

HIPPOPHAE RHAMNOIDES IN THE BRITISH ISLES

By E. W. GROVES

INTRODUCTION

My interest in *Hippophae rhamnoides* L. was first aroused by a record of Goddard (1949) who had observed hooded crows on the sand dunes eating its berries in such quantity that their castings consisted almost entirely of the skins and seeds. This evidence seemed contrary to the normal view among horticulturists that the Sea-buckthorn is to be highly recommended as an attractive winter-fruiting shrub because it is said that birds will never eat the berries 'however pressed by hunger' [cf. Bean (1951), Chittenden (1951), and others]. While it may be that in gardens the berries are little prone to become an item of avian diet the statement does not, in view of Goddard's observations, appear to hold true for fruiting *Hippophae* in coastal areas.

One exception does not prove the rule, but it left me wondering if this might not explain a number of records where the plant has been found growing in unusual places to which the seed must have been taken by an agency other than man. A desire for further evidence to substantiate this dispersal theory led me to investigate the general distribution of *Hippophae* in the British Isles. Though well aware of its incompleteness I feel that the information I have so far accumulated is now worth placing on record.

GEOGRAPHICAL RANGE

Hippophae rhamnoides is a north temperate species occurring as a native from the British Isles, Scandinavia and the Pyrenees in the west, through south Europe as far east as Dahura, Mongolia and Western China (Szechwan). It is, or has been, frequently planted ornamentally or as a sand-binder in many of the Old World countries and has also been introduced into gardens in North America.

PALAEOLOGICAL RECORD IN EUROPE

It is now considered that *Hippophae* was widely dispersed over N.W. Europe during the Late-glacial period and with the retreat of the ice cap became a forerunner of the forest element that spread northwards to Scandinavia. Later as the forest became more dense it was restricted to the less competitive habitats in valleys and on the sea coasts (Godwin, 1956). In quaternary deposits the pollen of *Hippophae*, at first confused with that of *Fagus*, is now easily recognised and such evidence on

the Continent, at least, is often supplemented by the identification of the characteristic stellate hairs found on the stems and leaves. Except in deposits from the interglacial site at Hoxne in Suffolk where these hairs were recognised, all determinations of *Hippophae* in Late-glacial and early Post-glacial layers in Britain have been based on the identification of the pollen. It has so far been distinguished from Jersey (once only, in shore peat) in the Channel Islands, and in vice-counties 11 (S. Hants), 25 (E. Suffolk), 40 (Salop), 62 (N.E. York), 69 (Westmorland), 93 (N. Aberdeen) in England and Scotland, and H.31 (Louth) in Ireland. Godwin comments that "there seems good reason to regard *Hippophae* as a possible periglacial survivor, accomplishing the adjustment to Post-glacial conditions by some shift in habitat, not necessarily accompanied by any ecotypic differentiation, and, as in Scandinavia, the present distribution is undoubtedly relict from a time of much more widespread occurrence."

THE SPECIES IN THE BRITISH ISLES

Sea-buckthorn is dioecious, and to produce fruit, male and female bushes must grow near one another. This explains why some colonies have been reported as never bearing berries, for probably all plants in a given colony are of the same sex. Along the sea-shore and sand dunes, *Hippophae* first assumes a procumbent habit 2-3 ft. high, then, if undisturbed by shifting sands, it will grow to shrub size, sometimes forming dense thickets (as at Burnham and at Freshfield) up to 8-10 ft. or even higher. There are two ways by which it may spread naturally: these are (a) vegetative multiplication by underground stems, and (b) dispersal of the seeds by birds, which has hitherto received little attention. In vegetative multiplication the parent bushes send out long underground stems that traverse bare sand patches a few inches below the surface, their presence being indicated by small aerial shoots rising every so often along the length of the stem. These in turn develop into daughter colonies. There is a record of such suckers reaching 30 ft. from a tree in a garden at Hexworthy, Cornwall (Thurston, 1930).

On the Continent, Sea-buckthorn not only occurs in the same maritime habitats as in the British Isles, but it also colonises the gravel banks of alpine streams (e.g. in the Alps and Balkans) and the shingle at river bends (e.g. in Switzerland and the Rhone Valley). Recently Van Soest (1952) has described these two forms as subspecies; that on the sand-dunes as subsp. *maritima* and that from the gravels as subsp. *fluvialis*. Only the maritime form has so far been recognised in Britain.

The first British record for *Hippophae* is found in Parkinson (1640), who gives it as "in our own land by the sea coasts in many

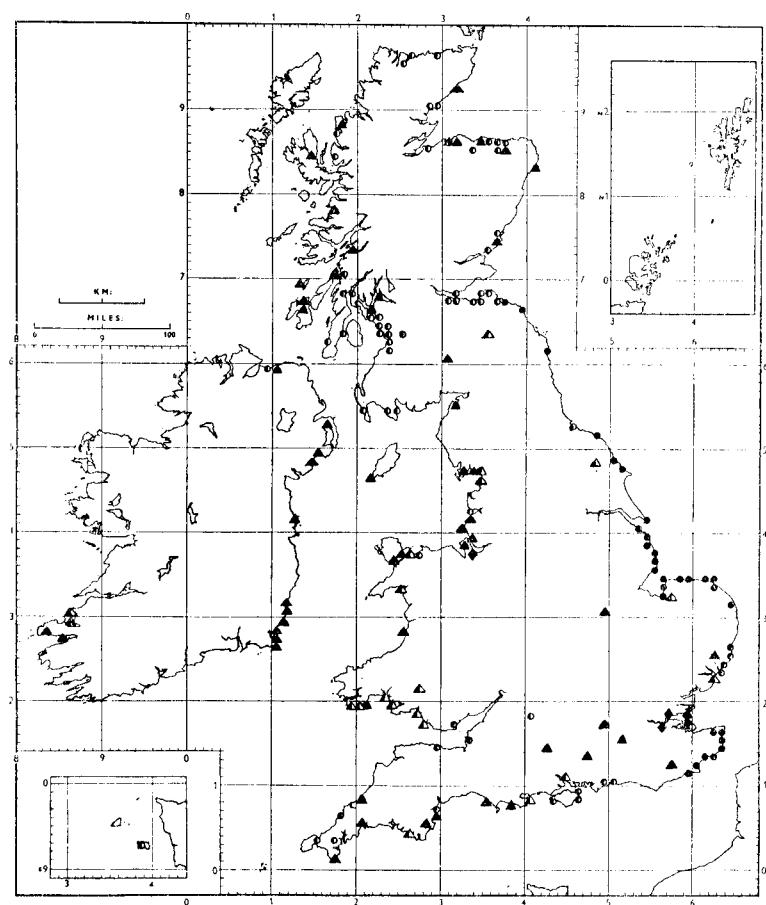


Fig. 1. Distribution of *Hippophae rhamnoides* L. in the British Isles.



= native



= originally planted



= origin uncertain



= probably bird-sown



= now believed extinct

places" but mentions no locality. The first place-mention is given by Merrett (1666) as "betwixt Sandwich and Deal". Recently Mr. A. E. Smith, Secretary of the Lincolnshire Naturalists' Trust, informed me that local Court Rolls of the 14th and 15th century reveal that certain local residents were fined for cutting 'thorn' on the "meles" (sand dunes).

It is not yet known when our native Sea-buckthorn first came into general use as a sand binder. Examination of other local historical records elsewhere in the country may shed further light on this point. The comment of Scully (1916) (see discussion under the records given for v.c. H.2) would suggest that it was recommended in the late 18th century to landowners for planting on estates bordering the sea.

A map for *H. rhamnoides* in Eurasia by Servettaz, reproduced in Hegi (1926), does not give the correct distribution for the British Isles. The whole of the southern half of England is dotted whilst the northern part is left without any distributional indication at all. The eastern geographical limit of *Hippophae*, shown as Japan and Kamchatka on the same map, is also inaccurate, and in view of these errors I am re-examining the whole of the range of the species.

A more satisfactory map can now be presented for the British Isles (Fig. 1) in the light of the present distributional studies, although the results pose more problems than they answer. A few points about the map must first be mentioned. Various methods of cartographic representation of the distribution of a species, together with their merits, were discussed by Clapham (1951) and Stearn (1951). Some are liable to give a distorted impression of the true status, particularly when whole vice-counties are blacked in on an outline map. The system adopted for the accompanying map is that in use for the B.S.B.I. Distribution Maps Scheme: each symbol represented indicates one record for one 10 Km. square—a relatively small yet distinct area when the map is reduced to the size of this page. I have gone through all the available records and assessed them, first, according to the information given about each occurrence, and, secondly, in relation to the distribution as a whole, and have assigned each into one of five categories. Plants at a given place may be:—

1. Quite certain to be native.
2. Known to have been planted or have originated from a planting in the first instance, e.g. escapes from a garden.
3. Probably bird-sown.
4. With inconclusive evidence as to their origin. Plants of this category may equally well have been:
 - (a) Planted originally and since become denizen, or
 - (b) bird-sown in the first instance but now well established, or

- (e) originally native, but so adapted by man that only the utilitarian history is now known (e.g. as a sand-binder).

5. Now extinct.

Hitherto Sea-buckthorn has been considered native along the east and south-eastern seaboard counties of England from East Sussex to N.E. York only. In the light of present studies, I consider this distribution should be extended northwards to include Cheviotland and Berwick. It may also be that *Hippophae* was originally native in Haddington (see discussion under records for v.c. 82), but until further evidence comes to light, records from this vice-county (together with many other Scottish records) have been placed in category 4 for representation on the map.

It is somewhat difficult when dealing with records of a species like *Hippophae*, which is so often planted in gardens and elsewhere, to decide where to draw the line between those to be included and those that must be left out. In my appeal for records of this species (*Proc. B.S.B.I.*, **2**, 194-195) I asked for information about recent plantings to be included with any records of wild plants so that in future it may be possible to suggest likely sources of origin for further unusual inland occurrences. One such planting is that near Flimwell on the Hastings road (v.c. 14), where Sea-buckthorn (male and female bushes) has been planted as a road beautifier. Such records as this however, have not been included on the present map.

VICE-COUNTY RECORDS

It is now possible to bring the vice-comital distribution given by Druce (1932) up to date. He records *Hippophae* from 39 vice-counties in the British Isles. In the present paper it is recorded from 81 vice-counties and those that are additional to Druce's are indicated by an asterisk.

The herbarium material it has so far been possible to examine, or obtain records from, is indicated by the following abbreviations:—

BFT=Queen's University, Belfast

BM=Department of Botany, British Museum (Natural History), London

CGE=Botany School, University of Cambridge

DBN=National Museum of Ireland

E=Royal Botanic Garden, Edinburgh

K=The Herbarium, Royal Botanic Gardens, Kew

NMW=National Museum of Wales

OXF=Department of Botany, University of Oxford

SHD=Sheffield University

SLBI=South London Botanical Institute, London, S.E.24

TCD=School of Botany, Trinity College, Dublin

Other contractions used are:—

n.d.=no date

n.a.=no authority

n.c.=no collector

V.c. *0. CHANNEL ISLES: Jersey, 1840, *J. Dickson* (cge).

1. W. CORNWALL: Earliest notice: without precise locality, (*Watson*, 1883). Near W. end of Hayle causeway, a few yards from the railway bridge, 1921, *E. A. Rees* (*Thurston & Vigurs*, 1922). Near St. Erth Station, *E. G. Gilbert* (*Davey*, 1909). About the Lizard in churchyards and gardens, for 25 years 'but never spreads', n.d., *F. T. Richards* (*Davey*, 1909). Between the Lizard and Cadgwith, 'one or two apparently young shrubs at edge of field', 1955, *J. C. Gardiner*. Devoran Quay, 1900, *F. Hamilton Davey* (*J. Bot.*, **38**, 355). About 3 miles E. of Ponsanooth, n.d., (*Davey*, 1901). Newquay, n.d., *J. V. S. Müller* (*Davey*, 1909).
- *2. E. CORNWALL: Gribben Head, in a rough stunted plantation, 1920, *W. Tressider* (κ); 'many plants', (*Thurston*, 1930). Trethevey, near Tintagel, one tree, ? male, 'probably planted in the late 1920's', 1956, *R. I. Swarder*.
3. S. DEVON: Earliest notice: without precise locality, (*Watson*, 1883). Torquay, n.d., *Mrs. App* (*Keys*, 1865-1871). Thurlstone sandhills, 'a few plants only and not flourishing', 1934, *G. T. Fraser* (*Martin & Fraser*, 1939). Dartmouth, in grounds of R.N. College, n.d., (*Martin & Fraser*, 1939). Dawlish Warren, 'thriving and spreading among the bungalows opposite Exmouth', n.d., (*Martin & Fraser*, 1939).
- *5. S. SOMERSET: Minehead, on sand dunes between the Strand and golf course, 1943, *J. B. Marshall*.
- *6. N. SOMERSET: Earliest notice: c. 1878, Stert Point (see below). Redcliffe Bay, near Portishead, 1958, *I. R. P. Heslop*. Berrow sand dunes, near Burnham: several gatherings in BM, κ, SLBI, the earliest being collected in 1899, *H. S. Gregory* (BM); an 'impenetrable thicket', 1949, *B.S.B.I. Excursion* (*Year Book*, *B.S.B.I.*, **1951**, 38). The first mention of *Hippophae* for this vice-county is probably that given by Whistler (*J. Bot.*, **13**, 249) who says it was introduced by the Rev. H. A. Daniel by seed from Ireland 'some fifteen years ago' (i.e. circa 1878) and planted in a churchyard at Stert Point at the mouth of the River Parret below Bridgwater. He suggests that bird-carried seed from this may have given rise to the colony at Burnham. Although the Point is only about a mile the other side of the estuary from Burn-

ham, the well established colony on the sand dunes near the latter is more likely to have arisen from *Hippophae* planted on land adjoining the lighthouse and said by Fry (*J. Bot.*, **31**, 280) to be already spreading outside towards the golf links in 1888. Some of the older shrubs in this well known colony at Berrow are to-day nearly 15 ft. high.

- *7. N. WILTS: Lydiard, near Swindon, 1937, *J. D. Grose* (K).
- *9. DORSET: Earliest notice: 1884, Swanage (see below). Hedges, Abbotsbury, and in Lord Ilchester's tropical garden 'where it is a troublesome weed', 1891, *J. C. Mansell-Pleydell* (*Mansell-Pleydell*, 1895); 1895, *L. V. Lester-Garland* (K); 1931, *R. Meinertzhagen* (BM). Swanage, 1884, *H. N. Ridley & W. Fawcett* (BM); n.d., *Rev. Moyle Rogers* (*Mansell-Pleydell*, 1895); on chalk downs above the town, 1954, *I. R. P. Heslop* (*Entomologist*, **88**, 140-141). Lulworth, 'extending from a garden on to the chalk down', 1953, *I. R. P. Heslop* (*Entomologist*, **88**, 140-141).
10. ISLE OF WIGHT: Earliest notice: 1886, East of Seaview (see below). Yarmouth, 1956, *Mrs. J. E. Smith*; low bushes, no fruit seen, 'probably planted as sand binder', 1956 & 1957, *R. I. Swarder*. Alum Bay, cliff top, 1950, *Mrs. L. M. P. Small* (BM); 1956, *G. Halliday*. Totland Bay, 1900, *C. E. Palmer* (oxf). East of Seaview nr. Ryde, 1886, *J. Fraser* (K); sea cliffs between Seaview and St. Helens Spit, 1894, *J. Vaughan* (oxf); Priory Bay, S. of Seaview, 'masses of shrubs', 1950, *Mrs. L. M. P. Small*; St. Helens Spit, 1898, *A. Loydell* (oxf); 1900, *C. E. Salmon* (BM); 1910, *J. E. Lister* (ccf); 1911, *H. E. Fox* (oxf). Duver, St. Helens, 'in fruit', 1956, *R. G. B. Laidlaw*; bearing fruit in considerable quantity, 'planted as a sand binder', 1956 & 1957, *R. I. Swarder*. According to Stratton (1909) *Hippophae* was 'very rare' in the I.O.W. at the time he wrote, citing only the one locality at St. Helens. By 1931, however, Drabble & Long (1932) state that it was 'certainly not rare now' and 'fruits freely (e.g. at Totland) and may be bird-sown in many of its stations'.
- *11. S. HANTS: Bushes 2 miles from Calshot Point, 1927, *R. Findlay* (K).
- *12. N. HANTS: Shipton Bellinger, a single bush in a pine plantation, 1957, *F. Perring*. Naturalised at Blackmoor†, 1889, *T. Rowston* (oxf).
- *13. W. SUSSEX: Rewell Wood, 'no doubt planted', n.d., *Miss V. Smart*; 'several bushes [there] in 1937', *B. T. Loune* (*Wolley-Dod*, 1937). "Scotland Braw" hillside, 2 miles

†Probably in the grounds of Blackmoor House, Selborne.

- N.W. of Arundel†, 'up to 15 ft., growing with yew and box and spreading over open grassland as bushes and seedlings', 1946, *J. B. Calman* (κ). East of the river at Littlehampton, 'planted extensively', n.d., *B. Reynolds*; 'only 2 or 3 plants left by building in 1933', *Mrs. LeLacheur* (*Wolley-Dod*, 1937).
14. E. SUSSEX: Earliest notice: Camber sands, 1876 (see below). Camber sands, Rye, 1876, *B. Helyer* (BM); 'a large patch opposite Rye Harbour, n.d., (*Bloomfield*, 1878 & 1883); 1881, *F. C. S. Roper* (BM) and cited in *J. Bot.*, **19**, 370; 1897, *T. Hilton* (BM); 1950, *Miss Webb* (BM); two large colonies, 1956, *P. H. F. White*; 'common at this old site, 1956, *W. B. Williams*. *J. H. Jenner* thought it was extinct at this Camber site in 1914 but it did not become so for by 1937 there was 'a sufficiently large patch to annoy the golf players' (*Wolley-Dod*, 1937). The colony still flourishes, as the above records show. Eastbourne Cemetery, 'no doubt planted', n.d., *W. Cusstick* (*Wolley-Dod*, 1937). *Wolley-Dod* (1937) also gives a record attributed to a Mr. Johnson in Rev. Hilderic Friend's notes, of *Hippophae* being 'on cliffs and Crumbles at Eastbourne' but states that there has been no recent note and the record is doubtfully correct.
15. E. KENT: Earliest notice: "Betwixt Sandwich & Deal" (*Merrett*, 1666). Lydd-on-Sea, 'one plant', 1946, *F. Rose*. New Romney, 1875, *F. J. Hanbury* (BM); 1934, *E. C. Wallace* (BM). Greatstone dunes, abundant, 1947→, *F. Rose*; 'large bushes', 1957, *P. J. Matthews*. Along the Hythe-Dymchurch road, 'about two dozen bushes', 1956, *L. J. Margetts*. Material in BM, κ, SLBI and CGE has been collected at various localities near Folkestone (e.g. Eastwear Bay, The Warren, Lydden Spout, between Folkestone and Dover, and between Folkestone and Hythe), the earliest gathering being that made in 1816, n.c., (BM). Dover, 1876, *E. de Crespigny* (BM); 1882, *A. Bennett* (SLBI); 1903, *A. Prior* (κ). West of St. Margaret's, 1801, *L. W. Dillwyn* (*Trans. Linn. Soc.*, **6**, 182). Walmer, n.d., *W. Whitwell* (*Hanbury & Marshall*, 1899); 1949, *L. W. Wilson*. Many gatherings have been made from Deal, sheets of which exist in BM, κ, E, SLBI, OXF and CGE; the earliest of them being one collected in 1833, *Munge* (κ). (See also earliest notice above.) Sandwich Bay, dunes close to golf course, 1956, *F. Scott*. Pegwell Bay, 1947, *B.S.B.I. Excursion (Year Book, B.S.B.I., 1949, 44)*. Between Shellness at the mouth of the River Stour and Sandwich, 1947, *B.S.B.I. Excursion*.

†This may be the same as the Rewell Wood locality.

- sion (*Year Book, B.S.B.I.*, 1949, 41). Near Faversham, 'planted', n.d., *F. J. Hanbury (Hanbury & Marshall, 1899)*. In a salt marsh 2 miles from Sheerness, 'two small trees of it', [prior to 1746], *John Hill (BM)*†.
- *16. W. KENT: East of Cuckoo Wood, Downe, 'one tree', n.d., *W. C. R. Watson (Kent & Lousley, 1951-57)*. There is an undated sheet in BM of *Hippophae* collected by *J. Price (Herb. Daniel Cooper)* localised as 'below Gravesend'. If it was in fact from this locality then the most likely place would have been on the Shorne or Higham marshes. Turner & Dillwyn (1805), Watson (1835) and again by Cooper (1836 & 1837) are wrong in their respective works in attributing authority for *Hippophae* at Gravesend to Blackstone (1746) who gives it clearly enough as being 'two miles from Sheerness'. If Blackstone did in fact publish a Gravesend record somewhere it has so far eluded search.
- *17. SURREY: In a hedge at Camilla Lacey, Burford Bridge, 'planted', 1936, *H. J. Burkill (Rep. Bot. Soc. & E.C., 11, 277)*, and cited by Kent & Lousley (1951-57).
18. S. ESSEX: South Shoebury, 'escaped', n.d., *E. Forster (BM)*, and cited in *Gibson (1862)*. Near Canvey Island, n.d., (*Blackstone, 1746*, repeated by Turner & Dillwyn, 1805, and Watson, 1835); rare, (*De Crespigny, 1877*).
- *19. N. ESSEX: Crabnowe Spit, Little Oakley, S. of Harwich, 'one specimen', 1955, *D. Philcox*.
- *22. BERKS: Windsor Home Park, near a large stream, 'planted in heavy soil at edge of chalk slopes, forming large masses and rapidly spreading vegetatively and by seed', 1929, *C. E. Hubbard (κ)*.
25. E. SUFFOLK: Earliest notice: 1773, (without precise locality), in Sir *J. Cullum's* Naturalist's journal (*Hind, 1889*). Wilford Bridge, Melton, near Woodbridge, 1946, *Mrs. P. Warburg*. Bawdsey, near Woodbridge, by road to the ferry at mouth of River Debden, 1932, *Mrs. A. M. Shaw (κ)*; 'mostly planted', *H. K. Airy Shaw (Rep. Bot. Soc. & E.C., 7, 595)*. Sandy lane between Shottisham Church and Sutton Heath, 'in great plenty', n.d., *Mr. Holmes (Hind, 1889)*. Sudbourne and Iken, 1951, *B.S.B.I. Excursion (Year Book, B.S.B.I., 1952, 38-39)*. Cliff beyond Thorpe, near Aldeburgh, 'plentiful', 1901.

†Although no date is given on the herbarium sheet this specimen must have been gathered before 1746 as Blackstone (1746), 82 quotes Mr. Hill as his authority for *Hippophae* at this locality. It is difficult to suggest where this station could have been though Rushenden marshes just below Queensborough are approximately 2 miles up the River Medway from Sheerness if one follows the Sheppey coastline. Marshall & Holmes (1908) give *Hippophae* as being 'extinct [now] in Sheppey'.

- A. & J. Bennett* (BM). There are several literature records for the last mentioned station; the earliest, circa 1840-50, is given in Hind (1889).
27. E. NORFOLK: Earliest notice: 1801, Hemsby (see below). Sea-buckthorn occurs at intervals along the E. Norfolk sandhills from Caister to Winterton and there is material from this coastline in BM, K, SLB, OXF and CGE. It is probable that all of the older gatherings labelled Yarmouth came from the dunes just north of the town (i.e. at Caister or Hemsby). The earliest dated specimen seen is from Hemsby, 1801 [*W.J.*] *Hooker* (K) though perhaps that of Dawson Turner from 'near Yarmouth', n.d., *E. Forster* (BM) is even earlier. This last may also have been the material which, according to the accompanying text in Smith and Sowerby (1797), was sent by Turner for figuring on Tab. 425 of that work.
- Between Cromer and Mundesley, 'abundantly', n.d., (*Turner & Dillwyn*, 1805, and *Watson*, 1835). From Cromer southwards to Overstrand†, on cliff and on the landslip, 1956, *J. B. Evans*.
- East of Cromer, a short distance from top of cliffs, 1952, *W. B. Turrill* (K). Cromer, 1892, *D. M. Higgins* (BM); 1909, *C. Waterfall* (SHD); 1948, *A. H. G. Alston* (BM). Cley and Sheringham Cliffs, n.d., *Croce* (*Turner & Dillwyn*, 1805, and *Watson*, 1835).
28. W. NORFOLK: Earliest notice: 1878, Heacham (see below). Wolferton, on fixed shingle, 1956, *E. L. Swann*. Heacham, sandy sea shore, 1878, *C. Babington* (BM). Hunstanton, 1914, *A. Shrubbs* (CGE). Between Old Hunstanton and Holme, 'one large colony on sand dune, shrubs 6 ins. to 3½ ft. high', 1933, *C. E. Hubbard* (K). Holme-next-the-sea, 1915, *A. S. Marsh* (*J. Ecol.*, **3**, map opp. p. 92); 'well-established fruiting thickets', 1956, *E. L. Swann*. Appleton, in old chalk pit near water-tower, 'bushes up to 10 ft. high', 1942, *C. E. Hubbard* (K). Holkham & Burnham Overy Staithe, 1956, *E. L. Swann*. Wells, mature sand dunes, *R. P. Bagnall-Oakley* photograph, Plate XX, in *Hepburn* (1952).
- *41. GLAMORGAN: Penarth, 'alien', n.d., *H. J. Riddelsdell* (*J. Bot.*, **45**, Suppl., 86). Merthyr Mawr Warren, 1924, *J. A. Webb* (*Hyde & Wade*, 1934); 'fine specimens', 1956, *W. B. H. Sowerby*. Diles Lake dunes, Llangenydd [Langennith Burrows], 'in fair quantity 2 miles from

†At present I know of this colony only within the limits mentioned in this 1956 record. Field observation is necessary to see whether the bushes still occur along the 2.3 miles beyond to Mundesley.

- houses', n.d., *J. A. Webb (Rep. Bot. Soc. & E.C., 6, 746)*.
- *42. BRECON: Tip at Cwmfiedd, [? mis-spelling for Cwm Giedd], 1941, *J. A. Webb (Rep. Bot. Soc. & E.C., 12, 503)*.
- *44. CARMARTHEN: Towyn burrows, 1954, *Mrs. H. R. H. Vaughan; 1957, R. F. May*.
- *45. PEMBROKE: Lydstep, 'several fine bushes that berry plentifully', n.d., (*Rees, 1950*). Dunes at Tenby, 1925, *H. A. Hyde (Hyde & Wade, 1934)*; 1937, *J. D. Grose (BM, and cited in Rep. Bot. Soc. & E.C., 12, 55)*; 'planted . . . forms a strong scrub', n.d., (*Rees, 1950*); 1955, *L. J. Watson (Country Life, 118, 1207)*. Stackpole, growing in sand dunes 'quite plentifully', 1955, *P. N. Hepper*.
- *46. CARDIGAN: Aberystwyth, the cemetery and grounds of National Library, 'evidently an introduction', n.d., (*Salter, 1935*).
- *48. MERIONETH: Morfa Harlech sand dunes, 'origin unknown', 1953, *P. M. Benoit (Proc. B.S.B.I., 1, 500, 1955)*; 'very few prostrate plants', 1956, *P. W. Ball*.
- *49. CAERNARVON: A thicket on the coast E. of Aber, n.d., *P. Tal-foord Jones (Rep. Bot. Soc. & E.C., 11, 507)*.
- *50. DENBIGH: Near Tal-y-cafn, 1915, *C. Waterfall (sbp)*.
52. ANGLESEY: Banks of Menai Strait between Gallows Point and Beaumaris, 1889, *J. E. Griffith (Rep. Bot. Soc. & E.C., 1, 278)*. Near Beaumaris, 'probably introduced but well established', 1892, *R. W. Phillips (BM)*; n.d., *J. A. Webb (Rep. Bot. Soc. & E.C., 7, 595)*. Newborough Warren, 'about $\frac{1}{2}$ dozen bushes, not in fruit', 1956, *M. A. Williams*.
54. N. LINCOLN: Earliest notice: 1669, in a letter from John Ray to Martin Lister at Nottingham, dated 15th Nov. of that year (*Lankester, 1848*), "Ray" writes ". . . I myself have not seen [it] in England but Dr. [John] Mapletoft was informed that it grew wild on the sea-coast of Lincolnshire, which you now confirm". Ray (1670) mentions it again as ". . . on the sea banks on Lindsey† coast, plentifully, Mr. Lister". The coast from Gibraltar northwards has long been well known for its native colonies of *Hippophae*. Apart from that stretch of dune between Theddlethorpe and Mablethorpe where *Sambucus nigra* seems to be more prolific, sea-buckthorn occurs almost continuously up as far as Donna Nook. It is particularly plentiful from Theddlethorpe up to Saltfleetby St. Clement and between Gibraltar Point and Skegness. Herbarium material from

†Lindsey is the northern division of Lincolnshire with its long coastline. *Hippophae* has not been recorded from Holland, the south eastern division of the county.

- different stations along this coastline exists in BM, K, E, SLBM, and OXF, some of which have been cited in literature from time to time. The earliest gathered material still extant is an undated specimen in *Herb. Sloane*, vol. 126, fol. 31 (BM) collected by Adam Buddle who died in 1715.
- *55. LEICESTER: Roadside hedge, Edith Weston, Rutland, 'obviously planted . . . has been there a good number of years . . . now forms part of the hedge', 1956, *J. H. Chandler*.
58. CHESTER: Hilbre, [Hoylake cum West Kirby], 'planted, denizen' n.d., (*Green*, 1933). Woods on the shore at Hooton, 'probably introduced', n.d., *H. H. Higgins & P. F. Murratt (Liverpool Nat. Field Club, 1872)*; 'it has not been seen here for many years—the Manchester Ship Canal now cuts through this old station' (*Green*, 1902).
59. S. LANCASTER: Earliest notice: 1901, Freshfield, (see below) Seaforth, tip adjoining sand dunes, 1956, *Miss V. Gordon*. The area of *Hippophae* on the sandhills from Birkdale, near Southport down as far as Formby forms probably the largest continuous colony with a known history of introduction. Robert Craig recorded its beginnings in 1901 as being 'in a lane leading to the sandhills from Freshfield' and as 'planted from seed obtained in Scotland' (*Green*, 1902). 'By the 1930's fruiting bushes occurred along the road through the pine trees down to the beach, but now on the dunes between Crosby and Southport the *Hippophae* has spread so much during the last 10 years that there are now huge areas of impenetrable shrub which only a few years ago were easily traversed', *Miss V. Gordon (in litt., 1957)*. Herbarium material from these sandhills exists in BM, K, E, and OXF; the earliest being collected in 1906, *D. A. Jones* (BM).
- *60. W. LANCASTER: Between Carnforth and Bolton-le-Sands, N.E. of Morecambe, 'about 1 dozen bushes, 4-5 ft. high', 1953, *Mrs. M. Ward*. Silverdale, 1905, *J. G. Wilkinson* (SHD). Fairhaven, near Lytham, 'on sandhills . . . infrequent', 1956, *J. M. Hopkinson*.
61. S.E. YORK: Earliest notice: 1884, Spurn Point (see below). The sand dune area at Spurn Point is another native station known for many years. Herbarium sheets from this station exist in BM, K, OXF and SHD, the earliest being collected on a Yorkshire Naturalists's Union excursion in 1884 by *P. F. Lee* (BM). This material was cited in *Rep. Bot. Loc. Rep. Club*, 1884-86, 105. By 1902 it was the 'principal shrub there' (*Robinson*, 1902) and 'to-day a considerable portion is now covered with the shrub which grows to a height of about 3 ft.' (*C. G. North*, 1955, *in litt.*). Filey Bay, 1886, *N. Masterman* (BM); 1890, *T. B. Cartwright* (OXF).

62. N.E. YORK: Earliest notice: "Observed by Mr Lawson on sea-bank between Whitby and Lyth in Yorkshire, plentifully", (Ray, 1696). Redcar, 1904, *J. Rutherford Hill* (E). On the marshes near Wilton, 'solitary tree in hedge', 1937, *Miss C. M. Rob* (*Rountree*, in *Walsh & Rimington*, 1953). Holbeck Gardens, Cornelian Bay, n.d., *H. Rountree* (*Rountree*, in *Walsh & Rimington*, 1953). Scarborough, 1892, *H. T. Mennell* (BM). Uppang† near Whitby, n.d., *Mrs Robinson* (BM). There are later-collected sheets of material in BM, E, SLB, OXF and SHD, the most recent being from Khyber Pass, Whitby, by *C. Waterfall* in 1897 (SHD).
68. CHEVIOTLAND (N. NORTHUMBERLAND): Sea banks, Howick Burnmouth, 1868, *W. Richardson* (BM); 'perhaps introduced', *G. Tate* (*Baker*, 1868); n.d., *E. C. Milner* (BM); 1899, *Berwick Nat. Hist. Club excursion* (*Proc. Berwick Nat. Hist. Club*, 9, 37). I consider it is probably native in this vice-county.
- *69. WESTMORLAND: Furness Abbey, 'perhaps planted', n.d., *W. H. Pearsall in litt.* [*sic*] (*Rep. Bot. Soc. & E.C.*, 3, 393). Park Point, Cartmel, estuary shore, three trees, 'planted', 1956, *L. A. Corvill*.
- *70. CUMBERLAND: Skinburn near Silloth, on flat sandy ground, 'planted', 1896, *C. Bailey* (OXF).
- *71. ISLE OF MAN: Cliffs, Port Erin, 'planted', 1951, *D. E. Allen* (*Proc. B.S.B.I.*, 1, 14, 1954).
72. DUMFRIES: without precise locality, 1886, *Dr. Davidson* (*Scott-Elliot*, 1896); Morison House, Moffat, 'planted', n.d., *J. T. Johnstone* (*Scott-Elliot*, 1896).
73. KIRKCUDBRIGHT: The record of occurrence of *Hippophae* for this vice-county in Druce (1932) is based on the authority of Arthur Bennett who gives it in his "Additional records of Plants for Scotland" reprinted from *Scottish Naturalist*, 1886, but without precise locality. For his source Bennett refers back to an alleged entry in Druce's "List of plants new to Kirkcudbright" (*Rep. Bot. Loc. Rec. Club*, 1883, 64) but *Hippophae* is not included there. It is however given in the County Record List (*ibid.*, 19) as new for Wigtown (v.c. 74) so it is probable that Bennett misread the entry for v.c. 73 when he was compiling his paper. The record of Sea-buckthorn in Kirkcudbright must therefore be regarded as doubtful until such time as a station is located for it or an herbarium specimen comes to light to substantiate it. No such

†This is probably the same as the station recorded by Ray (see Earliest notice). The Uppang station was believed to have become extinct in 1875 *vide F. A. Lees* (*Rep. Bot. Loc. Rec. Club*, 1875, 151) due to sea encroachment but the locality was still repeated in Reynolds (1915).

specimen exists to-day in the Druce herbarium now at Oxford.

74. WIGTOWS: Hillside near Dinvin, neighbourhood of Port Patrick, 'apparently planted', 1883, *Charles Bailey* (BM, OXF. and cited in *Rep. Bot. Loc. Rec. Club*, **1883**, 19, and *Scott-Elliott*, 1896). Near Port William, 'not native', 1912, *J. ?D.* (OXF). On south shore of Galloway housing estate, 1955, *R. C. L. Howitt* on *B.S.B.I. Excursion*. Sandy shore, Ardwell, 1955, *R. C. L. Howitt* on *B.S.B.I. Excursion*.
75. AYR: Prestwick (*Lee*, 1933); Galston, Irvine, Dundonald, Kilwinning, Girvan and West Kilbride (*Smith*, 1896). Portincross (*Lee*, 1933); without precise locality, *Smith* (*Ewing*, 1899).
- *76. RENFREW: Without precise locality, n.d., *Wilkes* (*Ewing*, 1899). Without precise locality, n.d., (*A. Bennett*, 1905).
- *77. LANARK: Without precise locality, n.d., (*Ewing*, 1899).
- *80. ROXBURGH: On the banks of the Tweed near Melrose, 1913, *I. M. Hayward* (*Hayward & Druce*, 1919); 'alien', (*Rep. Bot. Soc. & E.C.*, **4**, 74).
81. BERWICK: St. Abbs Head, on edge of an inland loch [Mire Loch], 'a few bushes', 1952, *W. B. H. Sowerby*. Cocksburnspath, 1847, *J. Boswell-Syme* (BM). I consider it is probably native in this vice-county.
82. HADDINGTON (E. LOTHIAN): Earliest notice: Gosford, n.d., (*Woodforde*, 1824). (see below). Mouth of Dunglass burn, 'large bushes', 1905, *Berwick Nat. Hist. Club excursion* (*Proc. Berwick Nat. Hist. Club*, **19**, 297); 'only a few bushes and not spreading, possibly crowded out by *Sambucus nigra*', 1957, *Miss E. Beattie*. Belhaven, 1892, *I. A. Terras* (E). Sandy Hirst, Tyne estuary, 1909, *Berwick Nat. Hist. Club excursion* (*Proc. Berwick Nat. Hist. Club*, **21**, 36); 'particularly abundant', 1955, *F. R. Vane*. Coast at Tynninghame, 1869, *J. Sadler* (E); 1877, *J. W. Balfour* (E); 1883, *E. F. Millar* (CGE). Near Tantallon Castle, 'a few patches on the cliffs to the S.E. side', 1955, *F. R. Vane*. Cauty Bay, 1869, *W. E. Evans* (E). North Berwick, n.d., (*Balfour & Sadler*, 1863); 1886, *I. A. Terras* (E); 'the largest specimens I have ever seen [*sic*], abundant', *G. C. Druce* (*Rep. Bot. Soc. & E.C.*, **3**, 393). Gullane, 1838, *T. B. Bell* (CGE); 1893, *I. A. Terras* (E); (*Martin*, 1927); 'along sandhills between shore and the village', 1955, *F. R. Vane*. Aberlady Bay: early records include specimens collected there in 1828, *T. B. Bell* (CGE), 1836, *J. H. Balfour* (CGE) and a literature reference 1844, *W. Keddle* (*Phytologist*, **2**, 252); herbarium material exists in BM and

cge; latest notice from Aberlady Bay is of it 'north of Peffer burn beside marsh between shore and golf course', 1955, *F. R. Vane*. Kilspindie, 1911, *McTaggart Cowan, Jur.*, (bm, k, oxf and cge, all from B.E.C. distribution and cited in *Rep. Bot. Soc. & E.C.*, **3**, 393). Sea-shore near Gosford, 'abundantly', n.d., *Graham (Woodforde, 1824)*; 1835, *G. Macnab* (E); (*Balfour & Sadler, 1863*); 1909, *W. E. Evans* (E); between main road and shore a few feet above mean tide level, 1955, *F. R. Vane*. Longniddry: herbarium material exists for this station in bm, E and oxf, the earliest collected in 1899, *F. Crawford* (E); (*Martin, 1927*). Port Seton, n.d., (*Balfour & Sadler, 1863*); (*Martin, 1927*).

Although there has been some deliberate planting of Seabuckthorn to aid in stabilising areas of blown sand none of the old herbarium specimens or literature records makes any suggestion of the shrub having been introduced. Contrary to the accepted belief of its status in East Lothian, it may well be that *Hippophae* was native there in the first instance but subsequent plantings, left to naturalise themselves after establishment, have now obscured the original stock. It would be most interesting to have records prior to 1820 and any reference to the first date of its utilisation in the vice-county as a sand-binder. The County Council is at present propagating *Hippophae* to bind the sand at Longniddry and Gullane. Farmers at Archerfield and Scougall are also planting it as hedges to shelter lands reclaimed from the dunes. It is worth mentioning again that *Green* (1902) considered the Freshfield colony in S. Lancashire (see v.c. 59) to have originated from Scottish seed. If this is so it is more than likely to have come from one of the well-known colonies mentioned above.

83. EDINBURGH (MIDLOTHIAN): Prestonhall, n.d., (*Balfour & Sadler, 1863*). Roadside near Hales [Hailes], n.d., *Graham (Woodforde, 1824)*. Coast of Forth near Edinburgh, n.d., *W. Twynan* and *H.W. (Watson, Top. Bot., Mss. index slips†)*. Near Tynehead Station, three well grown trees in a heather moor, 1957, *Miss E. Beattie*.
84. LINLITHGOW (W. LOTHIAN): Hopetoun, shore near town, 1903, *McRae* (E); (*Martin, 1927*); still there near Society, 1957, *Miss E. Beattie*. South Queensferry, 1866, n.c., (E); (*Martin, 1927*).
85. FIFE: St. Davids, 1882, *A. H. Gibson* (E). Inverkeithing, n.d., *J. Dickson* (E); 1879, n.c., (cge); 1934, *R. A.*

†In the Library of the Department of Botany, British Museum (Natural History), London.

- Graham*. Aberdour, 1835 & 1839, n.e. (E); *Balfour & Sautler*, 1863). Without precise locality, 'probably planted' (*Watson*, 1873 & 1883).
- *86. STIRLING: Without precise locality, (*Ewing*, 1899).
90. FORFAR (ANGUS): Barry sands, 1924, *A. J. Wilmott* (BM), 1927, *T. J. Foggitt* (BM); 1948, *R. A. Graham*. Sand dunes behind Buddon Ness, 'a mass of orange berries', 1930, *L. G. W. Wilkinson* (*Country Life*, **118**, 1490); 'seen also at Arbroath, birds have no doubt carried the seed', n.d., *A. J. Wilmott* (BM, field note on label of Wilmott's Barry specimen).
91. KINCARDINE: Given as occurring in the vice-county (*Druce*, 1932) but without precise locality.
92. S. ABERDEEN: Given as occurring in the vice-county (*Druce*, 1932) but without precise locality.
- *93. N. ABERDEEN: Cruden and Slains, 'probably only where planted', n.d., (*Trall*, 1902).
- *94. BANFF: Sandend, near the sea, 1947, *Miss M. McCallum Webster* (BM). Fordyce, Banff, Forglen and Gamrie (*Craib*, 1912).
- *95. ELGIN (MORAY): Parish of Kinloss, 'generally planted' (*Burgess*, 1935); Sea Park, Kinloss, 1956, *Miss M. McCallum Webster*. Parish of Alves, 'generally planted', (*Burgess*, 1935).
97. WESTERNNESS (WEST INVERNESS): Without precise locality, (*Ewing*, 1899).
98. ARGYLL: Toward Point, 'frequent in shrubberies', n.d., (*Hennedy*, 1874); (*King*, 1891); (*Lee*, 1933). Without precise locality, n.d., *T. King*, (*Bennett*, 1889) and (*Ewing*, 1899).
- *99. DUNBARTON: Without precise locality (*Ewing*, 1899). Kilcreggan, one or two plants growing on the shore west of the village, 'possibly an escape as it is near houses', 1953, *F. N. Hepper*.
- *100. CLYDE ISLES: Bute, n.d., (*Lee*, 1933). Without precise locality, (*Ewing*, 1899).
101. KINTYRE: without precise locality. [*J.H.*] *Balfour*, (*Watson*, 1849); (*Watson*, 1873 & 1883); (*Ewing*, 1899). Mull of Kintyre, 'doubtfully native', 1844, *J. H. Balfour* (*Phytologist*, **2**, 321-327). Banks of the Crinan canal, $\frac{1}{2}$ mile from Ardrishaig, 1854, *A. W. Bennett* (BM).
102. S. ERUBES: Colonsay, 'planted for screening young plantations and now spreading by suckers', (*McNeill*, 1910); 'introduced', (*Harrison*, 1948). Islay, 'doubtfully native', 1844, *J. H. Balfour* (*Phytologist*, **2**, 321-327); 1896, *A. Somerville* (BM).
- *103. MID ERUBES: Without precise locality, (*Ewing*, 1899).

- *104. N. EBUDES: Without precise locality, (*Ewing*, 1899); Portree, 'introduced', (*Harrison*, 1948).
105. W. ROSS: Gairloch, n.d., *J. A. Webb* (*Rep. Bot. Soc. & E.C.*, **7**, 210); n.d., *G. C. Druce* (oxf and cited in *Rep. Bot. Soc. & E.C.*, **7**, 894). Applecross, near village, 'fairly abundant . . . big bushes covering 10 yards of shingle', 1956, *I. M. Evans*. Poolewe, 'planted', 1956, *Miss McCallum Webster*. Without precise locality, (*Ewing*, 1899).
106. E. ROSS: Given as occurring in the vice-county (*Druce*, 1932) but without precise locality.
- *107. E. SUTHERLAND: Golspie, common near shores, '? planted', n.d., *J. Dickson* (*Proc. B.S.B.I.*, **2**, 37); burn mouth, Golspie, 1907, *R. S. Standen* (BM).
108. W. SUTHERLAND: Coast near Tongue, 'old gnarled trees, 20-30 ft. high', 1875, *G. Horn* (BM) and cited in *Rep. Bot. Loc. Rec. Club*, **1876**, 182. Without precise locality, 'probably planted' (*Watson*, 1883); near gardens of Tongue House, Kyle of Tongue, 1956, *Miss M. S. Campbell*.
- *109. CATHNESS: Dunreay, on road to harbour, 'several bushes in a hedge', 1956, *B. M. G. Jones*.
- *110. OUTER HEBRIDES: Without precise locality, (*Ewing*, 1899).
- H.1. S. KERRY: Dingle Harbour, on shore between Milltown and Burnham, 'planted by Lord Ventry and spreading slightly', (*Hart*, 1884); 1905, *R. W. Scully* (*Scully*, 1916). Between Anascaul and Inch, Dingle Bay, 'along the cliffs in one or two places', 1892-1914, *R. W. Scully* (*Scully*, 1916).
- H.2. N. KERRY: Tralee Bay, about Seafield and Fenit House, 'an escape', 1888-1906, *R. W. Scully* (*Scully*, 1916). About Ballyheige, 'in several spots', 1889-1907, *R. W. Scully* (*Scully* 1916). *Scully* (1916), p. 251, makes the following interesting comment, ". . . this ornamental bush appears to be thoroughly established in District V [i.e. at Dingle Harbour]. It may be seen also in gardens and shrubberies in various parts of Kerry although not commonly met with. Dr. Smith in his '*History of Kerry*', 1756, p. 180, note (P), strongly recommends this bush, then little known, to the Kerry landlords, as one likely to succeed on the coast; it has not thriven so well there as he confidently expected. Its introduction has met with much greater success on the less exposed coast of Wexford where this bush is thriving and spreading in several localities'.
- H.12. WEXFORD: Near Ardamine Church, on cliffs, 'two large patches looking quite wild though perhaps originally planted', 1897, *E. S. Marshall* (BM and CGE); 'possibly originated

from seeds brought by birds', *E. S. Marshall (J. Bot., 36, 49)*. The colony on the sandhills between Courtown and Kiltennel has also been known for many years. *A. G. More (J. Bot., 6, 255)* comments that about $\frac{1}{2}$ mile northwards from Courtown harbour *Hippophae* was "growing in a large patch for about 100 yards along the ridge of sandhills close to the sea, and forming a dense thicket" "... I ... counted all together some 8 or 9 patches of this rare shrub which extends irregularly for more than a mile along the whole line of sandhills towards Duffcarrick rocks, but does not reappear on the other side of that rocky point. Where sheltered some bushes attain 6-7 or even 8 ft. high, and in one instance I found a trunk which measured 7 inches diameter". Again later, he says "... through Miss Farmer I learn that the Sea-buckthorn was first planted on the sandhills at Kiltennel and Courtown by the father of the present Earl of Courtown about 30 years ago [i.e. circa 1838], and since that time the planting has been continued by the present Earl, few years passing without some additions being made" (*J. Bot., 6, 373*). By July 1880 *H. C. Hart* describes it as "abundantly established forming in some places impervious thickets" (*J. Bot., 19, 343*). There are two gatherings made by *A. G. More* from the sandhills at Courtown, dated 1868, in BM (one sheet ex *Herb. Hanbury*; the other ex *Herb. Boswell-Syme*). Another specimen collected in 1902 by *E. Monsarratt & C. M. Waddell* is at BRT. Later reference to the 'masses of *Hippophae* binding the sand at Courtown Harbour, naturalised' is made by *Praeger* (1901 and 1934). More recently (1955) *R. E. Sandell* reported it still there. There have also come to notice two other recent records for this vice-county, one from Rosslare and the other from the coast near Ballylurkin. Yet another station was noted at Raven Point by *A. G. More* (1872) and repeated by *Praeger* (1901).

H.21. DUBLIN: Planted in rabbit warrens near Rush, *A. G. More (J. Bot., 6, 255)*; 'apparently spreading' on the Rush sandhills, 1893, (*Colgan, 1893*); 'naturalized and spreading' (*Praeger, 1901*). A large thicket on sandy bluffs above the beach at Rogerstown coastguard station "... 'with numerous seedlings appearing in the neighbourhood of the mature plants' (*Colgan, 1904*).

*H.38. DUBLIN: Dundrum, 1894, *C. H. Waddell* (BRT); on both sides of the Causeway between Dundrum and Murlough, n.d., *S. Wear (Belfast Naturalists' Field Club, 1923)*; dunes south of Murlough House, Inner Bay [Dundrum Bay],

'introduced', (*Praeger*, 1934); 'now abundant . . . dense impenetrable thickets . . . planted some 50 years ago or more', (*Praeger & Megaw*, 1938). Roadside near Mount Stewart, n.d., (*Praeger & Megaw*, 1938). Newcastle, n.d., (*Praeger & Megaw*, 1938).

- *II.40. DERRY: Port Stewart, 'dense impenetrable thickets, planted some 30 years ago by the Coleraine Harbour Commissioners', (*Praeger & Megaw*, 1938). Portrush, n.d., *J. Adams* (DBN).†

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Needless to say, I should still be glad to receive any new records or confirmation of old sites, so as to add further to this paper at a later date.

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†There is some doubt as to whether this was actually collected on the Derry side or over the border in Antrim. Till confirmed again in the field it is here attributed to v.c. II.40.

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