former site, *B. oleracea* grew particularly around the castle (in 1882) at the edge of town, but now the population extends for some kilometres westward along the coast. This again suggests the plants are adventive.

The expansion of *B. oleracea* in Dorset is well documented. It was first recorded in 1813, on Portland, where it is now extinct. In all its other sites it was rare in the late 19th century (Mansel-Pleydell 1895). There are now extensive populations at Durdle Door to Lulworth Cove and St Alban's Head to Winspit, as well as fewer plants at several other sites. Cabbages are cultivated alongside some of these sites, suggesting a source for the wild plants.

The first record for the Isle of Wight must be pre-1616 (due to Lobel, who died in 1616), although it was not published until 1665 (Townsend 1883). Townsend interpreted a comment made by Lobel, which suggested that during Lobel's lifetime *B. oleracea* had become scarce after a former abundance. At the time of Townsend, the species was very rare, the few sitings being regarded as introductions. The only present-day population, 1 km east of Freshwater Bay (R. P. Bowman pers. comm. 1974), may be associated with a record due to Bromfield (1860) further to the east, although there is no information on this point.

The Dover (E. Kent) population is unique in that it has been recorded as growing wild for over 400 years. This population has perhaps the strongest claim to native status, yet Dover has had extensive garrisons for centuries and has been a major route for invaders. It was also one of the main areas of Saxon settlement during the early post-Roman period. Thus cabbages may have been grown here for food since 500 A.D. or earlier, and it is still a major area for cabbage cultivation. The other E. Kent population, by Broadstairs, grows very close to cabbage fields.

It should be noted that *B. oleracea* is recorded as native on the corresponding chalk cliffs of the French channel coast (Rouy & Foucaud 1895, Coste 1900), although Grenier & Godron (1848) suggested it was adventive.

The Whitby and Staithes populations (N.E. Yorks.) grow around habitation. In Whitby the plants extend up from back gardens, whilst at Staithes they grow particularly around old allotments, which, the owner tells me, have been cultivated for centuries. These populations are almost certainly introductions.

The history of the Tynemouth (S. Northumberland) population is somewhat different in that it grows around an old priory and garrison. Local folk-lore has it that cabbages were cultivated by the monks and have since become naturalized (there is a local name of 'Monk's Cabbage'). Certainly they have been recorded since 1805 (Baker & Tate 1867). If this folk-lore is true, then these plants may be ancient escapes from cultivation.

Of the series of populations that formerly grew along the north side of the Firth of Forth, all

are extinct apart from that at Crail (Fife). This latter population, first recorded in 1840 (G. H. Ballantyne pers. comm. 1974), is almost certainly introduced. It grows by the village, extending down from gardens to the shore. There appear to be some plants of very recent origin, since it is possible to identify individuals closely resembling *B. oleracea* L. var. *capitata* L. 'January King' and 'Dutch Savoy'. The Auchmithie (Forfar) population is probably also derived from garden escapes. It extends along from the village and allotments (where cabbages are still grown) to neighbouring cliffs.

Apart from the extant vice-county records, there have been populations (mainly short-lived) in Durham (Winch *et al.* 1805), E. Norfolk (Nicholson 1914), N. and S. Essex (Gerarde 1633, Gibson 1862), E. and W. Sussex (Arnold 1907, Wolley-Dod 1937), S. Hants. (Townsend 1883), N. Somerset (Murray 1896), Monmouth (Wade 1970), Westmorland (Wilson 1938) and Guernsey (Marquand 1901). McClintock (1975) reports that none of the Guernsey records has been substantiated.

*B. oleracea* has never been established in Ireland. It is not mentioned by Praeger (1901, 1934) or by Webb (1959), although Druce (1932) recorded it from Mid Cork and Perring & Walters (1962) from E. Cork. Hooker (1870) included Ireland in the distribution of the species.

*B. oleracea* is also mentioned in many Floras as a casual.

To the best of my knowledge the only extant populations of *B. oleracea* are those in Table 1, although, as Perring & Walters (1962) show, the species has been recorded from many more sites.

#### DISCUSSION

In the British Isles most extant populations of *B. oleracea* seem to have originated from cultivation. Other authors have similarly questioned the status of northern European populations, e.g. Hegi (1919) suggested that *B. oleracea* growing on Heligoland was introduced (it was not mentioned in a 16th century species list) and that other northern European populations were introductions. Gates (1950b) mentioned that Ascherson considered the true *B. oleracea* to be confined to the Mediterranean, the plants on the British Isles coasts being escapes from cultivation, but in contrast he (Gates 1950a,b) believed it to be native around northern European coasts.

Certainly, cabbages have grown wild in the British Isles for several hundred years. The fact that the Saxons named a month 'Sprout-kale' suggests that they cultivated cabbages. Similarly 'kail' has apparently been grown or gathered for many centuries in Fife. If *B. oleracea* was found in pre-Roman Britain then it should probably be classified as native. If, as seems likely, the Romans or Saxons brought the cabbage to the British Isles, then it is a denizen. Certainly most contemporary populations seem to be of recent and impermanent status. That wild *B. oleracea* is strongly associated with man seems to reinforce this latter point. Thus the distinction between introduced and native populations as recorded by Perring & Walters (1962) should be regarded with some caution, since the majority of these may be introductions.

However, there is a possible complication. Many of the populations are closely associated with sea-bird colonies (Table 1). There is slight evidence that *B. oleracea* seeds may be distributed by sea-birds (Gillham 1970). An increase in the population and 'civilization' of man in the British Isles over the last century has been accompanied by an increase in gull populations, particularly of the herring gull (*Larus argentatus* Pontopp.). This gull feeds on domestic rubbish and breeds on headlands and off-shore islands, often close to towns and villages. I believe the Little Orme population may have arisen by means of sea-bird dispersal. If gulls are an important factor in distribution, then the association of man and *B. oleracea* could be coincidence. The role of sea-birds is, I believe, non-proven, although they may well help in the distribution of seeds to guano-rich sites (cultivated cabbages require high nitrogen levels). If this is so, it is difficult to see why wild cabbages are so scarce and on the decrease.

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