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William Jackson Hooker and Charles Darwin's *Beagle* plants

Duncan M. Porter

On 24 November 1835, the Rev. John Stevens Henslow, Professor of Botany in the University of Cambridge, wrote to his friend William Jackson Hooker, Regius Professor of Botany at Glasgow University:

> So soon as I have done with proof sheets of my little vol. in Lardner & have looked over & distributed my annual aquisitions in British Botan. I mean to have a regular attack upon Darwin's plants, & will send you specimens of all that I can. (Porter, 1980a, pp. 517-518)

When Henslow had finished reading proofs for his *Principles of descriptive and physiological botany* in Lardner's *Cabinet cyclopedia* (Henslow, 1836) and distributing his plants collected in 1835, he intended finally to mount an assault on the plants that Charles Darwin had sent him from South America over the past four years.

This is the earliest letter between Henslow and Hooker that is known to mention Darwin's plants. There must have been others, however, because on 31 August 1835 Henslow wrote to Darwin that "The plants delight me exceedingly, tho' I have not made them out — but with Hooker's works & help I hope to do so before long" (Barlow, 1967, p. 78). There was much information on plants in the letters that passed between the Cambridge botanist and his former student during the almost five years (27 December 1831 - 2 October 1836) that Darwin spent on the surveying vessel H.M.S. *Beagle* during her circumnavigation. These letters and the others between Henslow and Darwin that are still extant were edited by Darwin's granddaughter Nora Lady Barlow (1967). However, only a few excerpts from the relevant letters between Henslow and Hooker have been published.

Charles Darwin left England on the *Beagle* as a keen amateur entomologist and geologist, and returned as a seasoned natural scientist (Porter, in press). He collected and made observations on large numbers of geological and zoological specimens. Because of Henslow's interest and encouragement, Darwin also collected and observed plants, including lichens and fungi. Henslow apparently intended to identify the plant collections for Darwin, but either press for time or unfamiliarity with species not occurring in Britain caused him to fall behind in doing so. Thus he sought out Hooker's assistance.

It was logical for Henslow to turn to Hooker for help, as during his 15 years in the Chair of Botany at Glasgow University the latter had become one of the world's foremost botanists (see J. D. Hooker, 1902). His herbarium was "the largest and most valuable collection in the world, in possession of a private individual" (Gray, 1841, p. 13), and it had recently been augmented with South American specimens from such collectors as Thomas Bridges, Hugh Cuming, Dr. John Gillies and James Tweedie. Collections by these and others led to collaboration between Hooker and the Scottish botanist George Walker Arnott. Their first joint venture was a study of the plants collected by George Lay and Alexander Collie during the South American and

Pacific Ocean voyage of H.M.S. *Blossom* (Hooker and Arnott, 1830-1841). This was followed by a series of papers titled "Contributions towards a flora of South America and the islands of the Pacific" (Hooker and Arnott, 1833a, 1833b, 1834, 1835a, 1835b, 1835c, 1836, 1837, 1840, 1841). Hooker was then one of the few British botanists with significant knowledge of the South American flora.

When Henslow received Darwin's last dispatch of specimens from South America, sent from Valparaiso, Chile in June 1835, he apparently took all the accumulated plants (including lichens and fungi) and placed them in systematic order. Darwin had not numbered many of his specimens, perhaps because Henslow wrote him early on (15 January 1833) that "a single label *per month* to those of the same place is enough except that you have plenty of spare time or spare hands to write more" (Barlow, 1967, p. 66). Henslow assigned numbers to all the plants (1-633) and recorded these together with his identifications in a notebook, which was discovered at the Cambridge University Herbarium by Mrs. Rita I'Ons in December 1980 (Porter, 1981).

This notebook is entirely in Henslow's handwriting and is titled "C Darwin / Plants / from S. America." The first page reads, "Collection of plants from S. America / from C. Darwin / (H.) sent to Hooker (★ to be returned)." Some of the entries are marked "H" or "★", presumably indicating specimens sent to Hooker in Glasgow. The symbol "α" is also used. Its meaning is not clear, although the entries for most Darwin specimens now at Edinburgh (see below) are so marked.

After commencing the notebook, Henslow wrote to Hooker on 21 January 1836:

> I have begun to number Darwin's plants throughout, & have put up a packet for you as far as I have hitherto gone which is about ⅓ of the way thro' them — I have put the *actual duplicates* in one parcel, & another set of specimens which I would thank you to return if you already possess them, as my own specimens are not sufficiently complete to allow me to call them duplicates — But if you find any among them which you do not possess pray keep them by all means as I have still better in most cases — I have made out a list of numbers sent to you or rather ready to be sent to you thro' Hunneman in a few days & have marked with an (ν) such as I wish to be returned if you do not happen to want them. There are several species of which I possess no named specimens & these are not included in the list — their numbers being missing — If you will have the goodness to name for me those which I now send I shall be able to get on rapidly with the collection — If there should be any that you must borrow I can forward hereafter my own specimens for your inspection as well as any others which I can't ascertain & of which there is no second specimen — I should like to get my list complete by Darwin's return if possible as he will then I doubt not begin to think of publishing his voyage & if there is any thing new among his plants would like to mention it — Your experience will enable you at a glance to suggest the specimens which are probably new — ... I wish he had put up more duplicates than I find he has — but as his chief pursuit was Zoology & Geology I must be satisfied with what he has sent me. (*English Letters/1835-36/H-W/Vol. VIII*, Royal Botanic Gardens, Kew. Letter 5. Part printed in Porter, 1980a, p. 518)

Hunneman presumably was a shipper of goods to Glasgow. Note that although Henslow used "★" in his notebook to denote specimens he wished to have returned, "ψ" was used on the labels of the specimens themselves. Hooker must have wished to keep them all, as no specimens now at Cambridge bear this notation. Also, Henslow was thwarted in his desire to have the plants identified by the time of Darwin's return.

Nine days later (30 January 1836) Henslow wrote again to Hooker:

> I have now completed the numbering of all Darwin's plants & made up the second packet for you before I have met with an opportunity of forwarding the first — They will therefore both go to

> London together on Monday by my Brother — I make out above 600 species in all & have sent you all the dupl. I can spare, & some of which marked (*v*) you will perhaps return if you have them already — You will see that I have not arranged the orders very methodically as I wanted [?] my own convenience & was anxious to get thro' them as soon as I could that you might receive yours — I only beg that you will not suppose for one moment that I care to make known any new species thro' Darwin's publication (if he publishes) rather than see them described first by yourself — A mere list will suffice for my purpose, & when you have run your eye over what I send you, if you wish to see any of the species of which I have no duplicates they shall immediately be sent, or more specimens of such as I now send if they are required to draw up a more perfect description should any of them prove new — ... I had not looked very carefully beyond the Caryophyllaceae when I resolved to number the whole & send you all I could — I only beg that you will do precisely what you choose with the collection before I attempt to make any use of it — The public will have far greater confidence in your remarks & descriptions than in any attempt of mine — Darwin's letters contain very little Botanical allusion, as he is not Botanist — His collections were made to please me — (*English Letters/1835-36/H-W/Vol. VIII*, Royal Botanic Gardens, Kew. Letter 6. The last three sentences printed in Porter, 1980a, p. 518)

Unfortunately, no copies of letters from Hooker to Henslow are known. In addition, no list of names for Darwin specimens that Hooker might have sent to Henslow is known either. However, early in 1981 Miss Jennifer Lamond found in the library of the Royal Botanic Garden, Edinburgh an untitled list of Asteraceae in William Hooker's handwriting. This list "has turned out to deal with specimens collected by Charles Darwin during the early part of the Voyage of the *Beagle* although there is no actual indication of this" (Lamond, 1981, p. 7).

Although this list was made by Hooker while he was at Glasgow University, in 1965 the Glasgow Herbarium's collection of foreign vascular plants was transferred to Edinburgh along with this and some other manuscript lists. Hooker's list proves to enumerate most of the Asteraceae collected by Darwin and sent to Henslow before Darwin left South America. Specimens collected after he left Valparaiso, Chile in April 1835 were stored on the *Beagle* until it returned to England in October 1836. Hence, they do not appear in Henslow's notebook. Most of the specimens noted on the list were cited by Hooker and Arnott (1836, 1841). It is not entirely clear whether the list was made for Henslow, or for Hooker's own use. Since he retained it, Hooker probably used it himself. Many of the specimens cited in this list are types of names published by Hooker and Arnott and others, or are otherwise historically important, and it is reproduced here in the Appendix. Whether lists were made for any other families is unknown.

Upon Darwin's return from the voyage, he transmitted the natural-history collections he had made during its last year to Henslow in Cambridge. He was especially interested in having Henslow identify the plants he had collected in the Galapagos Islands (Porter, 1980a, 1980b). However, Henslow was unable to do so, and they were eventually identified by Joseph Dalton Hooker (1846, 1847a, 1847b), the son of Sir William (knighted in 1836). Joseph also identified and cited a number of Darwin's collections from southernmost Argentina and Chile and the Falkland Islands in his *Flora Antarctica* (1845-1847).

Joseph Hooker's involvement with the Darwin collections came after his father moved to Kew in 1841 to become the director of the Royal Botanic Gardens. It has hitherto been assumed by many that the Darwin specimens went along to Kew with the rest of Sir William's herbarium, but this is not entirely true. I have found that a number of these specimens remained at Glasgow and are now, except for the ferns, at Edinburgh. In almost all cases, these are

indicated in Henslow's notebook by an "α". A few also have found their way to the Oxford University Herbarium; three such are cited in the Appendix. The first set of Darwin's *Beagle* vascular-plant collections is at Cambridge. A study of all of Darwin's vascular plants from the voyage will be published elsewhere.

In addition to the papers with Arnott on new Asteraceae, Sir William published several shorter ones on some of Darwin's other specimens (1836a, 1836b, 1842, 1844a, 1844b; Hooker and Arnott, 1842). Henslow (1837, 1838) himself published two papers on Darwin's plants, with the aid of Sir William. Of the second, he wrote to Hooker on 9 March 1838:

> I have been preparing an account of the specimens which Darwin brought from Keeling for the Magazine of Zool. & Bot. & which I promised Sir. W. J. a year ago — but have been prevented ever since from doing so — I have now sent you merely the *rough draft* which you will be so good as to return for me to correct & *condense* — but my motive in sending it is to ask for your assistance in one or 2 points where I am completely puzzled for want of specimens ...
>
> I have been working very hard for the last 2 or 3 months in getting my Herb. to rights & examining various things — for I have now all but dismissed my private pupils & have in consequence more time for Botany ...
>
> Be so good as to let me have what you can *speedily* as I have only 6 weeks before lectures begin, & if I do not get my M.S. in time I must again lay it aside till they are over — (*English Letters/H-Z/1838/Vol. XI*, Royal Botanic Gardens, Kew. Letter 7. Part published in Porter, 1980a, p. 518)

Hooker must have complied with Henslow's plea for speed, as the latter wrote again two weeks later, on 23 March 1838: "I am much indebted to you for the trouble you have taken & will refer seriatum to your kind offers of assistance" (*English Letters/H-Z/1838/Vol. XI*, Royal Botanic Gardens, Kew. Letter 8).

A decade later, further assistance was provided by Philip Barker Webb, who identified Darwin's vascular plants from the Cape Verde Islands (Webb, 1849). Some of these specimens found their way to the University of Florence Herbarium and are discussed in a separate paper (Porter, 1983).

"Very soon after the settlement of the herbarium and library in Glasgow botanists from all parts of Europe flocked to it ... some of them becoming collaborators with the owner ..." (J. D. Hooker, 1902, p. xxxvi). Several of the members of Sir William's botanical circle were instrumental in the identification of Darwin's nonvascular plants, and Hooker's own earlier interest in mosses is reflected by one paper (1836c) on a Darwin moss collection. Several mosses and liverworts were discussed by Joseph Hooker (1845-1847). By the 1840s, Sir William's interests had shifted to vascular plants, and the mosses in his herbarium were being identified by William Wilson, solicitor and cryptogamist, who did so also with Darwin's specimens from the Galapagos Islands (in J. D. Hooker, 1847a). The coralline algae were identified by the Dublin botanist William Henry Harvey (1847), and a few other algae were cited by J. D. Hooker (1845-1847).

Fungi and lichens that Darwin had collected were discussed by several botanists, including Henslow (1838). In addition, Darwin's notes on wheat rust in Argentina were published by Henslow (1844); this paper does not appear in Barrett's (1977) edition of Darwin's collected papers. Many of the fungi and a few lichens were identified by the Rev. Miles Joseph Berkeley (1839, 1842, 1845), and some were discussed by J. D. Hooker (1845-1847). Finally, Thomas Taylor (1847) identified a number of lichens. In spite of these many publications, however, a num-

ber of Darwin's *Beagle* cryptogams in the herbaria at Kew, Cambridge, and the British Museum (Natural History) remain to be identified.

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———. 1836b. *Donatia magellanica*. Hooker's Icon. Pl., t. 16.

———. 1836c. *Polytrichum dendroides*. Hooker's Icon. Pl., t. 25.

———. 1842. *Homoianthus echinatulus* Cass. Hooker's Icon. Pl., t. 491.

———. 1844a. *Berberis darwinii* Hook. Hooker's Icon. Pl., t. 672.

———. 1844b. *Callixene polyphylla* Hook. Hooker's Icon. Pl., t. 674.

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Appendix. Hooker's List of Darwin's Asteraceae.

The list is written on a single sheet of paper that has been folded in half, resulting in a four-page document. However, Hooker wrote on only the first and third pages. The paper bears a watermark date of 1814.

The numbers are those given to the collections by Henslow; they bear no relation to Darwin's collecting numbers. This has led to some confusion on the part of a few more recent botanists, who have cited specimens as collected by Darwin but with Henslow's numbers, or have cited them as having been collected by Henslow. The latter has happened because, when he prepared new labels for the duplicate specimens, Henslow did not always add Darwin's name to the new label, or sometimes added only "C.D." The confusion was compounded by his also using labels on which was printed "from J. S. Henslow." Following each number is Hooker's identification of the collection, often accompanied by a comment.

For each collection, I have added within brackets my own identification of the taxon (or taxa if it is a mixed collection), the herbaria in which specimens were found (CGE

= Cambridge University Herbarium; E-GL = Glasgow University Herbarium specimens at the Royal Botanic Garden, Edinburgh; K = Royal Botanic Gardens, Kew; OXF = Oxford University Herbarium), and the locality where Darwin collected it. If it is a type, or if it has been cited in the literature, this is also indicated. Occasionally, a further explanatory note is included.

Polygaleae

Polygala

[The first page begins with a few notes on *Polygala*, unrelated to the enumeration of Darwin's specimens.]

367 Senecio n. sp. [marked out]

355 Leuchaeria (§ Lasiorrhiza) near purpurea
[*Leucheria suaveolens* (D'Urv.) Speg. (CGE,E-GL, K). East Falkland Island. Type of *L. gossypina* Hook. & Arn., Companion Bot. Mag. 2: 43, 1836.]

349 Leria nutans
[*Chaptalia integerrima* (Vell.) Burkart (CGE, 2 sheets; E-GL), *C. nutans* (L.) Polak (CGE). Bahia Blanca, Argentina. The latter was cited as *Leria nutans* DC. by Hooker and Arnott (1836).]

310 Mutisia n. sp.
[*Haplopappus diplopappus* var. *struthionum* (Speg.) Cabrera (CGE). Port Desire, Argentina. Cited by Hooker and Arnott (1836) as a polynomial variety under *Diplopappus spinulosus* Hook. & Arn.]

312 (ψ) Chuquiraga oppositifolia var
[*Chuquiraga kingii* Ball (CGE, K, OXF). Port Desire, Argentina. Cited as *C. oppositifolia* Gill. by Hooker and Arnott (1836). The Oxford University specimen is one of four Darwin collections known from this herbarium. It is marked "(ψ)" on its label, indicating that it was originally sent to Hooker at Glasgow.]

329 (ψ) Chuquiraga erinacea
[*Chuquiraga erinacea* Don (CGE, K, OXF). Bahia Blanca, Argentina. Cited as *C. erinacea* Gill. by Hooker and Arnott (1836).]

327 Mastigophorus Gaudichaudi Cass.

328

[*Nassauvia gaudichaudii* (Cass.) Cass. ex Gaud. (*327*: CGE, K; *328*: CGE, E-GL, K). East Falkland Island. Cited as *Mastigophorus gaudichaudi* Cass. by Hooker and Arnott (1836).]

324 Acanthiphyllum H&A — n. sp. (perhaps it is also Triachne pygmaea Cass. but the pappus does not answer
[*Nassauvia glomerulosa* (Lag.) Don (CGE, E-GL, K). Port Desire, Argentina. Type of *Acanthophyllum rosulatum* Hook. & Arn., Companion Bot. Mag. 2: 43, 1836.]

325 Gochnatia (§ Nardophyllum) — revoluta var? vel n. sp. — I had only seen the [unknown word] buds, so that the Nar. I have given to the Section will require some modification. the adult style is puberulous, the pappus only ciliate-denticulate (not plumose) & the anthers appear ecaudate. it ought thus to form a new genus.
[*Nardophyllum obtusifolium* Hook. & Arn., Companion Bot. Mag. 2: 44, 1836. (K). Port Desire, Argentina. Type.]

311 Perezia (§ Stenophyllum) near P. Beckii H&A. —

[*Perezia recurvata* subsp. *beckii* (Hook. & Arn.) Cabrera (CGE; K, 2 sheets). Port Desire, Argentina. Cited as *P. recurvata* Less. by Hooker and Arnott (1836).]

313 (ψ) Panargyrum spinosum (beautiful spines)
[*Nassauvia darwinii* (Hook. & Arn.) Hoffm. & Dusén (CGE, E-GL, K). Port Desire, Argentina. Type of *Panargyrum darwinii* Hook. & Arn., Companion Bot. Mag. 2: 43, 1836. The Kew specimen is marked "(ψ)".]

314 Perezia n. sp. differs from all the sections yet established
[*Perezia lanigera* Hook. & Arn., Companion Bot. Mag. 2: 42, 1836. (CGE, E-GL, K). Port Desire, Argentina. Type.

315 Perezia near P. magellanica, if it be not a bad spec. of that plant
[*Perezia lactucoides* (Vahl) Less. (CGE, K). Cape Negro, Chile. Cited as *P. lactucoides* Less. by Hooker and Arnott (1836).]

316 [marked out]

369 Perezia (§ Drozia) n. sp., near P. pedicularifolia Less. but lobes of leaves ciliate as in P. virens.
[*Perezia magellanica* (L. f.) Less. (CGE, E-GL). Patch Cove, Cape Tres Montes, Chile. Cited by Hooker and Arnott (1836).]

376 Leuchaeria (§ Cassiopeia Dcne. [?] [marked out, and "Lasiorrhiza Lag." added] — perhaps the true L. purpurea — (Chab. purpurea DC
[*Leucheria purpurea* (Vahl) Hook. & Arn. (CGE, K). East coast of Tierra del Fuego, Argentina. Cited by Hooker and Arnott (1836).]

391 Leuchaeria (§ Cassiopeia) — n. sp.
[*Leucheria achillaefolia* Hook. & Arn., Compan-

ion Bot. Mag. 2: 43, 1836. (CGE, K). Port Desire, Argentina. Type.

352 (ψ) Vernonia — apparently — n. sp.
[*Vernonia mariana* Mart. ex Baker (CGE). Bahia, Brazil. Kindly identified by Prof. S. B. Jones.]

394 Erigeron n. sp. near E. cinerea [the latter phrase marked out]
[*Erigeron myosotis* Pers. (CGE, K). Cape Negro, Chile. Cited by Hooker and Arnott (1836).]

393 (ψ) Erigeron canadensis var?
[*Erigeron spiculosus* Hook. & Arn. (CGE, K). Cape Negro, Chile. Cited as *E. canadensis* L. by Hooker and Arnott (1836). The Kew specimen is indicated as "var ψ" on its label.]

360 (ψ) Mikania trinervis H&A.
[*Mikania* cf. *leutzelburgii* Mattf. (CGE, OXF). Bahia, Brazil. Kindly identified by Prof. T. F. Stuessy.]

354 (ψ) Solidago odora δ H&A. *mst*
[*Solidago chilensis* Meyen (CGE). Santa Cruz, Argentina. Type of *S. odora* var. *glabra* Hook. & Arn., Companion Bot. Mag. 2: 45, 1836. Published as "ψ *glabra*".]

383 (ψ) Grindelia foliolosa H&A mst. var? (nix species distincta)
[*Grindelia tellhueches* (Speg.) Cabrera (CGE). Port Desire, Argentina. Type of *G. diffusa* Hook. & Arn., Companion Bot. Mag. 2: 45, 1836.]

385 Erigeron n. sp.
[*Erigeron myosotis* Pers. (CGE, E-GL, K). Gregory Bay, Chile. Cited as *Erigeron* sp. by Hooker and Arnott (1836).]

321 (ψ) Chiliotrichum rosmarinifolium Less — or rather intermediate between that & C. amelloides Less.
[*Chiliotrichum diffusum* (Forst. f.) O. Kuntze (CGE, E-GL). Berkeley Sound, Falkland Islands. Cited as *C. amelloides* Cass. by Hooker and Arnott (1836). The Edinburgh specimen is marked "ψ".]

323 (ψ) Lepidophyllum cupressiforme Cass.
[*Lepidophyllum cupressiforme* (Lam.) Cass. (CGE, K). Port Desire, Argentina. Cited as *L. cupressiforme* Cass. by Hooker and Arnott (1836). The Kew specimen is marked "ψ".]

346 Lagenophora hirsuta Less (if indeed that spec. be not a var. of L. commersonii)
[*Lagenophora hirsuta* Poepp. ex Less. (CGE, K). Wollaston Island, Chile. Type of *L. commersonii* var. *hirsuta* Hook. & Arn., Companion Bot. Mag. 2: 51, 1836.]

319 Gutierrhizia liniarifolia ψ H&A. mst.
[*Gutierrezia ameghinoi* Speg. (CGE, E-GL, K). Port Desire, Argentina. Cited as a polynomial variety under *Gutierrezia liniarifolia* (Lag.) Don by Hooker and Arnott (1836).]

389 Aster Gilliesii H&A. — I now suspect that it is

390 Erigeron Vahlii Gaud. in ann sc. nat. V. p 103
[*Aster vahlii* (Gaud.) Hook. & Arn. (CGE, E-GL, K). East Falkland Island (CGE, K); Cape Negro, Chile. Both cited by Hooker and Arnott (1836, 1841), and illustrated in the latter (plate 486).]

326 Baccharis magellanica Pers. *male*
[*Baccharis magellanica* (Lam.) Pers. (CGE, E-GL, K). East Falkland Island. Cited as *B. magellanica* Pers. by Hooker and Arnott (1840).]

322 Baccharis — female — perhaps the fem. of 326
[*Baccharis magellanica* (Lam.) Pers. (CGE, K). Berkeley Sound, East Falkland Island. Cited as *B. magellanica* Pers. by Hooker and Arnott (1840).]

356 Baccharis concava var? — it is perhaps what is meant by Gaudichaud as
Polygala vulgaris [comment on *Baccharis* written around this]
B. tridentata Pers. (see Ann. sc. nat. V. p. 103)
[*Baccharis patagonica* Hook. & Arn., J. Bot. (Hooker) 3: 29, 1840. (CGE, K). Cape Negro, Chile. Type.]

363 Baccharis subulata Don
[*Baccharis juncea* (Lehm.) Desf. (CGE, K). Port Desire, Argentina. Cited by Hooker and Arnott (1840) under a polynomial variety of *B. subulata* Don.]

397 Baccharis — to me unknown
[*Baccharis darwinii* Hook. & Arn., J. Bot. (Hooker) 3: 39, 1840. (CGE, K). Port Desire, Argentina. Type.]

379 Baccharis tenella ("var?" marked out) H&A. mst. var?
[*Psila tenella* (Hook. & Arn.) Cabrera (CGE, K). St. Julian, Argentina. Cited by Hooker and Arnott (1840) under a polynomial variety of *B. tenella* Hook. & Arn.]

[Here begins the second page.]

353 Molina viscosa
[*Baccharis glutinosa* Pers. (CGE, K). Valparaiso, Chile. Cited by Hooker and Arnott (1840).]

373 Vernonia — *very like* V. cinerea from the E. Indies
[*Vernonia cinerea* (L.) Less. (CGE). Cape Verde Islands. Cited as *V. cinerea* Less. by Hooker and Arnott (1836, p. 44), who stated, "The station

of this is not indicated upon the ticket. If found in extratropical S. America, it is probably introduced. We had previously only seen East Indian specimens."]

374 Ageratum conyzoides
[*Ageratum conyzoides* L. (CGE, 2 sheets). Bahia, Brazil.]

377 Eupatorium glechonophyllum
[*Eupatorium glechonophyllum* Less. (CGE). Valparaiso, Chile. Cited by Hooker and Arnott (1836).]

342 Sonchus oleraceus var?
[*Sonchus oleraceus* L. (CGE, E-GL). Bahia Blanca, Argentina. Cited by Hooker and Arnott (1836).]

355 [mistake for 335] Macrorhynchus chilensis
[*Agoseris coronopifolia* (D'Urv.) Chambers (CGE, K). East Falkland Island. Cited as *Macrorhynchus chilensis* Less. by Hooker and Arnott (1836).]

336 Seriola apargioides *varieties* — perhaps it is

338 Hypochaeris arenaria Gaud.
[*Hypochoeris incana* (Hook. & Arn.) Macloskie (*336*: CGE, K). Port Desire, Argentina. / *H. arenaria* Gaud. (*388*: CGE, K). East Falkland Island. The latter cited as *Seriola apargioides* var. *glabra* Hook. & Arn. by Hooker and Arnott (1836).]

347 Seriola — ["vix" marked out] var. S. apargioides
[*Hypochoeris incana* (Hook. & Arn.) Macloskie (CGE, K). St. Julian, Argentina. Type of *Seriola incana* Hook. & Arn., Companion Bot. Mag. 2: 42, 1836.]

378 n. gen. of Verbesineae. Capitulum radiatum, Rhachi breolata achena erosta ungulata, disco tetragastrum, radio triquetrum, folius pluribus lueribus inaequalibus coronatus. flyta rami scap. — pendiculata
[*Asteriscus vogelii* (Webb) Walpers (CGE, K). Quail Island, Cape Verde Islands. Type of *Odontospermum vogelii* var. *darwinii* Webb in Hooker, Niger flora, 140, 1849.]

382 Bidens odorata
[*Bidens subalternans* DC. (CGE, K). Valparaiso, Chile. Cited as *B. bipinnata* L. by Hooker and Arnott (1841).]

483 Leptinella ambigua H&A
[*Cotula scariosa* (Cass.) Franchet (CGE, E-GL, K). Cape Tres Montes, Chile. Type of *Leptinella acaemoides* Hook. & Arn., J. Bot. (Hooker) 3: 325, 1841.]

395 Bahia ambrosioides Lag.
[*Bahia ambrosioides* Lag. (CGE, K). Valparaiso, Chile.]

317 Zinnia
[*Zinnia peruviana* (L.) L. (CGE). St. Jago, Cape Verde Islands. Cited as *Z. pauciflora* L. by Webb (1849).]

318 Tagetes coronopifolia
[*Tagetes patula* L. (CGE, K). St. Jago, Cape Verde Islands. Cited by Webb (1849).]

370 Senecio n. sp.
[*Senecio* sp. Darwin collected several more senecios than those listed below, but no specimen seen so far bears this number.]

380 Senecio n. sp.
[*Senecio filaginoides* var. *lobatulus* Hook. & Arn., J. Bot. (Hooker) 3: 344, 1841. (CGE, K). Santa Cruz, Argentina. Type.]

398 Senecio n. sp.
[*Senecio filaginoides* var. *lobatulus* Hook. & Arn., J. Bot. (Hooker) 3: 344, 1841. (CGE, K). Port Desire, Argentina. Type.]

364 Senecio vulgaris
[*Senecio vulgaris* L. (CGE, K). Berkeley Sound, Falkland Islands. Cited by Hooker and Arnott (1841).]

362 Senecio n. sp.
[*Senecio littoralis* Gaud. (CGE, K). East Falkland Island. Type of *S. vaginatus* Hook. & Arn., J. Bot. (Hooker) 3: 331, 1841; and of *S. falklandicus* Hook. f., Flora Antarctica, 316, 1846.]

367 Senecio n. sp.
[*Senecio magellanicus* Hook. & Arn., J. Bot. (Hooker) 3: 343, 1841. (CGE, K). Cape Negro, Chile. Type.]

351 Senecio subulatus H&A — mst
[*Senecio subulatus* var. *erectus* Hook. & Arn. (CGE, K). Bahia Blanca, Argentina. Type of *S. subulatus* var. *macranthus* Hook. & Arn., J. Bot. (Hooker) 3: 330, 1841.]

350 Senecio Candolleanus H&A mst.
[*Senecio leucopeplus* Cabrera, Revista Mus. La Plata, Secc. Bot., n. s. 4: 291, 1941. (CGE, K). Bahia Blanca, Argentina. Type. Also type of *S. candolleanus* Hook. & Arn., J. Bot. (Hooker) 3: 345, 1841.]

358 Senecio n. sp.
[*Senecio eightsii* Hook. & Arn. (CGE, K). Southern Tierra del Fuego.]

359 Senecio n. sp.
[*Senecio darwinii* var. *darwinii* Hook. & Arn., J. Bot. (Hooker) 3: 333, 1841. (CGE, E-GL, K). Southern part of Tierra del Fuego. Type. / *S. darwinii* var. *laxus* Hook. & Arn., loc. cit. (CGE). Southern part of Tierra del Fuego. Type.]

366 Senecio n. sp.
[*Senecio filaginoides* DC. (CGE, E-GL, K). Bahia Blanca, Argentina. Type of *S. caricifolius* Hook. & Arn., J. Bot. (Hooker) 3: 345, 1841.]

368 Senecio n. sp. near S. mucronulatus H&A mst.
[*Senecio montevidensis* (Spr.) Baker. (CGE, E-GL, K). Bahia Blanca, Argentina. Type of *S. certophyllus* var. *major* Hook. & Arn., J. Bot. (Hooker) 3: 332, 1841.]

381 Senecio sp. (perhaps Cineraria trifurcata Spr
[*Senecio trifurcatus* (Forst.) Less. (CGE, E-GL). Wollaston Island, Chile. Cited as *S. trifurcatus* Less. by Hooker and Arnott (1841).]

386 Senecio n. sp.
[*Senecio tricuspidatus* Hook. & Arn., J. Bot. (Hooker) 3: 346, 1841. (CGE, E-GL, K). Santa Cruz, Argentina. Type.]

396 Senecio leptophylla H&A mst. affinis
[*Senecio pinnatus* Poir. (CGE). Bahia Blanca, Argentina. Cited by Hooker and Arnott (1841).]

392 Senecio pectinata Gill. mst. affinis
[*Senecio pinnatus* Poir. (E-GL, K). St. Julian, Argentina. Cited by Hooker and Arnott (1841).]

388 Senecio n. sp.
[*Senecio arnottii* Hook. f., Flora Antarctica, 314, 1846. (CGE, K). Chiloe Island, Chile. Type. Also type of *S. limbardioides* var. *major* Hook. & Arn., J. Bot. (Hooker) 3: 347, 1841.]

334 Gnaphalium citrinum var.
[*Gnaphalium leucopeplum* Cabrera (CGE, E-GL). Port Desire, Argentina.]

332 Gnaph. — sp. perhaps a head open of Gn. citrinum
[*Gnaphalium montevidense* Spreng. (CGE, K). Chonos Archipelago, Chile. Cited as *G. cymatoides* Kunze by Hooker and Arnott (1841).]

333 Gnaphal. spicatum Lam. — perhaps also Gn. consanguinium Gaud in Ann. Sc. nat. V. p. 103
[*Gamochaeta purpurea* (L.) Cabrera (CGE, K). Chonos Archipelago, Chile. Cited as *G. spicatum* Lam. by Hooker and Arnott (1841). Type of *G. spicatum* var. *chonoticum* Hook. f., Flora Antarctica, 309, 1846.]