Short Notes

207/9. LATHYRUS PALUSTRIS L.-In Carmarthenshire.

On 29th May, 1971, Mr Stephen Evans (Assistant Regional Officer, Nature Conservancy, S. Wales) and myself, investigating areas of wetland between Kidwelly and Pembrey, found the Marsh Pea (*Lathyrus palustris*) locally abundant over a large area of poor quality fen. Parts of the fen were a pure and very dense Phragmitetum but this thinned out in other parts to a mixed community of *Phragmites communis, Equisetum fluviatile, Myosotis caespitosa, Mentha aquatica* and *Iris pseudacorus* with *Scutellaria galericulata* and *Glyceria maxima*, amongst which grew the *Lathyrus*.

It was not at that date in flower but was forward in bud and was, despite the fragility of its winged stems, maintaining itself perfectly upright by its tendrils clasping the horsetails and grasses on either side. It was abundant over a distance of 50 yards or more but full assessment of distribution was difficult owing to the treacherous nature of the swamp. On 26th June it was in full flower, the colour ranging between almost pure pink and almost pure blue through all the gamut of intermediates.

The area was visited for the third time on 29th July, when flowering was over except for two belated blooms. Seed pods were scarce but there had been considerable trampling by cattle which had had access owing to the exceptionally dry summer. These extensive wetlands lie below the rising ground of the coal measures from which small canals, now largely closed or choked, carried coal to the small coastal ports now also in decay.

Lathyrus palustris has not been recorded in Wales for many years; its Merioneth station is now believed extinct and for the Caernarvon record there is no voucher specimen in NMW.

In this new locality the farmer-owner of the land has promised cooperation in conserving the habitat.

I. M. VAUGHAN

A specimen collected in v.c. 49, Caernarvon, from a swampy field between Llandudno and Gloddaeth on 20th July, 1837, by J. E. Bowman is at LIV.

EDITOR

212/15. POTENTILLA REPTANS L.-Identification of its hybrids.

Vigorous natural hybrids with an obvious resemblance to Potentilla reptans are common. The species and hybrids occur in similar habitats, often on roadsides, and occasionally are found growing intermingled with one another. The hybrids are distinguished from P. reptans most easily by the number of leaflets and floral parts: P. reptans has 5-merous flowers and 5(-7)-nate leaves, whilst the hybrids have both 4- and 5-merous flowers and 3-, 4- and 5-nate cauline leaves. Some descriptions of P. reptans (e.g. Warburg 1962) state that its cauline leaves may have 3-4 leaflets. This is probably the result of confusion between the species and hybrids, since 3- and 4-nate leaves are extremely rare in P. reptans. The hybrids are variable, particularly in the relative proportions of 3-, 4- and 5-nate leaves and in overall size, but all are highly sterile and spread by means of runners. An earlier paper (Matfield, Jones & Ellis 1970) gave a full description of them and concluded that they are all hexaploids (2n = 42) and should be identified as $P \times mixta$ Nolte. Their origin is uncertain. They may arise either by hybridization between P. reptans (2n = 28) and P. anglica (2n = 56) or by hybridization between P. reptans and P. erecta (2n = 28) with P. reptans contributing an unreduced gamete. Hexaploid hybrids have been made experimentally by both of these routes and they seem to be identical with each other and with natural specimens.

The previous paper reported that no viable tetraploid hybrids between *P. reptans* and *P. erecta* had been produced, although many crosses had been made between plants from a variety of different British sources. Natural tetraploid hybrids were unknown, and were thought to be rare or even non-existent. However, Schwendener (1969) obtained three tetraploid hybrids from crosses between Swiss specimens of *P. reptans* and *P. erecta*. Unfortunately he did not publish full morphological descriptions. In 1969 the present author made four more cross pollinations using as the female parent a clone of *P. reptans* collected by Professor D. H. Valentine in County Durham. This plant had already been a successful seed parent in the normally highly incompatible cross between *P. reptans* and *P. anglica* (Valentine *pers. comm.*). Two seedlings were obtained from the *P. reptans* \times *P. erecta* crosses but one died within a few weeks. The other formed only a rosette of basal leaves in its first year, and would probably not have survived in a natural habitat. In 1971 flowering stems were produced, one of which is illustrated in Fig. 1.

The plant was very small, with the largest leaflets only about 1 cm long. Its description is as follows:

Flowering stems to 8 cm, procumbent near the base, ascending at the tip, more frequently branched than in *P. reptans*, not rooting. Radical leaves petiolate with petioles about 1–2 cm, mostly palmate with 5 leaflets, the remainder 3- or 4-nate. Cauline leaves on shorter petioles or subsessile, mostly ternate but some of the lower ones 4- or 5-nate; leaflets obovate or oblong-obovate with 1–4 teeth each



FIGURE 1. The experimental tetraploid hybrid between *P. reptans* and *P. erecta*. A. Flowering stem. B. Radical leaf.

138

side in the upper part; stipules entire, bifid or trifid. Flowers 4- or 5-merous, 13-15 mm diameter; carpels c 25; highly male and female sterile. The average pollen stainability was 12% and only one seed was set by a total of 8 flowers after open pollination. 2n = 28.

As only one specimen has been obtained, the range of morphology in the tetraploid hybrid is unknown. However, Schwendener (1969) stated that his three hybrids did not differ from each other substantially. The difference between the tetraploid hybrid described above and the hexaploid, $P. \times mixta$, is striking so that separation of the two taxa should be possible without a chromosome count. The discovery of natural tetraploid hybrids would be very significant but the weakness of the experimental hybrid confirms the opinion that they are rare or even non-existent, at least in the British Isles.

There is a second fairly common natural hexaploid hybrid, $P. \times$ suberecta Zimm. (=P. erecta $\times P$. anglica) (Matfield, Jones & Ellis 1970). This is distinguished from the *P. reptans* hybrids by its more erect habit and general resemblance to *P. erecta*. As it does not normally root at the nodes it cannot spread vegetatively. Hence it is always found in association with the parental species, which makes it relatively easy to identify.

REFERENCES

MATFIELD, B., JONES, J. K. & ELLIS, J. R. (1970). Natural and experimental hybridization in *Potentilla*. New Phytol., **69**: 171–186.

SCHWENDENER, J. (1969). Experimente zur Evolution von Potentilla procumbens Sibth. Ber. schweiz. bot. Ges., 79: 49–92.

WARBURG, E. F. (1962). Potentilla, in CLAPHAM, A. R., TUTIN, T. G. & WARBURG, E. F. Flora of the British Isles, 2nd ed., pp. 380–389. Cambridge.

B. MATFIELD

220/1. ALCHEMILLA ALPINA L.-In Derbyshire.

On 7th August, 1971, I found a single plant of this species in Derbyshire (v.c. 57). The plant was growing on debris from a long-disused lead working in the south-east fork of Coombs Dale at an altitude of 750 ft. The plant had an unhealthy appearance, which is not surprising as the heaps are fairly toxic. The leaves were pale and yellow and only the younger, newly-expanded leaves looked healthy. There was no evidence that the plant had flowered that year. A small portion of the plant was collected and sent to Dr M. E. Bradshaw at Durham for confirmation.

The plant is well established in a *Festuca ovina* turf with *Agrostis tenuis, Anthoxanthum odoratum, Carex caryophyllea, Cerastium holosteoides, Linum catharticum, Minuartia verna, Teucrium scorodonia* (seedling) and *Thymus drucei* as its immediate associates. There are large areas of bare soil nearby on the slope, which has an angle of 30° and faces north-east.

This is the first record for v.c. 57 and represents a considerable extension of the range of species, as it has not previously been recorded (even as an introduction) in Britain south of the Lake District (Perring & Walters 1962). Some of the Carboniferous Limestone cliffs and outcrops in the immediate vicinity of the site have been checked as possible refugia for a colony, but no further plants have been found. There is the possibility that the plant may have arrived at its present site in Coombs Dale as a direct result of human agency. If this is not the case then the occurrence of this plant at the southern end of the Pennines on a lead mine spoil heap is all the more interesting. Warburg, in Clapham, Tutin & Warburg (1962), notes that the species occurs in mountain grassland, rock crevices, screes and mountain tops ascending to 4,000 ft in the Cairngorms and descending to sea level in Skye.

REFERENCES

CLAPHAM, A. R., TUTIN, T. G. & WARBURG, E. F. (1962). Flora of the British Isles, 2nd ed., p. 396. Cambridge.

PERRING, F. H. & WALTERS, S. M., eds. (1962). Atlas of the British Flora. London.

S. R. BAND

237/2. CRASSULA AQUATICA (L.) Schönl. IN v.c. 97-Further observations.

The small area of mud where *Crassula aquatica* was originally found in 1969 (*Watsonia*, **8**: 294 (1971)) was revisited in 1970 and twice in 1971.

In 1970 the site had been badly trampled by cattle and was also submerged. No plants were seen. In August 1971, though the area was exposed, it was still badly disturbed and had only a very few scattered plants of *Crassula*. Similar, but less disturbed, muddy areas, about 250m from the original, were inspected and the plant, in seed, found to be well represented there.

The opportunity was taken to make the following list of accompanying plants:

Ranunculus flammula	Alisma plantago-aquatica
Subularia aquatica	Juncus bulbosus
Callitriche hermaphroditica	Eleocharis palustris
Littorella uniflora	Glyceria fluitans
Lobelia dortmanna	

A further visit to these new areas a fortnight later found them under about 30cm of water and so thick with a green algal growth that no plants of any species were visible.

It is apparent that, whatever its previous history, the 1969 growth, though above average in quantity, was not an ephemeral introduction and the plant is reasonably securely established. Also, from this admittedly limited experience, the sites are probably as frequently flooded as not.

A further question suggests itself. Does *Crassula aquatica* require a dry season in north-west Scotland or can it, like some other small annuals, complete its life-cycle completely submerged?

A. J. SOWTER, M. M. SOWTER & M. MCC. WEBSTER

254. New Zealand epilobiums in Britain.

Three species of small creeping pinkish-white-flowered willow-herbs which are fairly widespread in New Zealand, one in two forms, are known to be naturalised in Britain. Specimens of all four, both fresh and pressed, were on show at the Exhibition Meeting in November 1970.

E. brunnescens (Cockayne) Raven & Engelhorn subsp. brunnescens (Earlier misidentified as E. nummularifolium, E. pedunculare and E. nerteroides.)

This is by far the commonest. Its first record is as a garden weed at Craigmillar Park, south of Edinburgh, where it had been known for some years in 1908 (note on specimen at **BIRM**). It was also known in the same year at Elmet Park, Roundhay, Leeds, where it was said to have been introduced with shrubby New Zealand Veronicas to the wild garden and had then been perfectly naturalised for many years. Other, later, records were set out by Davey (1953, 1961). Since then the plant has continued to spread rapidly and is now, for example, locally frequent among otherwise purely native vegetation high on many mountains. It reached the Channel Islands (Guernsey) in 1969, apparently with some heathers.

A form with generally smaller and much narrower leaves has been growing in my garden at Platt, Kent, for at least 14 years. Specimens were previously exhibited in 1957 (McClintock 1958). Two sheets of this now at **BM** were at one time labelled *E. inornatum*, which they are not. Since then I have usually been able to find plants of this form in two or three places in the garden, always uniform, and no longer as differing shoots on normal plants. No doubt they have propagated themselves vegetatively, as so far no seeds have been successfully harvested. Dr D. B. O. Savile of the Plant Research Institute, Ottawa, thinks this form is a teratological condition and is "tempted to believe" it may be due to a virus infection, adding that a plant growing in an unnatural environment may come in contact with unfamiliar virus vectors, occasionally with surprising results. Dr P. H. Raven agrees this is a plausible explanation, and I am grateful to both of them for the trouble they have taken over this.

Raven & Engelhorn (1971) say that this species differs from *E. nerteroides* (of which they ask me to note the correct spelling) in having leaves broadly to very broadly ovate (instead of broadly elliptic to ovate) and petioles 0.5-3mm (and not 1–6mm) long. In addition the stems of *E. nerteroides* are glabrous or nearly so, while those of *E. brunnescens* have evident lines of strigulose pubescence. The flowers tend to be erect rather than nodding. They say that true *E. nerteroides* is a rarer plant than *E. brunnescens* in New Zealand.

E. pedunculare A. Cunn. (Called at first E. linnaeoides.)

The first record of this species was from a garden at Helsby, Cheshire in 1938 (Gordon 1954a, Newton 1971). It was also collected in the same year from a garden in Co. Dublin by Miss Enoch (DBN and E, where there is another specimen from Miss O'Leary collected in August 1938). In 1953 it was found, by Miss V. Gordon, by the road to the west, a mile from Leenane, Co. Galway (Gordon 1954b). Later it was discovered much more plentifully at Aasleigh, a mile or two north of Leenane, just in Co. Mayo, where it grows with E. brunnescens. Its origin in that relatively remote district is not known, but 'E. linnaeoides' is among rockery plants in Reuthe's nursery catalogue for 1930. The plant may also be seen as a mild weed in the rock garden in the Edinburgh Botanic Garden. In my own garden, where it has now been for 10 or 15 years (with a third of the rainfall of Leenane), it is no weed, but just maintains itself, in contrast to the spreading E. brunnescens. Incidentally, I have not yet noticed any apparent hybrid between any of the three species there. The record from Mrs Gregory in Newton (1971) is an error. This plant was named as this species from the first edition of the Flora of the British Isles (Clapham 1952) when E. pedunculare was the name used for E. brunnescens, in which error surely lies a moral.

E. komarovianum Léveillé

This is better known, in so far as it is known at all, as *E. inornatum* Melville. This Latin name was published by Melville (1960) and used for a plant from a gathering by E. N. Carrothers (K) (Melville 1962) from Lisburn in Northern Ireland in 1941. The wall on which this grew, so Mr Carrothers told me, was demolished some years ago and he himself was unaware of the fact that the plant had been given this name. I have seen it growing elsewhere in Northern Ireland, at Mount Stewart, Co. Down (v.c. H38), and have also seen it at Dartington Hall, South Devon (v.c. 3) and Ashbourne, Derbyshire (v.c. 57) (specimen in K), where it has been known for over 60 years. It was also on the Ladmanlow tip at Buxton for a few years. Both these occurrences appear in the recent *Flora of Derbyshire* (Clapham 1969) under *E. nerteroides*. It has also been sent me from Lanark (v.c. 77). It could easily be overlooked for the common species, but its rather smaller size, its more closely creeping habit, rooting at the nodes, its bronzed, prominently veined leaves, which are nearly always green beneath, and its almost entirely smooth seeds are distinctive characters. It is the only one of these three species in the Netherlands.

142 key

Based on leaf colour as observed in Britain.

- 1. Leaves usually smaller, sub-entire or at most sinuate, not or less purple beneath
 - 2. Leaves thin, green or bronzey and smooth above, usually suffusing purplish with veins showing faintly beneath. Seeds papillose, 7.5–9.0 mm
 - 3. Leaves $(4-)5(-12) \times (3-)4(-12)$ mm, broadly ovate.E. brunnescens3. Leaves $(4\cdot5-)5\cdot0 \times 2\cdot0-3\cdot0$ mm, often elliptic.E. brunnescens var.

Also exhibited was the taller, decumbent *E. pictum* Petrie. This is grown in some gardens for its undoubtedly pretty marbled grey leaves, purple beneath, but it easily spreads over-exuberantly and may one day be numbered among our garden weeds. The similar, more branched, longer-peduncled *E. alsinoides* Petrie has also been recorded as a garden weed, but the specimens are all *E. pictum*, Dr Raven tells me. It is endemic to the South Island of New Zealand.

I am grateful to Dr P. H. Raven for comments on this note, in which they are incorporated.

REFERENCES

CLAPHAM, A. R., ed. (1969). Flora of Derbyshire, p. 209. Derby.

CLAPHAM, A. R. (1952). Epilobium in CLAPHAM, A. R., TUTIN, T. G. & WARBURG, E. F. Flora of the British Isles, p. 607. Cambridge.

DAVEY, A. J. (1953). Epilobium pedunculare in Britain, in LOUSLEY, J. E., ed. The Changing Flora of Britain, pp. 164–167. Arbroath.

DAVEY, A. J. (1961). Epilobium nerterioides, in Biological Flora of the British Isles. J. Ecol., 49: 753–759.

GORDON, V. (1954a). Epilobium linnaeoides. Proc. bot. Soc. Br. Isl., 1: 37.

GORDON, V. (1954b). Epilobium linnaeoides in Britain. Proc. bot. Soc. Br. Isl., 1: 93.

MCCLINTOCK, D. (1958). A narrow-leaved form of Epilobium pedunculare. Proc. bot. Soc. Br. Isl., 3: 95.

MELVILLE, R. (1960). Epilobium pedunculare and its allies. Kew Bull., 14: 296-300.

MELVILLE, R. (1962). Some New Zealand Epilobia in Britain. Kew Bull., 15: 477.

NEWTON, A. (1971). Flora of Cheshire, p. 112. Chester.

RAVEN, P. H. & ENGELHORN, T. (1971). New taxa and new combinations in Australasian *Epilobium* (Onagraceae). *N.Z. J. Bot.*, **9**: 345–350.

D. MCCLINTOCK

667/1. MOLINIA LITORALIS HOST.

Duplicate material of a giant variant of *M. caerulea* (L.) Moench, collected from Marham Fen, West Norfolk, in 1944, and given to Kew, is referred to this species by H. J. Conert (*Die Systematik und Anatomie der Arundineae*, Weinheim, p. 181 (1961)). In giving me this information, Dr Hubbard has kindly provided further particulars: 'Conert maintains this type as a distinct species, *M. litoralis* Host, from *M. caerulea*, distinguishing it by its taller growth $(1\cdot2-1\cdot6m)$, except for *M. caerulea* var. *arundinacea*, and larger panicles (30–50cm), larger lowest lemmas $(4\cdot5-6\cdot0mm \log)$, the lemmas of *M. caerulea* being 3–4mm long. I have looked at your specimen; the panicle is 44cm long but the lowest lemma in each spikelet is only $4\cdot0-4\cdot5mm \log^2$.

In addition to Norfolk, Conert records this species from Radnor, Berkshire, Oxfordshire, Essex, Surrey, Cornwall and Bedfordshire, 'all in the south and fitting in with a southern general distribution.' In his study Conert noted the following varieties of *M. caerulea* in West Norfolk: var. *caerulea*, var. *obtusae* (Peterm.) Aschers.

& Graebn., var. arundinacea (Schrank) Aschers., and var. robusta Prahl, all from Dersingham Common.

As *M. caerulea* is self-sterile Hubbard suspects that much of the variability in the southern half of Britain is due to past hybridisation, perhaps between a northern strain with a spicate panicle (true *M. caerulea*), and a southern variant, such as *M. litoralis* Host, with lax inflorescences and larger lemmas. Until it is proved to be cytologically distinct, Hubbard prefers to treat Conert's plant as var. *litoralis* (Host) Griseb.; it could also be called subsp. *litoralis* (Host) Paul.

E. L. SWANN

690/1. GAUDINIA FRAGILIS (L.) Beauv.

Gaudinia is basically a Mediterranean grass. Its status in the British Isles and just across the English Channel has been generally regarded as that of a fleeting adventive. Hegi (1935) and Fournier (1946) say it may come in with foreign seed, which it certainly has done in Germany, and Mullenders (1967) says it is introduced and inconstant in Belgium. But there are signs of permanence: introductions, it seems, can persist. In at least three areas, discussed below, it has done so for several years.

ISLE OF WIGHT

There is no mention of this species in any Island list until 1917 when it was collected by the late Mr J. W. Long. Mr B. Shepard comments to me (*in litt.*) 'that it may be significant that this first record was during the first world war, when there was considerable movement of men and material between here and the Middle East'. He goes on 'It is not conceivable that it existed in anything like its present abundance at that time and was overlooked by earlier recorders'.

He and Mr J. H. Bevis have concentrated their searches on the heavy clay area of the north-west, although it seems to be equally well established in the Haven Street/ Ryde area. But with the exception of Miss Bullock's record from Brighstone in 1966 all relate to the heavy clay on the north of the chalk ridge, and suggest that *Gaudinia* is widespread and very well established across that section of the island. One area from which I was sent specimens was a 16-acre field that had not been ploughed since the present farmer's family took over the farm in 1919. Here the *Gaudinia* is not merely present each year, but dominant in some parts. This and other meadows are mown regularly for hay towards the end of June. Another similar field is strip-grazed but contains an equal abundance of *Gaudinia*.

Miss G. Bullock has also kindly shared her notes with me. *Gaudinia* was amongst a collection of grasses she sent to Mr Long as long ago as 1937 from Haven Street, a meadow of 8–10 acres which contained quite as much *Gaudinia* as any other grass. She says it was also plentiful in a meadow on the other side of the village. Fr Higgens has also sent me his notes. Mrs Yule, the Recorder for the Hampshire Flora, in sending me some details says that the species is apparently still spreading. Thus it seems there is a continuous record of this species in the north of the Isle of Wight for over 50 years.

CHANNEL ISLANDS

Gaudinia was found in great quantity by the Grande Mare in Guernsey in 1928. Nobody saw it there again until 1970, and in 1971 it was found to be well established in a meadow in a closed community. A patch some 15 yards across of the species was found in 1970 in short, native, sandy turf near the Doyle Rock on L'Ancresse Common, nearly five miles to the north-east. Here the plants are small, mostly about 6in high, and thus very easily passed by. It would be surprising if this grass had not been here for some considerable time, in an area moreover where no grass mixture would have been sown and no other possible introductions are to be seen.

All attempts to re-find Gaudinia in its original area in Alderney have failed, but it

has been seen annually since 1963 near the States Dairy despite rubble being dumped on it and other human interferences. It looked well established in 1963 and plants from there, and their seedlings, have all proved to be perennial when grown in a garden (McClintock 1967). The grass was also collected in sandy ground in Jersey in 1954, but was not to be seen in the following, or subsequent, years.

IRELAND

None of the three stations in Co. Limerick, so Dr A. M. O'Sullivan tells me, has been recently re-seeded, and two were very old pastures. He presumed the grass was perennial, in contradiction to what all books and even his paper (O'Sullivan & White 1967) say. Farragher (1968) found it by a relatively new ley, where it persisted, and suggests it was introduced in 'recent' years, perhaps as an impurity in some grass seed. Miss Scannell sent me a copy of a letter dated 2nd October, 1967, from Mr J. Mullin, of the Irish seed-testing station, who had reports of it from other counties, e.g. Wexford, and expected it to be much more widespread. He recorded that in the early 1960s some inferior rye grass seed had been 'dumped' from Portugal with such weeds as *Gaudinia* and *Chrysanthemum myconis*. The trade was stopped, but started again for a short while in Dutch bags via Holland.

Is this not very obvious grass being overlooked elsewhere? It deserves more than the curt three lines granted it by both Hubbard (1968) and Tutin (1962). The Appendix evidences its recorded history in the British Isles.

REFERENCES

BOOTH, E. M. (1967). Gaudinia fragilis in Co. Clare. Ir. Nat. J., 15: 331.

FARRAGHER, M. A. (1968). Gaudinia fragilis in another station. Ir. Nat. J., 16: 53.

FOURNIER, P. (1946). Les Quatre Flores de la France, 2nd ed., p. 60. Paris.

HEGI, G. (1935). Illustrierte Flora von Mittel-Europa, 2nd ed., 1: 353-354. Munich.

HUBBARD, C. E. (1968). Grasses, 2nd ed., p. 247. Harmondsworth.

MCCLINTOCK, D. (1967). Gaudinia fragilis. Proc. bot. Soc. Br. Isl., 6: 391.

MULLENDERS, W. (1967). Flore de la Belgique, du nord de la France et des regions voisines, p. 597. Liège.

O'SULLIVAN, A. M. & WHITE, J. (1967). Gaudinia fragilis in Limerick grassland. Ir. Nat. J., 15: 343–345.

SCANNELL, M. J. P. (1964). Gaudinia fragilis in Ireland. Ir. Nat. J., 14: 215-216.

TUTIN, T. G. (1962). Gaudinia, in CLAPHAM, A. R., TUTIN, T. G. & WARBURG, E. F. Flora of the British Isles, 2nd ed., p. 1162. Cambridge.

WEBSTER, M. MCC. (1951). Gaudinia fragilis. Watsonia, 2: 59.

APPENDIX

OCCURRENCES IN THE BRITISH ISLES OF GAUDINIA FRAGILIS (L.) Beauv.

Date	Vice-county	Details
June 1903	17	New Reservoir works towards Molesey. A. H.
	(Surrey)	Wolley Dod (BM).
27 June 1906	41	On the shore near Barry (near Porthkey). H. J.
	(Glamorgan)	Riddlesdell (NMW). "New to Britain". "Apparent-
		ly far away from all possibility of introduction"
		(BM). Rep. botl Soc. Exch. Club Br. Isl., 2: 251.
3 July 1906	?	"Dr. Pettybridge, Ringsend. Comm. Miss M.
No. 100 Cancer Day		Knowles" (K).
2 Aug. 1912	74	The shore, Stranraer, James Fraser.(Herb. Lousley.)
had not been ban	(Wigtown)	
1914	2	"Charlestown, near St Austell's (sic), Cornwall E.,
	(E. Cornwall)	W. Tressider ex C.C. Vigurs, vide sp." Rep. botl Soc.
	Variation of the state	Exch. Club Br. Isl., 3: 397.

10 July 1917	10 (Isle of Wight)	Abundant in a meadow near Ryde, J. W. Long (BM, K, NMW). Still there 1931. <i>Rep. botl Soc.</i> <i>Even Club Br. Id.</i> 9, 760: 11: 415, 416
23 June 1926	41	Waste ground, Splott, Cardiff, A. E. Wade (NMW).
8 June 1928	0	In great quantity in part of the Grande Mare.
	(Channel Isles)	Guernsey (also described as meadow south of the Grande Mare). A. J. Wilmott and I. A. Williams (STP)
June 1928	34	Avonmouth Docks. C. I. Sandwith (K). The
	(W. Gloucester)	following two 1928 records may refer to the same place: Bristol, N. Somerset, N. Y. Sandwith. <i>Rep.</i> <i>botl Soc. Exch. Club Br. Isl.</i> , 8: 766. Waste ground, Bedminster, C. I. Sandwith. <i>Ibid.</i> , 10: 361.
28 May 1933	0	In some quantity in a grassy cutting in a field near Whitegates, Alderney, associated with <i>Lolium</i> (K). J. Bot., Lond., 75: 300. Apparently well established- but considered also an adventive. There is another sheet of the same date labelled "Bottom of a small
		dis-used quarry in a grassy cutting in abundance,
	Storal Magnitz and the Professional Advisory (1999)	with <i>Lolium</i> " (K). In some quantity near Whitegates in a kind of cutting or sunken track not far from
30 May 1933	0	Old quarry near Mauney, Alderney, A. B. Jackson (R).
June 1936	10	Most remote part of the island. J. W. Long (K). Rep. hotl Soc. Exch. Club. Br. Isl., 11: 416.
1937	10	Meadow, Haven Street. Miss G. Bullock. "As much <i>Gaudinia</i> as any other grass".
27 May 1938	10	Haven Street, in a meadow, plentiful. J. W. Long
June 1938	10	An abundant grass in old pasture, Haven Street. J. W. Long (K. NMW).
?	10	By Newtown River. J. W. Long.
pre-1940	1	Refuse heaps, Truro. W. Borlase (K).
a statemento - s	(W. Cornwall)	divide the second s
Sept. 1942	44	Fairly abundant in wettish hay meadow. F. E.
1040	(Carmarthen)	Williams (K).
1949	(N. Devon)	Fremington, a small patch. Miss M. McC. Webster. <i>Watsonia</i> 2: 59.
1950	10	Quarr Abbey, N. Wootton. Fr J. Higgens. Still there 1971.
1951	10	Binstead. Miss G. Bullock. Still there 1971.
1951	10	Firestone Copse, S. Wootton Creek. A. W. Westrup. Still there 1971.
Aug. 1951	7	Waste ground. Sandridge Hill. J. D. Grose (K).
UP DREAMARY SILV.	(N. Wilts)	isturned for resolution to the dry desk to the
29 June 1954	0	Pont Marquet, Jersey. Mrs F. le Sueur, Miss K. Rob and D. McClintock (JSY).
5 May 1957	7	Carrot field, Sandridge, near Melksham. Miss M. McC. Webster (BM).
14 May 1957	7	As above, in allotments (BM, K).
2 July 1960	14	Roadside, Camp Hill, Ashdown Forest. D. W.
	(E. Sussex)	Parry (K).
Sept. 1962	10	Good colony in small gravel pit at Quarr, near Binstead. A. W. Westrup (K).
1962	10	Gravel pit between Fishbourne and Puckhouse. Fr J. Higgens. Gone 1963 with removal of gravel.
Sept. 1962	10	Newnham Lane near Brickfields, Binstead, a mile distant; also Firestone Road, Haven Street. Miss G. Bullock (cf K).

146		SHORT NOTES
5 June 1963	0	States Dairy, Alderney (persisting), D. McClintock.
17 July 1963	H3	Toomore, W. of Schull, Miss M. Scannell and J. E.
	(W. Cork)	O'Donovan (DBN, K). Ir. Nat. J., 14: 215. There also in 1964 and succeeding years.
15 July 1965	H8	Intensively farmed pasture, Newboro', Patrickswell,
and the All	(Limerick)	seven miles S.W. of Limerick. Dr A. M. O'Sullivan and J. White (DBN). <i>Ibid.</i> , 15: 343.
15 July 1965	H8	Two miles S. of Croom. Dr A. M. O'Sullivan and J. White. <i>Ibid.</i> , 15 : 343.
15 July 1965	H8	Newcastle West. Dr A. M. O'Sullivan and J. White. <i>Ibid.</i> , 15 : 344.
?	H4	Lombardstown, W. of Mallow, edge of new ley.
	(Mid Cork)	M. A. Farragher. Ibid., 16: 53. First noted about
All region to	a bomparen garranta	three years earlier in a new ley.
1966	10	Bank opposite Honnyhill Farm, Brighstone.
0	10	Miss G. Bullock. Still there 1971.
15 July 1066	10	Rear Parknurst Prison. Comm. Mirs Yule.
15 July 1900	(Clare)	S of Slievecarran Mountain and four miles S W of
	(Clarc)	Kinvarra. Miss E. M. Booth (DBN). Ir. Nat. J., 15: 331.
1967	0	Roadside, Bray, Alderney,
29 June 1968	10	Thorness Bay, in considerable quantity – a field of it. J. H. Bevis and B. Shepard.
1969	10	Near Haven Street. Br G. Corcoran.
2 June 1970	0	Near the Grande Mare, Guernsey. Dr P. Macpherson <i>et alia</i> .
June 1970	?	New Forestry Commission plantation, near Crewkerne, along a freshly made-up ride. J. G. Keylock (K).
7 June 1970	0	Near Doyle Rock, L'Ancresse, Guernsey. Mrs P.
June 1971	10	Ride in Parkhurst Forest. J. H. Bevis and B. Shenard
June 1971	10	Grassy bank surrounding field, Werrar Farm, W bank of River Medina B Shepard
15 July 1971	10	Mersley Down, near Haven Street, very consider- able quantity. J. H. Bevis, B. Shepard and Fr J. Higgens.
July 1971	10	Approach to Whittingham Crematorium. B. Shepard.
		D. McClintock

THE FLORA OF S.S. GREAT BRITAIN

On 19 July, 1970, after over 80 years in the Falkland Islands, S.S. *Great Britain* returned for restoration to the dry dock in Bristol from which she was launched in 1843 (Gregor 1971). The journey from the Falklands had taken three months.

A brief inspection of the ship's flora was made in May, 1971, in company with Dr D. H. Brown, and with the kind permission of Capt. J. R. Blake, R.N., of the *Great Britain* Project. On the decks and on the timbers beneath the ship's rail scattered vegetation was found growing in a 'soil' composed largely of decayed wood fragments, rust scales and coal dust. The 12 species of vascular plants found are listed below.

SPECIES OCCURRING IN THE BRITISH ISLES BUT NOT IN THE FALKLAND ISLANDS

Chamaenerion angustifolium (L.) Scop. Deschampsia cespitosa (L.) Beauv. Epilobium adenocaulon Hausskn. E. parviflorum Schreb. Pteridium aquilinum (L.) Kuhn

SPECIES OCCURRING BOTH IN THE BRITISH ISLES AND IN THE FALKLAND ISLANDS

Aira praecox L. Holcus lanatus L. Hypochoeris radicata L. Poa annua L. Scirpus cernuus Vahl

SPECIES OCCURRING IN THE FALKLAND ISLANDS BUT NOT IN THE BRITISH ISLES Colobanthus quitensis (Kunth) Bartl. (Caryophyllaceae) Empetrum rubrum Vahl

The most abundant species was *Poa annua*, occurring in two forms: one hummockforming with short shoots and inflorescences; the other laxer and less branched. These differences persisted when the plants were grown in pots in a greenhouse, although each sort grew taller. *Poa annua* is naturalised on the Falklands, where it is common (Moore 1968). It is possible that the hummock-forming plants were derived from seed of a Falkland ecotype, but the other form was indistinguishable from British weedy *P. annua*.

Small plants of *Scirpus cernuus* were growing on the deck, together with larger, dead specimens. This species is not frequent around Bristol; on the other hand it is abundant in the Falklands (Moore 1968). The young plants had probably grown from seed shed in the Falklands, and the larger clumps may have been killed during the journey from there. Seeds of *Aira praecox*, *Holcus lanatus* and *Hypochoeris radicata* could have reached S.S. *Great Britain* when in dry dock at Bristol or when undergoing temporary repairs at Avonmouth.

A few plants of *Empetrum rubrum* were observed alongside the ship's rail. Some specimens were much-branched with stems that were thick at the base, and were evidently more than a year old. These individuals must have been established while the *Great Britain* was in Stanley Cove in the Falklands and have survived the passage to Bristol. The older plants were in poor condition by May, 1971, and an attempt to transplant one failed, probably due to the difficulty of disengaging its roots from the corroded base of a rail post. Some seedlings were successfully transplanted.

Young plants of *Colobanthus quitensis* were found in several places on the deck but none was likely to have been more than a year old, so that the species probably crossed the Equator as dormant seed. I am told by Dr D. M. Moore that *C. quitensis* grows abundantly in Stanley Cove. It and *Deschampsia antarctica* Desv. are the only two species of vascular plants native to the Antarctic continent, from which they have been recorded as far south as 68° 12'. *C. quitensis sensu lato* ranges widely among the islands of the sub-Antarctic and extends up the Andes into Mexico. Transplanted seedlings have grown rapidly in a greenhouse, flowering and setting seed in June and again in September. This behaviour is in accordance with the findings of Holtum & Greene (1967), who grew plants in a phytotron from seed gathered in South Georgia, and found that flowering was more frequent under regimes of fluctuating rather than stable temperatures, and that under these conditions there were two peaks of flowering about three months apart.

REFERENCES

GREGOR, H. (1971). The S.S. Great Britain. London.

- HOLTUM, A. & GREENE, S. W. (1967). The growth and reproduction of Antarctic flowering plants. *Phil. Trans. R. Soc.*, Ser. B, **252**: 323–337.
- MOORE, D. M. (1968). The Vascular Flora of the Falkland Islands. Brit. Antarct. Surv. Sci. Rep., 60: 1-202.

M. C. SMITH