NEW RECORDS FOR SOUTH GEORGIAN VASCULAR PLANTS

By S. W. Greene

Abstract. New records for the distribution of vascular plants on South Georgia are reported. Some necessary nomenclatural changes are indicated and the paper is concluded by a brief review of progress with the floristic survey of the island.

The 5 km. grid* was first used for plotting plant distribution on South Georgia by Greene (1964) who assembled, in this form, as many as possible of the then known plant records in his *Vascular flora*. However, at this time, field recording by grid had only been used during one season and, as many of the older records could not be plotted, it was obvious that even comparatively well-known areas like Cumberland and Stromness Bays would require further work. Already Longton (1965) has provided some new information on the distribution of the island's naturalized aliens.

During the 1967–68 season some new ground was surveyed botanically and some previously worked areas were re-examined by an expedition which visited South Georgia as part of the International Biological Programme's (I.B.P.) Bipolar Botanical Project which was sponsored jointly by the Royal Society and the British Antarctic Survey. Further survey was undertaken at the beginning of the 1968–69 season by J. A. Edwards and E. P. Wright who have generously made their records available for this publication. The purpose of the present paper is to report the new records for native vascular plants and naturalized aliens obtained during these two seasons but some unpublished older records are also included. New records for transient aliens will be reported elsewhere. Some changes in nomenclature, resulting from recent taxonomic revisions, are also included. The paper is concluded by a brief review of the extent of the floristic survey of South Georgia.

Nomenclatural Changes

In his monograph of the genus *Acaena* in Argentina, Grondona (1964) has stated that plants previously referred to *A. adscendens* Vahl ssp. *georgiae-australis* Bitter and *A. tenera* Alboff should be placed under *A. magellanica* (Lam.) Vahl and *A. microcephala* Schleicht., respectively. From D. W. H. Walton's current detailed examination of the South Georgian species of *Acaena*, it appears that an earlier name for *Acaena magellanica* is *Ancistrum decumbens*, which becomes *Acaena decumbens* (Gaertn.) D. W. H. Walton **comb. nov.** when transferred to *Acaena* (personal communication from D. W. H. Walton). However, Walton considers that the South Georgian material of *A. tenera* is specifically distinct from *A. microcephala* and so the name *A. tenera* is retained.

Moore (1968), in his *Flora of the Falkland Islands*, has reduced *Colobanthus crassifolius* (D'Urv.) Hook. f. to synonymy with *C. quitensis* (Kunth) Bartl. and has referred the South Georgian material of *Ophioglossum opacum* Carmichael to *O. crotalophoroides* Walt. and transferred *Cerastium holosteoides* Fr. to *C. fontanum* Baumg. These changes are accepted.

Lourteig (1968), in her revision of *Juncus* on the sub-Antarctic islands has reduced *J. inconspicuus* (D'Urv.) Hook. f. to synonymy with *J. scheuchzerioides* Gaudich. This change has not been accepted as it seems preferable to continue referring South Georgian material to these two species, as defined in the *Vascular flora* (Greene, 1964), until a thorough cyto-taxonomic study has been carried out of the distinct forms which are known from this island. It may be noted that the South Georgian material of *Juncus* collected by Greene in 1960–61, and deposited in Kew, is still preserved at this institution and not at the British Museum (Nat. Hist.) as indicated by Lourteig.

Zotov (1965) has stated that South Georgian and Fuegian specimens of *Festuca erecta* D'Urv., which he has examined "do not appear to differ in any respect" from material of *F. contracta* T. Kirk from Macquarie Island. Kirk's species was not published until 1895

* The 5 km. grid is overprinted on the 1 : 200,000 map of South Georgia, D.O.S. (Misc.) 372A, a copy of which accompanies the *Vascular flora*.

whereas D'Urville's was described in 1825. If Zotov regards the two as conspecific as seems likely, it is not explained why Kirk's name should take priority over D'Urville's. Further information seems desirable before any change is made.

The nomenclature of the remainder of the species follows Greene (1964).

I.B.P. Expedition Records

The new plant records reported in this section were obtained by botanists of the I.B.P. Expedition between late November 1967 and early April 1968, the expedition membership being S. W. Greene, D. M. Greene, T. V. Callaghan, G. C. S. Clarke and D. W. H. Walton, with the assistance of J. A. Edwards during November and December. The main work of the expedition was centred in the vicinity of King Edward Point, Cumberland East Bay, but three opportunities arose for visiting other parts of South Georgia. At the beginning of the season, a visit was made to Right Whale Bay and the Bay of Isles, and a little later to Stromness Bay, while at the end of the season, a visit was paid to Royal Bay and the area between Drygalski Fjord and Cooper Bay.

Right Whale Bay

With the exception of single records for *Poa flabellata* and *Deschampsia antarctica* in square number 050 155 (Greene, 1964), no data were available on plant distribution from this part of South Georgia. However, as winter snow still masked a considerable part of the vegetation and as some species, for example *Acaena tenera*, were inconspicuous due to incomplete development of summer foliage, only two of the four squares visited on 21 November 1967 (Table I) can be accepted as having had a reasonable primary survey.

Table I. Localities surveyed by 5 km. squares during I.B.P. Expedition, 1967–68

Square number	*Localities*	*Recorders*
	Right Whale Bay	
050 150	Binder Beach and south shore of bay; Ernesto Pass	T. V. Callaghan, J. A. Edwards
050 155	Coastal area from Binder Beach to near Nameless Point	D. W. H. Walton
055 150*	North-eastern and north-western slopes of Comer Crag	G. C. S. Clarke, D. M. Greene, S. W. Greene
055 155*	Vicinity of Nameless Point; Craigie Point and promontory to east	G. C. S. Clarke, D. W. H. Walton
	Bay of Isles	
065 150	Stony ground west of Rosita Harbour; Camp Bay	G. C. S. Clarke, T. V. Callaghan
070 150*	Beach to west and cliffs to south of Rosita Harbour; promontory on south shore of Camp Bay	D. M. Greene, S. W. Greene
070 155	Coastal area of cove, west of Koppervik	D. W. H. Walton
075 145*	Beach area from Ample Bay to eastern end of Salisbury Plain	T. V. Callaghan
075 150	Promontory forming Start Point	T. V. Callaghan
080 145*	Eastern and western sides of Luck Point promontory	G. C. S. Clarke, D. M. Greene, S. W. Greene

TABLE I—*cont.*

	Stromness Bay	
120 135*	Promontory between Leith Harbour and Stromness; east shore of Grass Island; shore north-west of Jason Peak	T. V. Callaghan, J. A. Edwards, D. M. Greene, S. W. Greene, D. W. H. Walton
120 140*	Around whaling station; south-west shore of Leith Harbour	J. A. Edwards, D. W. H. Walton
125 135	Coastal area west of Busen Point; Jumbo Cove	D. M. Greene, S. W. Greene
130 135*	The Crutch and coastal area from there to near Jason Island	D. M. Greene, S. W. Greene
	Cumberland Bay	
120 120	North end of ridge between Geikie and Lyell Glaciers	J. A. Edwards
125 120	North-east facing rocks, on northern side of Echo Pass	D. M. Greene, S. W. Greene
125 125	From Harpon Bay to east side of Sphagnum Valley	J. A. Edwards
130 110*	Vicinity of lateral moraine on east side of Harker Glacier snout	S. W. Greene
130 115	Lateral moraine on north side of Hamberg Glacier snout; south-east coastal area of Moraine Fjord	D. M. Greene, S. W. Greene
130 125	East and west sides of Bore Valley from near Grytviken to Maiviken; Mount Hodges and cirque; south and west slopes of Mount Duse	D. M. Greene, S. W. Greene
130 130	Coastal area above north-east shore of Allen Bay	T. V. Callaghan
135 115*	Coastal area south and east of Analine Island	G. C. S. Clarke, D. M. Greene, S. W. Greene
135 120	Coastal area and high ground behind Dartmouth Point	G. C. S. Clarke, D. M. Greene, S. W. Greene
140 110*	East side of snout of Nordenskjöld Glacier	D. M. Greene, S. W. Greene
	Royal Bay	
155 095	Moraine to north of Ross Glacier snout in Little Moltke Harbour	G. C. S. Clarke, D. W. H. Walton
160 090*	Coastal area from west of Will Point to snout of Weddell Glacier	G. C. S. Clarke, D. W. H. Walton
165 090*	Shore area, east of Weddell Glacier snout	T. V. Callaghan, D. M. Greene, S. W. Greene
170 090	Shore area to west of Cape Charlotte	T. V. Callaghan, D. M. Greene, S. W. Greene
	Drygalski Fjord to Cooper Bay	
165 065	Shore south of Trendall Crag	G. C. S. Clarke, T. V. Callaghan
170 065*	East of Salomon Glacier snout; coastal area east of Hamilton Bay	D. M. Greene, S. W. Greene, D. W. H. Walton
175 065*	Coastal area west and south of Cooper Bay; shore near "pillar" rock; north-west shore of Cooper Island	D. M. Greene, S. W. Greene, D. W. H. Walton

* Indicates squares having a reasonable primary survey.

Table II lists all the new records made during the field survey. One additional record for *Poa flabellata* in square number 060 150 (Table III) was obtained from a launch sufficiently close inshore for the species to be clearly visible on the coastal cliffs of Wales Head.

TABLE II. I.B.P. RECORDS FOR VASCULAR SPECIES BY 5 km. SQUARES IN THE VICINITY OF RIGHT WHALE BAY AND THE BAY OF ISLES

Species	*Right Whale Bay*				*Bay of Isles*					
	050 150	050 155	055 150	055 155	065 150	070 150	070 155	075 145	075 150	080 145
Native cryptogams										
Grammitis kerguelensis	–	–	–	–	–	+	–	–	–	–
Hymenophyllum falklandicum	–	–	+	+	–	+	+	–	–	+
Native phanerogams										
Acaena decumbens	+	+	+	+	+	+	+	–	+	+
Acaena tenera	–	–	+	–	+	–	–	–	–	+
Callitriche antarctica	+	+	+	+	+	+	+	+	+	+
Colobanthus quitensis	+	–	+	+	+	+	+	–	–	+
Colobanthus subulatus	+	+	+	+	+	+	+	+	+	+
Deschampsia antarctica	+	–	+	+	+	+	+	–	+	+
Festuca erecta	–	+	+	+	+	+	–	–	–	+
Juncus inconspicuus	–	–	–	–	–	+	–	–	–	–
Juncus scheuchzerioides	–	–	+	+	–	–	–	–	–	–
Montia fontana	–	–	–	–	–	+	–	–	–	–
Poa flabellata	+	–	+	+	+	+	–	–	–	+
Ranunculus biternatus	+	+	+	+	+	+	+	+	+	+
Rostkovia magellanica	–	+	+	+	–	–	–	+	–	–
Naturalized phanerogams										
Poa annua	+	–	–	–	–	–	–	–	–	–

+ Present. – Absent.

TABLE III. ADDITIONAL SQUARES FROM WHICH *Poa flabellata* HAS BEEN RELIABLY RECORDED FROM LAUNCH OR SHIP SAILING CLOSE INSHORE

Square number	*Recorder*	*Square number*	*Recorder*
060 150	S. W. Greene	105 145	J. A. Edwards
075 155	S. W. Greene	110 140	J. A. Edwards
095 145	J. A. Edwards	110 145	J. A. Edwards
100 145	J. A. Edwards	115 140	J. A. Edwards

Bay of Isles

When the Bay of Isles was visited on 22 November 1967, a few records were available from three of the squares examined, while square number 070 145 on the southern shore had already received a reasonably primary survey (Greene, 1964). Although six squares were visited (Table I), recording was hampered for the same reasons as in Right Whale Bay, so that only three of the squares may be considered to have had a reasonable primary survey. Table II presents the new records obtained by the field parties, but a record for *Poa flabellata* in square number 075 155 was obtained from R.R.S. *John Biscoe* while passing near to the shore south of Cape Buller (Table III).

Stromness and Cumberland Bays

In contrast to the visits to Right Whale Bay and the Bay of Isles, the floristic survey in and around Stromness and Cumberland Bays was undertaken during normal summer snow-free conditions when all species were well developed, i.e. between early December 1967 and the end of March 1968. These bays have been examined extensively during previous botanical expeditions, so most of the squares already had some species recorded from them except numbers 130 110 and 130 130 which were surveyed for the first time. The specimens collected by F. A. Sannes and C. M. Clapperton also added new records for previously under-examined parts of Cumberland Bay. In spite of the extent of the earlier work, many new records were obtained (Table IV) and six additional squares (Table I) can be classed as having a reasonable primary survey.

TABLE IV. I.B.P. RECORDS FOR VASCULAR SPECIES BY 5 km. SQUARES IN THE VICINITY OF STROMNESS AND CUMBERLAND BAYS

Species	*Stromness Bay*				*Cumberland Bay*										
	120 135	120 140	125 135	130 135	120 120	125 125	125 110	130 115	130 125	130 130	135 110	135 115	135 120	140 110
Native cryptogams														
Blechnum penna-marina	+	–	–	–	–	–	–	–	–	–	–	–	–	–
Cystopteris fragilis	–	–	–	–	–	–	+	–	–	–	–	+	–	+
Grammitis kerguelensis	+	–	–	–	–	–	–	–	–	–	–	–	–	–
Hymenophyllum falklandicum	+	–	–	+	+	–	–	–	–	+	†	+	–	+
Lycopodium magellanicum	–	–	–	–	–	–	+	+	–	+	†	+	–	–
Polystichum mohrioides	+	–	–	+	+	–	–	+	–	–	–	+	–	–
Native phanerogams														
Acaena decumbens	–	–	–	–	*	–	–	+	–	–	+	†	–	–	–
Acaena tenera	+	–	–	+	*	–	–	+	–	–	+	†	–	–	+
Callitriche antarctica	+	–	+	–	+	–	–	–	–	–	+	–	+	–	+
Colobanthus quitensis	+	–	+	–	*	+	+	+	–	–	–	–	+	+	+
Colobanthus subulatus	–	+	+	–	–	–	+	–	–	–	+	–	+	+	+
Deschampsia antarctica	+	–	–	–	*	–	–	+	–	–	+	†	–	–	–
Festuca erecta	+	–	–	–	*	–	–	+	–	–	+	†	–	–	–
Galium antarcticum	–	–	–	+	*	–	–	+	–	–	+	†	+	–	+
Juncus inconspicuus	–	–	–	–	–	–	–	+	+	–	–	–	+	–	–
Juncus scheuchzerioides	+	–	+	+	+	–	–	+	–	–	–	–	+	–	+
Montia fontana	–	–	–	–	–	–	–	+	–	–	–	–	+	–	–
Poa flabellata	–	–	–	–	*	–	–	–	–	–	+	–	–	–	–
Phleum alpinum	+	–	–	–	*	–	–	+	–	–	+	†	–	–	–
Ranunculus biternatus	+	–	–	+	*	–	–	+	–	–	–	†	+	–	–
Rostkovia magellanica	+	–	–	–	+	–	–	+	–	–	–	–	–	–	–
Uncinia smithii	–	–	–	+	+	–	–	+	–	–	–	–	+	–	+
Naturalized phanerogams														
Agrostis tenuis	–	–	–	–	–	–	–	–	–	+	–	–	–	–	–
Cerastium fontanum	–	–	–	–	–	–	–	–	+	–	–	–	–	–	+
Poa annua	+	–	–	–	*	–	–	+	–	–	–	–	+	–	+

\+ Present. – Absent.

* From specimens collected by F. A. Sannes. † From specimens collected by C. M. Clapperton.

Royal Bay and Drygalski Fjord to Cooper Bay

A 1-day visit to Royal Bay on 31 March 1968 permitted an examination of much of its southern shore, as well as part of the western shore in Little Moltke Harbour (Table I). None of the southern shore had been carefully surveyed, although a few records were reported by Greene (1964).

Only one record, *Poa flabellata* in square number 175 065, was known from the three squares visited on 1 April 1968 in the area from Drygalski Fjord to Cooper Bay. Although early winter snow and poor weather conditions in Drygalski Fjord curtailed the extent and duration of the survey, a considerable number of records (Table V) were obtained. Taken together, four squares were added to those considered to have had a reasonable primary survey (Table I).

TABLE V. I.B.P. RECORDS FOR VASCULAR SPECIES BY 5 km. SQUARES IN THE VICINITY OF ROYAL BAY AND FROM DRYGALSKI FJORD TO COOPER BAY

Species	*Royal Bay*				*Drygalski Fjord to Cooper Bay*		
	155 095	160 090	165 090	170 090	165 065	170 065	175 065
Native cryptogams							
Grammitis kerguelensis	−	−	−	−	−	+	−
Hymenophyllum falklandicum	−	−	−	−	−	+	−
Native phanerogams							
Acaena decumbens	−	+	−	−	−	+	+
Acaena tenera	−	+	+	−	−	+	+
Callitriche antarctica	−	+	+	+	−	+	+
Colobanthus quitensis	−	+	−	−	−	−	−
Colobanthus subulatus	+	+	+	+	+	+	+
Deschampsia antarctica	−	+	+	+	−	+	+
Festuca erecta	+	+	+	+	−	+	+
Juncus scheuchzerioides	−	+	+	−	−	−	−
Montia fontana	−	+	+	−	−	−	−
Poa flabellata	−	−	−	−	+	+	−
Phleum alpinum	−	+	+	−	−	+	+
Ranunculus biternatus	−	+	+	−	−	+	−
Rostkovia magellanica	−	+	+	+	−	−	−
Naturalized phanerogams							
Poa annua	+	−	+	+	−	−	−

+ Present. − Absent.

OTHER NEW RECORDS

The remaining new records for vascular plant distribution on South Georgia are included in Tables III and VI. The majority were made on 19 November 1968 by J. A. Edwards and E. P. Wright, who were the first botanists to provide information on the composition of the flora in the vicinity of Cape Crewe and to the north-west of Prince Olav Harbour. Table VI also includes some previously unpublished field records made by R. E. Longton during the 1963–64 season, one record based on a specimen (No. D/11) collected by J. B. Cragg in 1957, preserved in the herbarium of the University of Durham, and one record based on two specimens (Bonner Nos. 156, 166) from the W. N. Bonner (1955–61) Collection, housed at Kew and the British Museum (Nat. Hist.). The existence of these specimens was recorded by Greene and Groves (1963), but their distribution has not been published previously.

PROGRESS WITH SURVEY

When the systematic survey of South Georgian vascular plants was begun in 1960–61, little detailed information was available on the distribution of species over the island; indeed there was doubt about the status of many of the taxa. Since then, many records have been published (Greene, 1964; Longton, 1965) and, taken with the data in the present paper, they provide a basis for an evaluation of species distribution on the island.

If the total number of squares from which vascular plants are recorded (Fig. 1) is compared with the total number of squares with land, i.e. 234, it is found that 76 (or 32 per cent) are known to support vascular plants; of these 45 (or slightly less than 20 per cent) of the total have had a reasonable primary survey. The 158 squares for which there are no vascular plant records have yet to be examined but a large proportion of them is well covered with permanent ice and snow, and so some may have no habitats suitable for plant growth.

TABLE VI. ADDITIONAL RECORDS FOR VASCULAR SPECIES BY 5 km. SQUARES FROM VARIOUS LOCALITIES

Species	*Square number*								
	085 145	090 145	090 150	110 135	115 135	120 135	125 120	125 125	130 125
Native cryptogams									
Hymenophyllum falklandicum	*	—	*	—	—	—	—	†	—
Ophioglossum crotalophoroides	—	—	—	—	—	†	—	—	§
Polystichum mohrioides	—	—	—	—	—	—	†	—	—
Native phanerogams									
Acaena decumbens	*	—	*	—	—	—	—	—	—
Acaena tenera	*	—	*	—	—	—	—	—	—
Callitriche antarctica	*	*	*	—	—	—	—	†	—
Colobanthus subulatus	*	*	*	—	‡	—	—	—	—
Deschampsia antarctica	*	—	*	—	—	—	—	—	—
Festuca erecta	*	—	*	—	—	—	—	—	—
Juncus inconspicuus	—	—	—	—	—	—	—	†	†
Poa flabellata	*	—	*	—	—	—	—	—	—
Phleum alpinum	*	—	—	—	—	—	—	—	—
Ranunculus biternatus	*	*	*	—	—	—	—	†	—
Rostkovia magellanica	—	*	*	†	—	—	†	—	—
Uncinia smithii	—	—	—	—	—	—	†	—	—
Naturalized phanerogams									
Poa annua	*	—	—	—	—	—	—	—	—

* Field record from J. A. Edwards and E. P. Wright.
† Field record from R. E. Longton.
‡ Based on specimen collected by J. B. Cragg.
§ Based on specimen collected by W. N. Bonner.
— Absent.

Table VII summarizes those localities on South Georgia from which the records published by Greene (1964) and Longton (1965) were obtained. When these are combined with the localities given in Table I, and the few sites surveyed by Edwards and Wright around Prince Olav Harbour (referred to above), a complete record is obtained of all the principal localities on South Georgia where the distribution of vascular plants has been studied. It is clear from the scattered records from other parts of the island, such as those included in Table III, that vascular plants occur at many other sites, but only future survey will reveal how much of the island is truly barren as a result of the ice and snow cover.

As known at present, the island's vascular flora is composed of 24 native species (six pteridophytes and 18 phanerogams) and eight naturalized aliens (all phanerogams). When the total number of species recorded per square (Fig. 1) is compared with the possible maximum of 32, it can be seen that only two squares have as many as 30 species, i.e. numbers 115 135 and 130 120. In square number 115 135, which includes Husvik whaling station, *Grammitis kerguelensis* and *Juncus inconspicuus* have not been recorded, while *Blechnum penna-marina* and *Alopecurus antarcticus* are unknown from square number 130 120 which includes Grytviken whaling station.

Fig. 1 shows that land in the vicinity of Stromness and Cumberland Bays has more species per square than other parts of South Georgia. Although these figures undoubtedly reflect the

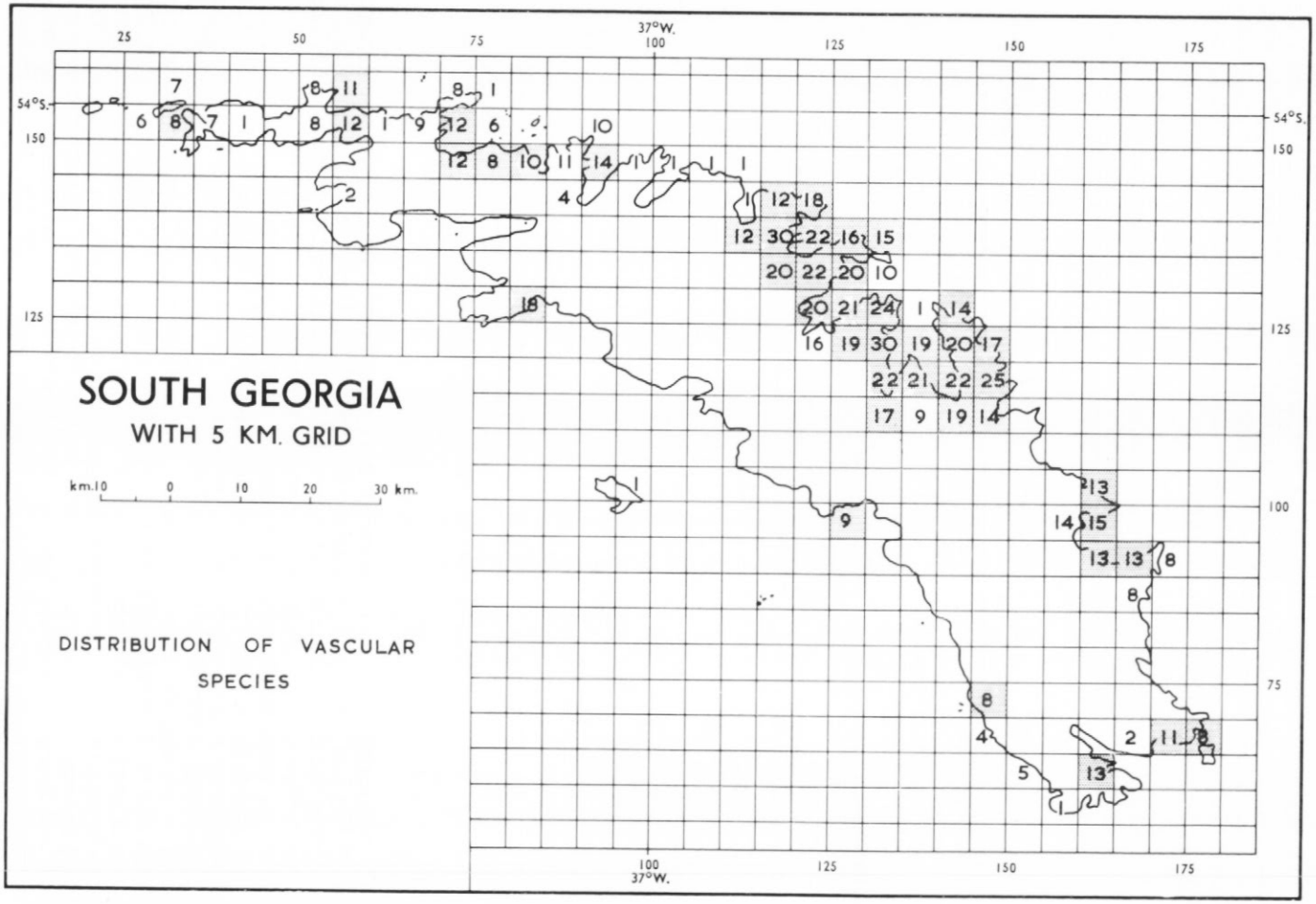

Fig. 1. Distribution of vascular species over South Georgia, with numbers of specimens recorded per 5 km. square. Stippling denotes squares with reasonable primary survey.

TABLE VII. LOCALITIES SURVEYED BY 5 km. SQUARES PRIOR TO 1967–68

Square number	*Localities*	*Recorders*
025 150	Johnson Cove; west of Stejneger Peak	S. W. Greene
030 150*	Jordan Cove; south shore of Bird Island, east to Gony Point	S. W. Greene
130 155	Cirque south-west of Roché Peak	S. W. Greene
035 150	Survey Isthmus; floor of Hope Valley	S. W. Greene
050 155	Black Point to Reef Point	S. W. Greene
070 145*	Shore area from Brunonia Glacier to Paul Beach	S. W. Greene
080 125*	Shore area west of Esmark Glacier; Holmestrand; behind beach south-west of Holmestrand	S. W. Greene
090 145*	Pig Point; shore area of North Bay and east to Point Abrahamson	S. W. Greene
110 135*	Shore area at south-east corner of Fortuna Bay	R. E. Longton
115 130*	Shores of Gulbrandsen Lake; valley to north of Gulbrandsen Lake towards Husvik	S. W. Greene, R. E. Longton
115 135*	Shore area of Husvik Harbour from Brain Island to Kanin Point; valleys running south-west and north-west from Husvik; south shore of Stromness Harbour; valley running north-west from Stromness	S. W. Greene, R. E. Longton
115 140*	Valley running north-west from Leith Harbour	R. E. Longton
120 125*	Carlita Bay	R. E. Longton
120 130*	West side of Olsen Valley; eastern slopes of Foxtail Peak	S. W. Greene, R. E. Longton
120 135	Promontory between Stromness and Husvik Harbour	S. W. Greene, R. E. Longton
120 140	Area around Leith Harbour	R. E. Longton
125 095*	Western shore of Undine South Harbour	S. W. Greene
125 120*	Echo Pass	S. W. Greene, R. E. Longton
125 125*	Sphagnum Valley; shore at Low Point	S. W. Greene, R. E. Longton
125 130*	Jason Harbour; high cliffs south-west of Jason Harbour	R. E. Longton
125 135*	Coast north-east of Jason Peak; col leading to Jason Harbour	R. E. Longton
130 115*	Osmic Hill; side of Hamberg Lakes; ridge between Hamberg and Harker Glaciers; eastern shore of Moraine Fjord	S. W. Greene, R. E. Longton
130 120*	Hestesletten; Brown Mountain; Gull Lake; Grytviken; shore of King Edward Cove; King Edward Point to Hope Point	S. W. Greene, R. E. Longton

continued on next page

Square number	*Localities*	*Recorders*
130 125*	Bore Valley, western slopes of Spencer Peak; Burnet Cove, Poa Cove and Tortula Cove; cirque of Hodges Glacier	S. W. Greene, R. E. Longton
135 120*	Dartmouth Point	S. W. Greene
140 110	Sörling Valley; peak on south side of valley; head of Lönnberg Valley	R. E. Longton
140 115*	Low-lying ground behind shore; valley leading to Ocean Harbour	R. E. Longton
140 120*	Valley with three lakes leading to Rookery Bay; all coastline of Cumberland East Bay; Reindeer Valley	S. W. Greene, R. E. Longton
140 125*	North–south running valley, south of Alert Rock	R. E. Longton
145 070*	Diaz Cove	S. W. Greene
145 110*	Sörling Valley; western shores of Hound Bay	S. W. Greene, R. E. Longton
145 115*	Valley running south-west from Ocean Harbour; shores of Ocean Harbour and Penguin Bay; cove at north-east corner of Ocean Harbour	S. W. Greene, R. E. Longton
145 120*	South shore of Godthul	R. E. Longton
155 095*	Whale Valley; slopes above Pirner Point	S. W. Greene
160 060*	Shore behind Bonner Beach	S. W. Greene
160 095*	Shore east from Moltke Harbour to Köppen Point; southern slopes of Mount Krokisius	S. W. Greene
160 100*	Valley between Brocken and Mount Krokisius; Sacramento Bight to Calf Head	S. W. Greene

* Squares accepted by Greene (1964) as having had a reasonable primary survey.

fact that this is still the most thoroughly worked area of the island, it also seems likely that factors such as climatic amelioration or greater range of habitats are combining to make this area, floristically, the richest part of the island.

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