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The dispersal of Allan Cunningham's botanical (and other) collections[1]

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Abstract

Allan Cunningham's herbarium collections are known to be distributed in at least 26 institutions world-wide. Many passed through several hands before being lodged in an official herbarium. The history of their collection, Cunningham's numbering practices, and the intricate web of distribution of specimens through the hands of friends, colleagues and dealers is traced from letters, published accounts and the multifarious labels appearing on the herbarium sheets themselves. Particular attention is paid to Cunningham's Asteraceae collections used by Augustin Pyramus de Candolle in the *Prodromus Systematis Naturalis Regni Vegetabilis vol. 5*, as these bear different numbers in the herbaria of Geneva (G, G-DC), Royal Botanic Gardens, Kew (K) and the Natural History Museum, London (BM), and in some others. For many of these collections it has been possible to reconcile these differences, leading to the identification of hitherto unrecognised type material. Many of the different kinds of labels attached to Cunningham specimens are illustrated, and interpreted. A brief synopsis is provided of the distribution of some of his other collections, of mammals, birds, reptiles, insects and artefacts. A list of Cunningham's Asteraceae donation to Candolle, with details of surviving holdings in various herbaria, is provided. A list of specimens given by Cunningham to the captain of the ship *L'Héroine* for the French government is also provided.

Introduction

Allan Cunningham (1791–1839) was Australia's most prolific plant collector of the early 19th century. He was with Oxley on the first major expedition into inland New South Wales in 1817, joined Phillip Parker King in four circumnavigations of Australia in 1817–1822, collecting on the coasts of eastern Queensland, northern, north-western and south-western Australia, as well as in Timor and Mauritius; conducted numerous short expeditions into areas such as the Illawarra, Monaro, Central Western Slopes, and Blue Mountains regions of New South Wales; and led major expeditions north from Bathurst to the Liverpool Plains (1823, 1825) and Darling Downs (1827). In Queensland he led or was involved in expeditions around Moreton Bay (1824, 1828, 1829). He also had two expeditions to northern New Zealand (1826, 1838), and one to Norfolk Island (1830). It is often overlooked that on his way to Australia he also spent nearly two years in Brazil (1814–1816), collecting in the vicinity of Rio de Janeiro, and undertaking a long overland collecting expedition to Sao Paulo and return.

[1]The author recalls with pleasure a long association with Elizabeth Brown, dating from the 1970s when he lectured to her in taxonomy at the University of Auckland, New Zealand. In more recent years he had lengthy and fruitful discussions with her in her role as editor of TELOPEA, and as curator of the Asteraceae collections in NSW. As a large part of this paper explores the Cunningham interaction with Candolle regarding Asteraceae it is an appropriate tribute to her. She would have enjoyed the botanical history as well.

Cunningham was sent to Australia by Sir Joseph Banks to replenish the exotic collections of the King's Garden at Kew. His title was officially King's Collector for the Royal Garden at Kew, and his salary and expenses were paid for by the British Treasury. However, successive Governors in New South Wales were instructed to provide logistical support for his activities in the Colony. The difficulties this instruction caused will be discussed elsewhere, but suffice it to say here that Cunningham was extremely successful in collecting seeds, bulbs and living plants, and in sending these to Kew (and to Banks who also demanded a share of the propagation material). Cunningham had also been instructed to prepare, wherever possible, dried herbarium specimens of the plants that he found, and to send replicates of these to London, to William Aiton in Kew and to Banks at Soho Square in central London.

Cunningham (along with other collectors, such as Bowie in southern Africa, Caley in St. Vincent, Lockhart in Trinidad, Wallich in India, and Moon in Ceylon) was successful in reviving the strength and depth of the Kew living collections (Desmond 2007). A hothouse which had originally been built at Kew in 1788 for Masson's introductions from Africa, gradually became filled with Australian plants, and was renamed the Botany Bay House. William Aiton, Superintendent of the Royal Garden at Kew, instructed two of his gardeners, George Bond and Thomas Duncanson, to prepare watercolours of newly introduced plants at Kew which had flowered for the first time (Mabberley 2004). Most of these paintings are still held at Kew, and among them are 26 plants sent from Brazil by Cunningham and his fellow collector James Bowie, and 269 paintings of plants sent to Kew by Cunningham from Australia, New Zealand, Timor and Mauritius (there is some duplication, with the same species sometimes illustrated more than once, but there are well over 200 different species depicted). William Hooker, in *Curtis's Botanical Magazine* (1819–1837; tt. 2100–3625) recorded and illustrated at least 139 plants introduced to Britain (mostly to Kew) by Cunningham (in some cases this was by inference, e.g. in recording plants collected during Oxley's 1817 expedition).

Cunningham's mission implied that, in theory, he only needed to collect each species once. Once Kew had propagation material, there was no need to re-collect the species. Cunningham therefore kept careful records of everything he collected, and was able, in later years, in corresponding with William Jackson Hooker and others, to quote just where and when he had collected a particular plant. Of course, occasionally he inadvertently collected the same species from different localities, and from time to time, Aiton requested that choice plants (particularly Proteaceae) that had died at Kew, be re-collected to re-establish stocks. However, it is true to say that for the majority of species, Cunningham only collected them once, or if he collected seed on different occasions, he only preserved dried specimens once.

The propagation material was Cunningham's primary objective, but his herbarium sheets are his lasting legacy. It is not known exactly how many individual collections he made, as not all shipping lists have survived. However the number certainly exceeds 5000. Of each gathering he routinely made at least three replicates (one for Aiton, one for Banks and one for his own reference set), and for many he clearly made more, because for years afterwards he was able to supply colleagues such as W.J. Hooker, J. Lindley, A.P. de Candolle, G. Bentham, D. Don and others with specimens. The total number of his herbarium sheets must therefore exceed 20,000 worldwide, and many are types or replicates of types, often not identified as such. Cunningham described a large number of species (and a few genera) himself (Orchard 2013), but for even more his specimens were used by other botanists to describe Australian taxa. In the Australian Plant Name Index (APNI) there are over 450 names with the author citation 'A.Cunn. ex …'. This excludes those taxa for which the describing author is cited alone, but the type specimen is Cunningham's. Authors who have used Cunningham material as the sole or main basis of their descriptions include G. Bentham, A.P. de Candolle, G. Don, W.G. Walpers, J.C. Loudon, J.C. Schauer, C.D.F. Meisner, S.F.L. Endlicher, W.J. Hooker, J.D. Hooker, E. Fenzl, F.J.H. von Mueller, J. Steetz, J. Decaisne, R. Brown, J. Lindley, A. Gray, F.A.W. Miquel, and many others. According to Index Herbariorum (Lanjouw and Stafleu 1954) Allan Cunningham herbarium material is now to be found in at least 26 herbaria.

The Cunningham specimen numbers

The first to have commented on Cunningham's confusing numbering system seems to have been Spencer le Marchant Moore (1919), although it appears that he did not fully understand it. After every major expedition Cunningham prepared his collections for despatch to London by the earliest possible suitable ship. He avoided very small ships, and those returning to London by circuitous routes (e.g. via China, India or the East Indies). For each kind of collection (seeds, bulbs, living plants, herbarium specimens, wood samples) he prepared itemised lists. Each specimen was allocated a number, which usually started at 1 for each kind of collection in each shipment. Thus for a despatch by the ship *Jolly Roger*, the seed packets might be numbered 1–350, bulbs 1–7, living plants 1–72, and herbarium specimens 1–296. These numbers were quite often cross-referenced, particularly between seeds and herbarium specimens, but the numbers were applied arbitrarily, not

chronologically. The next despatch of material, which might be three or more months later, would also include numbered lists, but the numbers usually began again at 1 for each type of collection. Only in early collections from Brazil, and in Australia 1816 to about 1818, were the number sequences sometimes continuous from one shipment to the next. Most authors have treated these shipping numbers as equivalent to collection numbers, and, in conjunction with at least one other piece of data, either a date, voyage, species name or locality, they are usually unique, given Cunningham's attempts to not re-collect the same taxon. However, a label of the kind 'Cunningham 47', as appears on many herbarium sheets, is not particularly informative. Particularly for low numbers, the same number will exist for multiple collections. However, a label 'Cunningham 47, 1817' is often unique, and will identify a particular collection (in this case, as probably from the Oxley expedition). Cunningham did not place any enduring value on these shipping numbers, although he retained them in his own herbarium as an *aide memoire* of what he had sent to Aiton and Banks. Later in life, when despatching replicates to friends and colleagues, he renumbered specimens in each despatch. Other numbers became attached to Cunningham specimens subsequently. Herbarium specimens were 'collectables' in 19th century polite society, and were traded among dilettantes. When these private collections were later given to institutions, or sold, the private numbers went with them, and are often confused with Cunningham's shipping numbers. Other specimens may now be found with two numbers, the original shipping number, and Cunningham's secondary shipping number. This is particularly the case with the large suite of specimens Cunningham sent to Candolle, and which are now in G and G-DC (discussed further under 'Distribution to Candolle' and in Appendix 1).

Cunningham's Brazilian collections

Allan Cunningham and James Bowie were despatched by Banks from England on 29th October 1814 to collect propagating material for Kew in the Cape of Good Hope and New South Wales. However Banks suggested they travel via Rio de Janeiro, collecting there for a short time, before resuming their journey. For a number of reasons they eventually spent almost two years in Brazil, only leaving on 28th September 1816, Bowie for the Cape of Good Hope, Africa, Cunningham for Sydney, Australia. Most of their collecting was done within a day or two's foot (or mule) travel of Rio, although they undertook one major overland expedition to Sao Paulo and return from March to September 1815, and visited 'Taguihy' (=Itaguai) at the foot of the main coast range on several occasions. Towards the end of their stay they both collected in the Organ Mountains at the head of Rio de Janeiro's Guanabara Bay. It appears that Cunningham did not retain replicates of most of these Brazilian collections, perhaps because of the problem of protecting them from mould and insects (particularly termites). Just a handful of specimens are known to have passed through private hands. A collection of *Leucothoe revoluta* DC. in TCD was received from the herbarium of J.T.Mackay. The holotype of *Blechnum cunninghamii* T.Moore (=*B. occidentale* L.) in K was received when Kew purchased the herbarium of Thomas Moore in March 1885. Annotations on this sheet suggest Moore might have received it from Cunningham's friend Robert Heward, who inherited his botanical specimens. Two sets of Brazilian (and later, Australian) specimens were sent to Aiton in London, of which one set was forwarded to Banks (and his Librarian, Robert Brown). Aiton's set was housed in a small shed built for the purpose near his office in Kew. Neither set was consulted in any serious way by contemporary botanists, although the collections undoubtedly contained new taxa. Cunningham complained of this many years later (see below, under 'Richard Cunningham's distribution of Allan Cunningham specimens').

When Aiton retired in 1840, and before William Hooker arrived to replace him, Robert Brown, by now Curator of Botany at the British Museum, removed Aiton's set of Brazilian collections to what is now BM, at the invitation of Aiton. The gardens were under threat of dissolution at this time (Stearn 1965). In BM there is an herbarium accession recorded: 'Collection made with James Bowie in Brazil (1814–17) in Herb Banks', but no record seems to exist of the specimens received in 1840 ex Kew, which were presumably subsumed in the 'Collection of Australian plants, made 1818–26, presented by William Townsend Aiton.' discussed below under 'Cunningham's Australian...collections...'. Thus for a time, Cunningham's Brazilian specimens were all housed at BM (Fig. 1, an example of a Cunningham label from one of his Brazilian collections). Subsequently (date unknown) replicates of some of them were distributed to other herbaria, but apparently almost none of them found their way back to Kew (K). A brief examination by the author of groups such as Melastomataceae, which Cunningham is known to have collected prolifically in Brazil, revealed almost no Kew specimens. The very few now held at K came via private collections, of which the *Blechnum* specimen noted above is an example. Others include *Miconia* sp., J.Bowie 83 (K850585) and *Miconia urophylla* DC. J.Bowie 87 (K828902), both received by K via James T. Mackay. Mackay was a Scottish-born botanist who spent much of his life in Ireland, where he established a botanic garden for the University of Dublin at Ballsbridge, and was later curator of Trinity College Botanic Gardens (Nelson 2004). It is not known how he acquired these specimens.

Information on the shipments of Cunningham and Bowie specimens from Rio de Janeiro in 1815 and 1816 (Table 1) include date of despatch, ship details, and contents of despatches.

A few Brazilian specimens collected by Cunningham and Bowie are now held in herbaria other than BM. For example, the Field Museum Herbarium, Chicago (F), holds an isosyntype of *Solanum didymum* var. *subglabrum* Dunal, and the herbarium, Missouri Botanical Garden (MO), holds an isotype of *Lucuma bullata* S.Moore (=*Pouteria bullata* (S.Moore) Baehni), and an isotype of *Stipecoma parabolica* Miers (=*Peltastes peltatus* (Vell.) Woodson). All of these were received as exchange specimens at some time from BM. The herbarium of the Botanischer Garten und Botanisches Museum Berlin-Dahlem (B) holds two sheets with fragments (leaves) of the type of *Anomospermum ovatum* Miers, both almost certainly removed from the large specimen still in BM.

Cunningham's Australian, Timorese, Mauritian and New Zealand collections, 1816–1830

Cunningham arrived in Sydney on 20th December 1816 as a paying passenger in the convict transport *Surry*, and according to his Journal (A.Cunningham 1814–1817) by the 23rd was already making notes on the plants around Parramatta, and on the 24th on the 'rocky shore opposite the Town [Sydney]'. During January–March he collected around Sydney, Parramatta, Windsor, Pennant Hills and Castle Hill. These specimens and seeds were despatched on board H.M. Armed Brig *Kangaroo* (Captn Jeffreys) on 24th March 1817. Unfortunately no copy of the Shipping Lists which accompanied this despatch seem to have survived. At the instruction of Governor Lachlan Macquarie, on 3rd April Cunningham joined the expedition led by Surveyor General John Oxley, and for the next five months explored the courses of the Lachlan and Macquarie Rivers. On his return to Parramatta on 8th September he immediately made up a despatch of seeds and specimens, and sent the originals in two cases to Aiton by the *Harriet* (Captn Young) on 1st December. The duplicates, plus some bulbs and seeds were despatched at the same time by the *Chapman* (Captn Drake). On 22nd December he joined Phillip Parker King in the *Mermaid* for the first of four major expeditions to chart and explore northern Australia. These activities set the pattern for the next 10 years. Cunningham would undertake a major or several short expeditions, at the conclusion of which he would make up consignments of specimens, seeds, and bulbs or live plants in soil, and send them to Aiton by the earliest suitable ship, chosen for its size, direct voyage to England, and reliable Captain. Each consignment was accompanied by a detailed numbered list of each kind of collection, usually starting at number 1. On arrival in London, Allan's brother Richard, amanuensis to Aiton, would put aside one set of specimens, seeds and plants for Kew, and send another set of the specimens and seeds (at least) to Banks. Figure 2 shows one of Cunningham's original shipping tags, and one of the printed label produced for his Australian collections in BM (there are several minor variations, for various voyages, etc). The K specimens were stored in the shed near Aiton's office; the Banks specimens went into the latter's herbarium in Soho, under the care of Brown. In 1840 on Aiton's retirement Brown

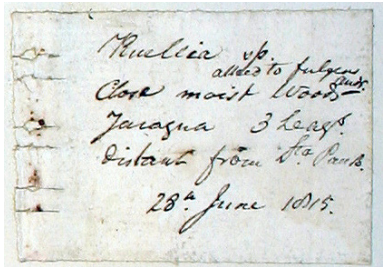


Fig. 1. Label from one of Cunningham's Brazilian collections (*Aphelandra longiflora* (Lindl.) Profice, BM28856) in his handwriting 'Ruellia sp. allied to fulgens Andr. Close moist Woods Jaragua 3 Leags distant from Sta Paulo 28th June 1815'.

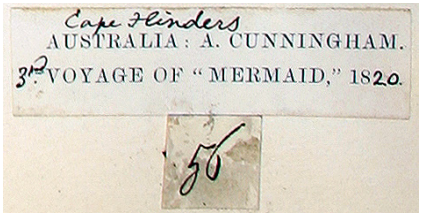


Fig. 2. An Allan Cunningham original shipping number tag '56', and one of the printed labels produced for Cunningham's Australian specimens in BM: *Buchanania arborescens* (Blume) Blume. 'Cape Flinders, Australia: A.Cunningham, 3rd Voyage of "Mermaid," 1820.' This specimen is an isosyntype of *Buchanania muelleri* Engl.

Table 1. Details of the shipments of Cunningham and Bowie specimens from Rio de Janeiro, Brazil to England (1815–1816), date of despatch of the shipments, name of ship and Ship Master, summary of contents in the shipment and other comments are provided.

Date of despatch	Ship/Master	Contents	Comments
13th March 1815	*Montagu*/Jno Watkins	A box of specimens, seeds and plants, being succulent and parasitical [=epiphytic]. Seeds (120 parcels) and some live plants, incl. 'some Cacti perhaps new, roots of a hexandrous plant, blue spike, allied to Convallaria?, and some others.'	The shipping list from this despatch has not been found. The description comes from a letter to Banks dated 13th March 1815, and Cunningham's Journal. 'Parasitical' plants refers to epiphytic plants, probably mostly orchids. All came from near Rio.
22nd November 1815	*Iris*/Henry Greathead	Box no. 1 & 3 containing Seeds and Specimens. Four other boxes containing live plants not sent.	These were the seeds and specimens collected on the expedition to S. Paulo. Material from the outward trip had been left at Santos for shipping to Rio, but sat on the docks for 3 months. The despatch per *Iris* contained, in addition, bundles of specimens collected on the return trip, plus others from around Rio and Taguihy collected subsequently. The numbering system was chaotic, with 12 separate lists or Bundles, each starting from no. 1, with numbers up to 90. The total number of specimens was 588, some by Bowie, some by Cunningham, some jointly.
25th December 1815	*Dolphin*/Capt. Black	Five boxes of Specimens and Seeds. From a letter to Aiton, the shipment included at least 712 packets of seeds, and 5 bulbs (*Amaryllis* & *Brunsvigia*, 2 of each, plus 1 unidentified).	These were seeds and specimens collected by Bowie from Taguihy to replace those lost due to the delayed shipment from Santos, and by Cunningham from Corcovado. The shipping list has not been found. This shipment also included 3 bundles of Sello specimens.
10th February 1816	*Nocton*/ Captn not noted.	Two boxes of specimens and seeds.	Included specimens from the summit of Corcovado. Previous collections had been from the lower slopes. Cunningham specimens numbered 1–92, Bowie 1–115.
23rd March 1816	H.M. Frigate *Indefatigible*/	A box of specimens and 71 packets of seed.	Specimens from Tejuca Falls, 'St. Andre Island' in the harbour, slopes of Corcovada. Cunningham specimens 93–147; Bowie specimens 1–36.
1st June 1816	*Quebec*/	Five boxes of specimens, seeds and plants.	Specimens from Taguihy (Bowie), and Corcovado, Pria Grande, and shores of the harbour, Sumi do Rio (Cunningham). Cunningham specimens 148–250, fern specimens 1–61, Bowie 1–86.
18th July 1816	H.M. Frigate *Orpheus*/Charles M. Fabian	One box of specimens, 3 boxes of succulents and parasitical plants.	Specimens from Sumi do Rio and Corcovado (Cunningham no. 251–296); Bowie no. 1–12
22nd October 1816	*Berwick*/	Two boxes of specimens	Specimens from the foothills near Taguihy, from around Rio, and from Corco Secco and the Organ Mountains. Cunningham no. 297–383, & ferns 62–68; Bowie no. 1–125 & ferns 1–7. These specimens were shipped by a friend, David Stevenson, after Cunningham and Bowie left Rio.

added the K specimens to the Banksian herbarium at the British Museum (now BM). The BM accessions list records 'Collection of Australian plants, made 1818–26, presented by William Townsend Aiton.' In 1852 an unnamed donor presented BM with 'A collection of Australian plants, chiefly from Allan Cunningham.' A small additional set of Cunningham specimens was acquired by BM in 1866, when the herbarium of John Smith, Curator, Royal Botanic Gardens, Kew, was purchased. This herbarium consisted of some original Cunningham specimens, and some produced from living plants introduced by him to Kew (see below under 'Distribution to other botanists, 1831–1837').

Richard Cunningham's distribution of Allan Cunningham specimens

It seems that in Australia, perhaps because of the more favourable drying conditions, Cunningham often collected more than the two sets of herbarium sheets (for Aiton and Banks) that he was contractually obliged to provide. He must certainly have habitually kept a third replicate for himself, as in correspondence to Hooker and others in later years he could confidently discuss the details of morphology, date and place of collection. Of much of his collection he also seems to have despatched to London more than two sets.

It was Cunningham's expectation that his new plant discoveries would be rapidly written up, either by Brown or Aiton, but this did not happen. Brown had received a blow when the first volume of his *Prodromus* sold poorly, and he lost interest in large scale descriptive projects. Aiton was only interested in growing new and unusual plants at Kew, and not in describing or distributing them. Allan Cunningham's contract forbade him making the fruits of his collections available to others, for fear of undermining their novelty value for Kew, so he could not describe them himself. However, his brother Richard, working at Kew, came up with a scheme whereby William Hooker, then Professor of Botany at Glasgow, could describe at least some of them through his publications, *Curtis's Botanical Magazine*, *Exotic Botany*, and others. As he explained to Hooker, he was in possession of Allan Cunningham's specimens, and offered to send sets to Hooker:

'*I have been thinking how my Br[other]. may receive the credit of his discoveries without a nest of hornets being stirred up, for altho' the specimens my Brother sends me I consider as my own property, yet they are for the most part the same as those sent by him for the Banksian &c herbaria [footnote: this however is not always the case as I have some unique subjects], and altho' they would otherwise be destined to moulder away and be entirely lost to the world, yet such is the disposition to monopolize subjects of this kind that I am well aware of the kind of feeling that would be raised against me if I was known to have placed them on a train for publication.*' (R.Cunningham 1824).

Allan Cunningham had expressed his concerns regarding non-publication of his discoveries, as Richard Cunningham told Hooker:

'*I wish I could fairly (situated as I am in relation to Kew) send periodically to Dr. Hooker specimens of my plants, after supplying Mr. Aiton's & Mr. Brown's Herbaria. I wish to act uprightly to all concerned, but when I consider that the persons to whom I am bound to send my plants do not publish them, but rather sedulously study to keep them from the public &c, thereby giving full opportᵛ for others to claim the merit of Discovery, I regret it much, & feel disposed to give that to others who would do justice to any thing interesting I might send. I have no hesitation in saying that so soon as I am released from my present tie, I shall not scruple to act as I have said.*' (A. Cunningham, quoted in R.Cunningham 1825).

Richard Cunningham undertook a regular correspondence with Hooker from at least 1823 to 1832, when Richard Cunningham departed to take up the position of Colonial Botanist in Sydney. On 29th November 1823 he sent specimens from near Sydney, and some from the Oxley Expedition; on 22nd January 1824, plants from the Illawarra; on 22nd October 1824 collections from north of Bathurst; on 5th December 1824, specimens from the coasts of western and north-western Australia, and from Tasmania; on 22nd December 1824 plants of the

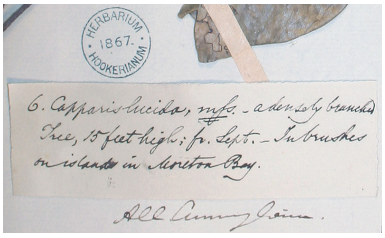


Fig. 3. Label on a Cunningham specimen from W.J.Hooker's herbarium, now in K: *Polyalthia nitidissima* (Dunal) Benth. (K). '6. *Capparis lucida* mss., a densely branched Tree, 15 feet high; fr. Sept. – In brushes on islands in Moreton Bay. All. Cunningham.'

east and north-west coasts; on 7th January 1825 collections from the east, north and north-west coasts, some from Timor, and some from south of Sydney; on 6th July 1825 he sent a hundred plants from New South Wales, but noted later in the month that he had no more plants in any quantity to send.

On 26th December 1825 he sent Hooker a list of Cunningham specimens of groups covered in Candolle's first volume of the *Prodromus* (Candolle 1824), and asked whether Hooker needed any for his own proposed *System of Plants*. In a letter (undated) of 1827 Richard Cunningham sent Hooker '*plants…lately arrived from New South Wales*', and in a letter of July 1831 Richard mentioned that Allan Cunningham had arrived in London a fortnight earlier, and had a bundle of specimens for Hooker, mainly from Norfolk Island. An example of a label on a specimen acquired by Hooker while still in Glasgow, before moving to Kew, is presented in figure 3.

Allan Cunningham had arranged to be recalled to England in 1830, arriving in July 1831, and settled at Strand-on-the-Green across the River Thames from Kew. From there he took up his own correspondence with Hooker, and with other botanists in the UK and on the Continent. During this period (until October 1836 when he returned to Sydney) he worked on his personal herbarium, and distributed replicates to various colleagues and friends.

Distribution to Dumont d'Urville

Cunningham wrote from Sydney to Phillip Parker King in London on 18th February 1824, telling him of his various expeditions since King had returned to Britain to publish his charts and *Narrative* (King 1827). In an addendum to that letter (Cunningham 1824b), he mentioned that the French Corvette *La Coquille* (Captain Duperrey) had been in port for several weeks, and that he had met Dumont d'Urville. Dumont d'Urville had collected many entomological specimens around Sydney, but because of a drought, had not found many plants in collectable condition. Cunningham said that he was providing d'Urville with supplementary material from his own herbarium. Later, he sent additional specimens to him via his friend Charles Telfair in Mauritius, as he knew the expedition planned to call there. These specimens are presumably at P, but none were located there during this study. The Herbier National de Paris (P), within the Museum National d' Histoire Naturelle holds Australian collections by Dumont d'Urville, and by Cunningham, but none have been located bearing both names. It is possible that d'Urville recorded Cunningham's donation under his own name.

Distribution via C. Telfair

When the *Mermaid* visited Mauritius in September–November 1821, Allan Cunningham made the acquaintance of Charles Telfair (1778–1833). Telfair was born in Belfast, studied chemistry and medicine, and joined the Royal Navy as a Ship's Surgeon, visiting Mauritius and Reunion in 1810. In 1816 he returned to Mauritius to settle. He held a number of government appointments in Reunion before being appointed personal secretary to the Governor of Mauritius, Robert Farquhar (Nelmes and Cuthbertson 1931). It must have been in this capacity that Cunningham met him, and the two remained in correspondence intermittently until 1829 at least (from comments regarding other letters it is clear that much of the correspondence has not survived). The first surviving letter from Cunningham to Telfair is dated 8th August 1824 (A. Cunningham 1824a), written while he was camped at 'Bull-ai' [? the current Bulli] in the Five Islands District (Illawarra). This discursive letter discusses the local vegetation, particularly the palms, and contains some of his first thoughts on Australian biogeography. More pertinent to this paper, Cunningham mentioned that he had recently sent by the brig *Perseverance* to Telfair a small packet of specimens for '*M. Dumont D'urville, Bott & 1st Lieut of the French Corvette La Coquille (Capt. Dupperrey)…*' to be forwarded. He promised to send Telfair live plants of *Doryanthes* and *Correa* etc. On 28th September 1825 (A. Cunningham 1825) Cunningham wrote to Telfair per Mr. Savage, travelling on the *John Munroe*, and enclosing a packet of 50 dried plants, which he hoped

'*…will not be wanting in interest to you as it is made up of species belonging to Genera that in part form the characteristic feature of the Australian Flora. Packets of this description, I shall be very happy occasionally to send you for your examination, and, if you please, for your after transmission to your very learn'd friend, Dr. Hooker, the regius Prof. of botany of Glasgow University, who, altho' I have not the honour of his correspondence, I have the strongest desire to aid by my labours (small as they truly are) in the augmentation of the materials he at present possesses for the carrying on of the several invaluable & most learned works, whose publication he is at this period so ably and honourably conducting.*' (A. Cunningham 1825)

The accompanying list showed that the majority of the specimens were from near Sydney, but some were from the Oxley Expedition, a few from Liverpool Plains, and a few from Moreton Bay. On 16th September 1828 Cunningham wrote to Telfair from Brisbane, complaining that he had not heard from him for 18 months,

but describing his exploration of the Brisbane region with Charles Fraser, Colonial Botanist, and also a correspondent of Telfair's. At this time he sent Telfair for his garden, seeds of three unusual trees he had found on the Brisbane River,

'Omphalobium australe (C.), Native Chesnut; Flindersia australis Br.; and a new Genus closely allied to Flindersia, bright yellow wood.' (A. Cunningham 1828b)

The Yellow-wood was *Flindersia xanthoxyla* (A.Cunn. ex Hook.) Domin (syn. *Oxleya xanthoxyla* A.Cunn. ex Hook.). In a letter of 10th January 1829 he obliquely mentions another parcel of specimens for Hooker, of which No. 101 was the 'Chesnut', which he now proposed to describe as *Castanospermum*. This he did, but for the complicated details of publication see Mabberley (1992). In another letter dated 9th November 1829 he described to Telfair his exploration of the upper Brisbane River of May–September 1829, and promised to send Hooker specimens from this expedition '*by the next opport[unity]*'. He also noted that he had heard via Fraser that Telfair had succeeded in flowering *Doryanthes* in Mauritius from Cunningham's seeds. No further surviving letters from Cunningham to Telfair have been located, but a small number from Telfair to Hooker have survived. On 17th January 1829 Telfair noted that he was sending Hooker in Glasgow, in soil, germinated seeds of the 'Omphalobium australe' of A. Cunningham. On 8th March 1829 he noted that a Mr Aspinall had called briefly at Mauritius and delivered letters and a plant list for forwarding to Hooker, but had not left the specimens to which the list referred. The 'Chesnut' was growing luxuriantly, as were eight plants of *Doryanthes*, now distributed around the island. On 29th October 1829 he reported that he had heard from Cunningham that the latter no longer believed the Chesnut belonged to *Omphalobium*, but to a new genus. Finally, Telfair wrote to Hooker:

'*Cunningham was at Norfolk Island by our last accounts. No doubt he will bring us some treasures from thence. I have transcribed for him your paragraph concerning him & his discoveries, which I am sure will please him much. It is indeed a sad pity that his great talents & industry should so long & so perseveringly [be] kept under, & their results withheld from the world. I trust that he may still by your aid emerge into life & fame*'. (Telfair 1830)

Distribution to A.P. de Candolle

Allan Cunningham noted with considerable interest the start of publication of Candolle's *Prodromus* (Candolle 1824). By the time he returned to England in 1831 the first four volumes had appeared.

On 18th January 1834 he wrote to Candolle, sending him nine specimens of Asteraceae that he thought might be useful for Vol. 5 of the *Prodromus* (A. Cunningham 1834a). The original letter, still held in G (Library of Conservatoire et Jardin botaniques de la Ville de Genève), bears Candolle's manuscript annotations identifying the species. Cunningham wrote again in August (A. Cunningham 1834b), saying that, as Candolle had indicated that publication was still some time away, Cunningham was sending him 135 additional Australian Asteraceae. In both of these lists the plants were numbered afresh (Fig. 4), although in a few cases both the old (to Aiton) number as well as the new appears on the label. The Asteraceae specimens sent to Candolle, and replicates of these in other herbaria, are listed and discussed in Appendix 1.

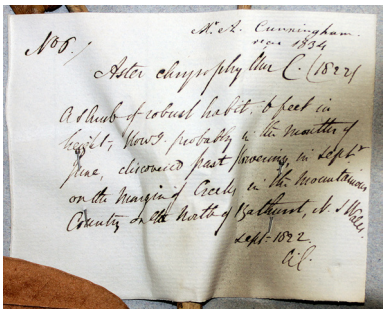


Fig. 4. Label in Cunningham's hand on a specimen of *Olearia chrysophylla* (DC.) Benth. in G-DC. (Asteraceae), sent to Candolle in 1834, with new shipping number 6: 'No. 6. Aster chrysophyllus C. (1822). A shrub of robust habit 6 feet in height, flowrs probably in the month of June, discovered past flowering in Septr on the margins of creeks in the Mountainous Country in the north of Bathurst, N.S.Wales. Sept. 1822, A.C.' 'Mr. A. Cunningham, reçu 1834.' Holotype of *Eurybia chrysophylla* DC.

Shortly before leaving England to return to Sydney, Cunningham wrote to Lindley, informing him that he was despatching to

'*D. Candolle - to whom I have sent, rather made up, packets of some fine, very fine things of orders he has yet to come to in the Prodromus - Epacrideae &c, Thymeleae &c*' (A. Cunningham 1836a).

These specimens are now in G (families published in the *Prodromus* before 1836), or in G-DC (families published after 1836), and are marked 'Mr. A.C. Cunningham 1836'. In general, they bear Cunningham's handwritten labels, with locality and date of collection, but are mostly unnumbered. Some of these specimens were later divided. In P there is a specimen of *Eurybia rosmarinifolia* DC. (=*Olearia rosmarinifolia* (DC.) Benth.) (P711313) with a printed label 'extrait de l'herbier de M. De Candolle, et donné par lui en 1837.'

Distribution to J.C. Schauer

In November 1834, Johannes Conrad Schauer, then at the Botanic Garden in Breslau (Wrocław), wrote to John Lindley requesting material of Chamaelauciae. Lindley forwarded the request on to Cunningham, who replied in March 1835 that he would forward whatever he had to Lindley, for transmission to Schauer, who he had never heard of, but was disposed to help

'because of his Connexion with a learned Man, the Prof. Nees V. Esenbeck' (A. Cunningham 1835).

He must have been satisfied with the result, because in 1836 when distributing material from his herbarium to respected botanists, one of the recipients was '*M. Schauer, Breslau, Myrtaceae chiefly*' (A. Cunningham 1836a). Schauer subsequently cited Cunningham specimens in many of his publications on Myrtaceae.

Distribution to W.J. Hooker

As mentioned above, William Jackson Hooker received large numbers of Allan Cunningham specimens in the period 1823–1831 via Richard Cunningham. He had also received several parcels direct from Allan Cunningham via Telfair. Once Allan returned to England he was free of contractual obligations, and free to distribute his material to anyone. He immediately took up regular correspondence with Hooker in Glasgow, but this mainly concerned publication of his living introductions (Orchard 2013). He sent Hooker very few additional dried specimens, one exception being a sheet of *Grevillea robusta*, needed to supplement the description of that species in *Curtis's Botanical Magazine* when the Kew living plant had not yet flowered.

Previously, however, cryptogamic plants had been outside of Cunningham's contractual obligations, and these, plus insects and the occasional animal or bird that he collected, he was free to dispose of as he wished. In a letter to Hooker of 5th February 1825 (R. Cunningham 1825a), Richard Cunningham noted that his brother had requested a copy of Hooker's *Musci Exotica*, and asked whether Hooker could provide one. On 13th February (R. Cunningham 1825b) he noted that in a letter just received, Allan had advised him that he was sending a few mosses for Hooker, and promised more from the Illawarra later. Richard Cunningham noted the arrival of the first cryptogam collections in a letter to Hooker of 20th September 1826. In 1829 Hooker began supplying numbers of his *Icones Filicum* for transmission to Sydney, with a view to encouraging Cunningham to collect ferns for him.

Cunningham returned to Sydney as Colonial Botanist in 1837, but was given no opportunity to undertake collecting expeditions during that year. After resigning in December 1837, he travelled to New Zealand in 1838, but most of his collections from there were still in Sydney when he died in 1839. Hooker eventually received a set of these in 1840 from Heward, and others were received by Kew in 1862.

When Hooker was appointed Director of Kew in 1841, he brought with him his immense personal herbarium. One small part of this was his suite of Cunningham specimens. In 1866 the Hooker herbarium was purchased for Kew, and the specimens received a circular date stamp which identifies them (Fig. 3). Cunningham specimens in K bearing this stamp can thus be traced to donations from the Cunningham brothers between 1823 and 1831 to William Hooker. However it seems that Hooker may not have brought all of his Cunningham material with him to K. In the Herbarium, Royal Botanic Gardens, Edinburgh (E), are many sheets stamped 'GL', on permanent loan from the University of Glasgow (GL). Among these are a number of Allan Cunningham's Australian collections, as well as many collections by Richard Cunningham. How these came to be in GL is not clear, but it is possible William Hooker left a small collection behind when he moved to Kew. It is also possible these specimens were from the herbarium of George Walker Arnott who worked with Hooker, and lived his later life in Glasgow (Britten 2004).

Distribution to G. Bentham

While living at Strand-on-the-Green near Kew Cunningham received from George Bentham a request for the loan of his Labiatae. Cunningham replied that although he was not personally acquainted with Bentham, he was happy to oblige and promised to send him specimens within the week (A. Cunningham 1834c). The 37 specimens were sent on 21st May 1834, with copious notes from Cunningham. He asked for their return *'at an early day'*, but offered to send Bentham duplicates later if any were of special interest. A year later Bentham (1835) recorded that he had Cunningham's *Buchnera*. The duplicates of Cunningham's Labiates were sent in 1836, by which time Cunningham had made Bentham's acquaintance at the Linnean Society, and confirmed that he was loaning him Scrophulariaceae specimens (A. Cunningham 1836b). Later the same year he wrote to Bentham that he was about to return to Sydney, and was dispersing his herbarium. He promised Bentham *'specimens of such as I shall consider interesting to you'* (A. Cunningham 1836d). In his letter to Lindley listing the disposition of specimens (A. Cunningham 1836a), was the entry *'Mr Bentham, of the Orders Scrophularineae, Verbeae'*. In fact Bentham received far more than this, as Heward later provided him with additional specimens (see below under 'Robert Heward'). The Bentham herbarium was presented to Kew in 1854, and these sheets are identified by a circular handstamp(Fig. 5).

Fig. 5. Label and handstamp on a sheet of *Stemodia lythrifolia* F.Muell. ex Benth. (syntype), ex herbarium Bentham, in K: 'Adenosma coerulea Br. (Banks & Solr). A glutinous spongicauled plant, in barren rocky places on Enderby Isld, Dampier Archipelago, N.W. Coast, Aust., 25 Feb. 1818.' The annotation 'A. Cunningham 1836' indicates that this was one of the specimens given to Bentham by Cunningham in that year. The specimen was part of the Bentham Herbarium presented to Kew in 1854, but was used by Bentham in preparing his *Flora Australiensis* treatment in 1868.

Distribution to J. Lindley

Only two letters to John Lindley have been located, but it is clear that Cunningham regularly sent him specimens after 1831. Cunningham recognised that Lindley was the pre-eminent British orchid specialist, and sent him large numbers of specimens of this family. These are frequently cited in Lindley (1830–1840). In this period Cunningham relied mainly on Hooker to publish descriptions of his new living plant introductions in *Curtis's Botanical Magazine* (Orchard, 2013), but when this process faltered, he turned to Lindley, editor of *Edward's Botanical Register*. To support these horticultural reports, both men received occasional herbarium specimens from Cunningham. In 1836, when breaking up his herbarium, Cunningham included Lindley as a recipient (A. Cunningham 1836a). In that letter he mentioned that one bundle had already been sent, and another would follow. Lindley's herbarium is now at Cambridge University (CGE) and still includes many Cunningham sheets. One of these is illustrated as Figure 6. The Lindley orchid herbarium was purchased by K in 1864, and Cunningham orchids cited by Lindley should be sought there.

Fig. 6. Isotype specimen of *Ackama rosifolia* A.Cunn. in the Lindley Herbarium, CGE: 'Ackama rosaefolia C. 30 ft high. Hokianga R. New Zealand, 1826. A.C.'

Distribution to other botanists 1831–1837

In writing to Candolle (A. Cunningham 1834a), Cunningham mentioned that he had also recently written to Carl Friedrich Philipp von Martius in Munich, to discuss the biogeography of Australian palms, and had sent him specimens of several species. Martius was later the recipient of parcels ['bundles'] of specimens when Cunningham was dispersing his herbarium (A. Cunningham 1836a). Others mentioned in this distribution were Stefan F. L. Endlicher (Vienna), Dr Friedrich E. L. Fischer (St. Petersburg), David Don, Mr Ward [probably Nathaniel B. Ward, inventor of the Wardian case for transport of living plants on board ship], and '*some private persons, not writers, but great lovers of botany*'. One of these '*private persons*' was probably John Smith (1798–1888), Foreman gardener at Kew 1823–1841 and Curator 1841–1864 (Desmond, 2007). Smith was sympathetic to Cunningham during the years 1832–1836, when, after the departure of Richard Cunningham for the post of Colonial Botanist in Sydney, Allan found that he was barred by Aiton from accessing living examples of the plants that he himself had introduced, and which he wished to send to Hooker in Glasgow for illustration in *Curtis's Botanical Magazine*. During this period, until Aiton relaxed his prohibition, Smith provided Cunningham with fresh samples from Kew. Smith's herbarium, containing some Allan Cunningham original specimens, and others made from Cunningham's living introductions to Kew, was purchased by BM in 1866 and these specimens bear a printed label:

'HERBARIUM OF JOHN SMITH / Curator of Royal Botanic Gardens, Kew, 1842–1862, PURCHASED 1866'

Examples are *Leucopogon ericoide*s (Sm.) R.Br., 'A.Cunningham s.n., 1836' (BM); *Leucopogon cunninghamii* R.Br. ex DC. (=*Leucopogon affinis* R.Br.), 'A.Cunn. s.n., 1836' (BM); *Asplenium australasicum* (J.Sm.) Hook., 'v.v. hort. Kew, 1840, ex A.Cunningham, 1824, same plant alive in 1852' (BM) (Fig. 7); and *Asplenium attenuatum* R.Br., 'New Holland, A. Cunningham s.n.' (BM). Not all Smith material from Cunningham is in BM. An interesting exception is a specimen of *Doodia maxima* J. Sm. ex C. Chr. in K. This bears a Jenman-type semi-printed label (see below under 'George Samuel Jenman and Thomas Moore' and Figs 18 and 19) in which the printed section has been altered in manuscript to read

'EX HERB. / (ALLAN CUNNINGHAM) J. Smith'

and the manuscript provenance reads

'ex horto Kew. v.s. et viva. New South Wales, Fraser, 1825'. There is in addition another printed label 'FERN HERBARIUM of the late R.HEWARD. / Presented by Mrs. MOORE, CHELSEA. / January, 1887.'

This seems to be a specimen collected by Smith from a plant grown in Kew from propagation material sent from New South Wales, by Fraser (?or Cunningham) and passed to Heward, and on his death to Mrs Moore (wife of Thomas Moore, see below under 'George Samuel Jenman and Thomas Moore'), who donated it to Kew.

Cunningham's Australian and New Zealand collections 1837–1839

In a letter to Bentham (A. Cunningham 1836c) Cunningham noted that he was disposing of all of his herbarium

'it being my intention to reserve for my own reduced Herb^{m} to carry out with me [to Sydney]*, simply one small example of each plant gathered in my wanderings by sea and Land in former years'.* (A. Cunningham 1836c)

Nevertheless his *'Extra baggage*', not including cabin baggage, was still

'ten large cases' (A. Cunningham 1836a).

For the first year (1837), he was unable to undertake any expeditions, as Governor Bourke refused to supply a horse. Cunningham made a few collections near Sydney, but resigned in December in disgust. He spent much of 1838 in New Zealand, where he made moderately large collections. In March 1839 Cunningham wrote to the Rev. J.S. Henslow, Regius Professor of Botany, University of Cambridge, to say that he was forwarding to him

'a parcel containing dried specimens of phanerogamous and Cryptogamous plants, sufficient to exhibit a fair example of the Botany of the Northern Island [of New Zealand] which I trust you will regard as worthy space in your herbarium' (A. Cunningham 1839).

There is only one other record of Cunningham sending material of this period to anyone, although he may have sent some (particularly cryptogams) to Hooker. In a letter to Heward of about May 1838, written from the Bay of Islands, New Zealand (A. Cunningham 1838) Cunningham described how he had travelled up the Wycaddy River with a party under the command of Captain Cecille (captain of the French ship *L'Héroine* in which he had travelled to New Zealand), spending three days felling trees for timber. Cunningham collected dried specimens of 18 species, of which he provided a set for Captain Cecille *'with numbers corresponding with those blocks of timber, for his government*'. These specimens and timber blocks may be in the Paris Herbarium (P.) A list of the specimens is given in Appendix 2.

Cunningham's bequest

When Cunningham died in Sydney on 27th June 1839, his estate was wound up by his executors Phillip Parker King and Robert Lethbridge. His personal effects were sold by auction on 3rd and 5th August. His collections and books, however, were left to his friend Robert Heward in Kensington, London, and King arranged for them to be shipped there immediately. These collections certainly included his *'reduced Herbarium…of one small example of each plant gathered in my wanderings by sea and Land in former years*' that he had mentioned to Bentham. In addition there were a few plants collected in the vicinity of Sydney 1837–1839, and a large collection of New Zealand plants collected April–October 1838. Cunningham would also have had in his possession his brother Richard's herbarium, which he had inherited in 1835. In a letter to Hooker he spoke of his satisfaction in having the opportunity to visit Sydney and wind up his brother's affairs personally

'…*I have had the satisfaction of collecting, myself, my own & [?his various] packets*…'. (Cunningham 1837)

Fig. 7. Specimen in BM of *Asplenium australasicum* (J.Sm.) Hook., from the herbarium of John Smith. This specimen seems to have been made from a cultivated plant in Kew, grown from material supplied by Cunningham in 1824, and is the Type of *Neottopteris australasica* J.Sm.

Richard Cunningham would probably have taken to Sydney in 1832 some sort of reference set of Allan Cunningham's collections. He himself collected in the 'Blue Mountains' (probably mainly on the Bathurst road), and more specifically in the Illawarra and Mt Tomah areas, and in New Zealand in 1834. Richard Cunningham, as Colonial Botanist, also accumulated specimens from other collectors, including James Anderson, William Baxter, Thomas Mitchell, Franz W. Sieber and others. This miscellaneous assemblage was sent to Heward in 1839 and received by him in March 1840.

Robert Heward

Robert Heward (1791–1877) was born in Kensington, London, and lived at 5 Young St for much of his life ('M' 1877). He filled the post of garden clerk of the Horticultural Society of London (later the Royal Horticultural Society) in his early life, at first at Kensington and later at Chiswick. Later he was appointed Manager of a coffee plantation in Jamaica, a position he held for 5 years, during which time he assembled a large herbarium, particularly of ferns. In 1838 he published a paper on Jamaican ferns (Heward, 1838). On his return to London he became subeditor of the *Westminster Review*, and was assistant to Hansard in the preparation of the latter's *Parliamentary Debates*. He was also a newspaper agent at Kensington, and held a position in the Australian Department at the Colonial Office from at least 1855 to 1876 (Heward 1855a, 1859; 'M' 1877). In 1845 he set himself up as an Agent, selling sets of herbarium specimens (including James Drummond specimens) and botanical books (Heward 1845).

He developed a close relationship with Kew, and wrote a letter to the *Times*, pointing out the poor state of Kew Gardens (Hill 1934). According to Hill this letter was written in 1846, but it was probably in 1836, part of a larger campaign led by George Glenny of the *Gardener's Gazette*. The campaign led to an enquiry into the management of the gardens by a working party consisting of John Lindley, Professor of Botany at University College, London, and two gardeners, John Wilson and Joseph Paxton (Stearn 1965). Lindley's report (Lindley 1840) eventually led to transfer of control of Kew from the Lord Steward's Department to Woods and Forests, and to the appointment of William Hooker as its director in 1840.

Heward became a close friend of both Richard and Allan Cunningham. Allan Cunningham stayed with Heward in Kensington prior to his departure for Sydney in 1836. On Cunningham's death, Heward wrote an extensive obituary/biography, based on Cunningham's journals, and on letters from Cunningham to Heward. This was published in *Hooker's Journal of Botany* and the *London Journal of Botany* (Heward 1842a, 1842b). Hooker financed publication of a reprint of this article, in book form with new pagination (Heward 1842c). Copies of the book survive in the libraries of Royal Botanic Gardens, Kew, and Royal Botanic Gardens, Sydney (Heward 1842d). Heward died at Wokingham, Berkshire, on 24th October 1877, and was buried at Brompton Cemetery.

One recipient of Cunningham material from Heward was the Swiss botanist Carl Daniel Friedrich Meisner. Meisner, then Professor of Botany at Basel, received one or possibly two parcels of Cunningham's Australian specimens on the 4th and/or 9th September 1850, probably by purchase. Meisner's herbarium was later bought by John H. Crooke and presented to Columbia University, from whence it was donated to New York Botanical Garden (NY). This herbarium contains many Cunningham specimens ex Meisner, some non-types: e.g. *Acacia scapuliformis* A.Cunn. (NY1688), *Acacia verniciflua* A.Cunn. (NY1704); and others type specimens: e.g. *Pimelea paludosa* var. *foliosa* Meisn. (NY1104578), *Wikstroemia cunninghamii* Meisn. (NY1104601), *Grevillea ericifolia* R.Br. (NY284613), and *Persoonia cornifolia* A.Cunn. ex R.Br. (NY284788), among many others. Meisner had also obtained Cunningham specimens from other sources, and these are now also in NY. For example, a type specimen of *Persoonia marginata* A.Cunn. ex R.Br. (NY4064), was obtained by Meisner 'Comm. ab amic. de Martius 1850' (Received from my friend von Martius, 1850), obviously one of the specimens Cunningham sent to von Martius in 1836 (see 'Distribution to other botanists 1831–1837', above). Meisner also received Cunningham specimens distributed by H.C. Watson (discussed further under 'Robert Heward').

Heward wrote to Bentham on 9th December 1840 (Heward 1840b), sending him a set of Cunningham's 1838 New Zealand specimens. On 2nd February 1842 (Heward 1842e) he offered to send to Bentham on loan 230–250 Cunningham specimens of 'Mimosae', and said that if Cunningham had not given Bentham a set of Leguminosae in 1836, he would be glad to give him a set in so far as his material allowed. On 8th February (Heward 1842f) he wrote again saying that instead of a selection of 'Mimosae' he had decided to send the lot. He explained the numbering system as follows:

'The running numbers at the top of the tickets merely refer to a rough list that I made for my own convenience when I looked out the Acaciae from other portions of the herbarium, Cunningham's number and year of collection (when attainable) are on the left hand lower corner of the ticket (thus 167/1818)…' (Heward 1842f).

Bentham was invited to retain duplicates where these existed(Fig. 8). In the last surviving letter from Heward to Bentham (Heward 1862) he stated that he was sending Bentham the only specimen he possessed of *Pleiogyne*, and that he was unable to find any material of *Citriobatus*. At the same time he offered to Bentham '*…any or the whole of Cunningham's Australian collections*…'. He reported that he now had the whole collection in Natural Orders and fastened down on paper, and that he had prepared labels bearing '… *as far as his Lists and Journals would help me, the date of discovery and precise habitat of each specimen*…'.

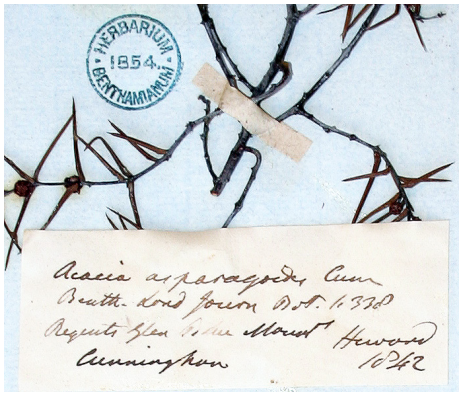


Fig. 8. Isotype specimen of *Acacia asparagoides* A.Cunn. in K: 'Acacia asparagoides Cunn. Benth. Lond. Journ. Bot. 1: 338. Regents Glen, Blue Mounts, Cunningham.' The annotation 'Heward 1842' confirms that this specimen was part of Heward's donation to Bentham of that date.

In the meantime Heward had also been writing to Hooker on a range of matters. On 13th April 1840 he told Hooker that Cunningham's specimens had arrived in good condition from Phillip Parker King the previous week (Heward 1840a). He expected Cunningham's letters and Journals by the next ship. On 25th July 1840 Heward sent Hooker a set of Cunningham's 1838 New Zealand ferns (Heward 1840c). The flowering plants, along with mosses, lichens and a '*Fucus*' followed on 8th December 1840 (Heward 1840d). Heward noted that he had put his own numbers on these specimens. On 26th December 1840 (Heward 1840e) he reported receiving some of Cunningham's Journals (not all) and some manuscripts from Sydney. On 18th November 1842 (Heward 1842g) he sent Hooker a New Zealand *Asplenium* collected by Richard Cunningham, and other *Asplenium* specimens from New South Wales, presumably collected by Allan Cunningham. Between 1842 and 1846 Heward wrote frequently to Hooker, often commenting on Cunningham's collections of various taxa: *Oxalis*, *Clematis*, *Ixerba*, *Ranunculus*, *Pittosporum*, *Drimys*, *Myrsine*, *Metrosideros*, but seems to have sent Hooker little in the way of specimens. On 27th May 1850 he noted (Heward 1850) that Hooker was gathering a collection of woods at Kew, and sent him all of Cunningham's wood collection. The main part of Cunningham's Australian collection was transferred in 130 cases to Kew in November 1862 (Heward 1862a) and the New Zealand (23 cases) and Norfolk Island collections (4 cases) in January 1863 (Heward 1863). Heward also sent to Kew miscellaneous Cunningham papers and effects, listed as follows:

'*3 Vols of Journals* [Now in the State Records Authority of New South Wales]

Lists of Brazilian and New Zealand Plants [Still held in the Archives, Royal Botanic Gardens Kew]

Botanical Mss [Still held in Kew, in part at least, some perhaps in the Mitchell Library, Sydney]

Field Books [Now in the Mitchell Library, Sydney]

Diplomas [Now in the Mitchell Library, Sydney]

Brown's 'Botany' in Flinders' Voyage - in Ms by A. Cunningham [Present whereabouts unknown]

Brown's Prodromus in M.S. (page for page) by Richd Cunningham [Now in the Mitchell Library, Sydney]

Endlicher's Prodromus Florae Norfolkicae (interleaved) [Still in the Library, Royal Botanic Gardens, Kew. This is puzzling. Although this interleaved book was given to Kew by Heward in 1863, it was again offered for sale to them by the bookseller William Wesley & Son in 1889 for £4, according to the file 'Kew Herbarium Presentations to 1900' in the Kew Archives].

The above are in one packing case. There are two other cases with Stems of Tree Ferns, Seed Vessels &c, and a bundle with Stems

A painting of Doryanthes excelsa Corr. executed in New South Wales by Lewin the celebrated Bird painter. [Now in the Dixson Gallery, State Library of NSW]' (Heward 1863)

Much of the above material was presented to the New South Wales Government by Kew, through the Colonial Office, in 1888–89 (Anonymous 1888–89).

Heward also sent to Hooker a list (table) of '*…the entire amount of Allan Cunningham's collections in his various journeyings…*'. This table (Heward 1862b), reproduced below, covers the period 1817 to 1830 only, and thus does not include his Brazilian collections, nor those of his return to Australia (and New Zealand) in 1837–1839.

'Collections made by Allan Cunningham 1817 to 1830'

Travels & Voyages	**Date**	**No. of Spec^{ms}**
Sydney, Parramatta &c	Jan^{y} to March 1817	116
Oxley's Expedition	April –Sept 1817	418
Capt^{n} King's 1st Voyage	Dec^{r} 1817–July 1818	329
Illawarra &c	Oct.–Nov. 1818	228
Tasmania	Jan^{y} 1819	140
Capt^{n} King's 2nd Voyage	May 1819–Jan^{y} 1820	531
Blue Mountains	March 1820	15
Capt^{n} King's 3rd Voyage	July–Dec^{r} 1820	332
Capt^{n} King's 4th Voyage	May 1821–April 1822	395
Illawarra &c	Augst 1822	22
Blue Mount^{ns}, Bathurst &c	Oct. 1822–Jan^{y} 1823	250
Do Do. Do.	April–July 1823	70
Argyle, Lake George &c	April 1824	76
Illawarra, Moreton Bay, &c	Aug^{t}–Sept^{r} 1824	91
Moreton Bay	Oct^{r}–Dec^{r} 1824	32
Liverpool Plain &c	April–June 1825	130
Wellington Valley &c	Oct^{r}–Dec^{r} 1825	110
New Zealand	Augst 1826–Jan^{y} 1827	217
Illawarra, Liverpool Plains, &c	April-June 1827	92
Moreton Bay & Country to NW	July–Oct^{r} 1828	103
Do. Do. Do. Do.	May–Sept^{r} 1829	64
Norfolk Island	May–Sept^{r} 1830	66
		Total 3827

'Among these are 75 specimens from Timor & Mauritius.'

'There are also several specimens without No. from Rich^{d} Cunningham, Fraser, Baxter & Capt^{n} Wakefield which will probably bring up the number to 4000.' (R. Heward, 3/11/62)

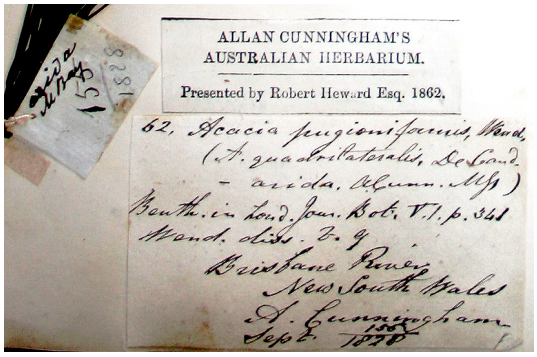


Fig. 9. A typical set of labels from the Heward donation to K in 1862, on a specimen of *Acacia quadrilateralis* DC. The tag at left ('arida, M. Bay, 156' [M. Bay = Moreton Bay]) is Cunningham's original shipping ticket; the printed label at the top was attached curatorially at Kew; the lower label was prepared by Heward from Cunningham's notes, journal and other documents, the number 62 being Heward's sorting mark: '62. Acacia pugioniformis Wendl. (A. quadrilateralis De Cand., – arida A.Cunn. Mss) Benth. in Lond. Jour. Bot. VI p. 341. Wend. diss. v. 9. Brisbane River, New South Wales, A.Cunningham Sept. 156/1828.'

The Heward table seems to be an enumeration of Heward's donation to Kew in 1862/1863, rather than the total numbers of Cunningham's collections. This donation was acknowledged by Hooker (1863), who listed important accessions to the herbarium during the previous year, including

'*The Australian Herbarium of the late Allan Cunningham, Colonial Botanist, formed during thirty years of exploratory voyages and journeys through Australia. It includes his New Zealand, Timor and Norfolk Island plants, together with all his botanical Mss and journals, a most important contribution, presented by Robert Heward, Esq., F.L.S.*' (Hooker 1863)

Examples of the distinctive labels attached to the specimens comprising this donation are shown in figure. 9. Kew attached a small printed label identifying the donation, and Heward provided manuscript labels, in which the Aiton/Banks shipping number was often displayed as the upper part of a fraction, the lower part being the date of collection.

Linnean Society of London

Allan Cunningham became a Fellow of the Linnean Society of London on 15th February 1832, and his Life Membership fee was refunded to him in recognition of his work in New South Wales. There is no record of him ever donating botanical specimens to the Linnean Society. However Robert Heward was also a Fellow, and between 1838 and 1841 he donated to the Society

'An extensive collection of dried plants found in New Zealand by the late Allan Cunningham, Esq., F.L.S.' (*Transactions of the Linnean Society* 18: 726 (1841),

probably mainly the results of Cunningham's 1838 expedition. Heward made at least two further donations of Cunningham material to the Linnean Society: during 1844–1846

'Dried specimens of Australian Myrtaceae, chiefly collected by the late Mr Allan Cunningham, F.L.S., Colonial Botanist, New South Wales.' (*Transactions of the Linnean Society* 20: 508 (1851); and in 1848–1852

'Dried specimens of Australian Leguminosae, including nearly 100 additional species of Acacia, collected by the late Allan Cunningham Esq., F.L.S.' (*Transactions of the Linnean Society* 21: 349 (1855b) (Fig. 10).

Other Fellows of the Linnean Society of London may also have donated Cunningham specimens to the Society. The Society had gradually accumulated donations of plant specimens over many years, but few were ever consulted. In 1863 it was resolved to dispose of uncurated herbarium specimens and they were sent for auction, but the 'arranged' Australian Herbarium (wherein lay the Cunningham specimens) was retained (Linnean Society Council Minutes, 5th March 1863). In 1915 the General Secretary of the Society pointed out that the Australian Collection was rarely consulted and lacked adequate cabinet storage. It was resolved to offer the collection to Mr J.H. Maiden, then curator of the National Herbarium of New South Wales (NSW), after the names had been verified by the Society's Botanical Secretary, Dr Stapf (Linnean Society Council Minutes, 6th May 1915). Two cases of material were despatched to K, and their receipt acknowledged by Sir David Prain (Linnean Society Council Minutes, 3rd June 1915). The war seems to have aborted the planned

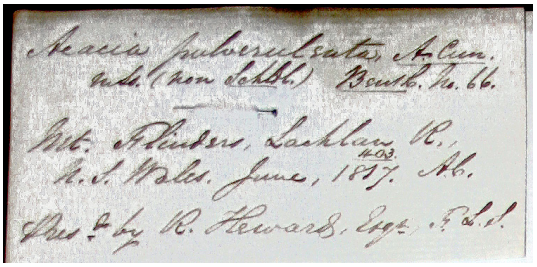


Fig. 10. Label attached to a Cunningham sheet of *Acacia calamifolia* Sweet ex Lindl., now in K, but originally donated by Heward to the Linnean Society of London. This type of label, on bluish paper and attached with a pin, was apparently written by the curator of the Linnean Society collection (?Stapf), as similar labels appear on sheets of specimens from other collectors. The specimen is an isosyntype of *Acacia pulverulenta* A.Cunn. ex Benth. The label reads 'Acacia pulverulenta A.Cun. mss (non Schldl.). Benth. No. 66. Mt. Flinders, Lachlan R., N.S.Wales, June 1817/403, A.C. Presd by R. Heward Esq., F.L.S.' The number 66 may be Heward's running number of his donation of Cunningham *Acacia* specimens to Bentham. The sheet bears a printed label (of the 'Herbarium Kewensis' type) documenting its donation from LINN to K in 1915.

despatch to New South Wales, and a decision was made to share the specimens between K and BM. The Accessions Register of the Natural History Museum records (DF413/19: 94, 23rd October 1915): '*163 specimens of Australian plants from the Council of the Linnean Society, through the Director, Royal Gardens, Kew.*' A side note recorded: '*i.e. Ranunculaceae–Rubiaceae selected from list*'. A portion of the collection remained at K. In both BM and K the specimens received a small printed label, which exists in two forms:

'PRESENTED BY THE LINNEAN SOCIETY 1915' (BM) (Fig. 11) or 'HERBARIUM KEWENSIS/HERBARIUM AUSTRALIENSE./ Presented by the LINNEAN SOCIETY, 1915' (K) (Fig. 12).

Not all of the 'Australian Herbarium' from the Linnean Society was from Cunningham. Other collectors represented were R.C. Gunn, A. Burnett, J.E. Ker, W. Stephenson, and others. Occasional sheets are found in Australian herbaria bearing these Linnean Society labels. Examples are *Stenanthera pinifolia* R.Br. collected by Stephenson (CANB) (see Orchard and Orchard, 2013), *Boronia rubiginosa* A.Cunn. ex Endl. collected by Cunningham s.n. (MEL2044562), *Hovea heterophylla* A.Cunn. ex Hook.f., A.Cunningham 269 (MEL2155858), and *Hovea ramulosa* A.Cunn. ex Lindl., A.Cunningham 35 (MEL2121334), but these all seem to be from relatively recent exchanges, mostly ex K.

Natural History Museum (BM) distributions

In the period 1976 to 1981 the BM sent to Australian government herbaria duplicate specimens made by early Australian collectors, including Banks and Solander, Robert Brown, R.C. Gunn and Allan and Richard Cunningham. The specimens in some cases bore only skeletal information, and collector and provenance is not always certain. However, of specimens definitely or probably attributable to Allan Cunningham, the National Herbarium of Victoria (MEL) received 1938 specimens; the National Herbarium of New South Wales (NSW) received 538 specimens; the Australian National Herbarium (CANB) received 385 specimens (Fig. 13); the Queensland Herbarium (BRI) received 306 specimens; the Western Australian Herbarium (PERTH) received 231 specimens; and the State Herbarium of South Australia (AD) received 13 specimens.

Other herbaria also received duplicate Cunningham material from BM. Brazilian Cunningham specimens in F, MO and B are mentioned above. Among Cunningham collections from Australia, the herbarium of New York Botanical Garden has at least two specimens which originated in BM, then were part of the herbarium of P.A. Fryxell, became part of the ARS herbarium in Texas, before being donated to NY in 1993: type specimens of *Fugosia punctata* A.Cunn. ex Benth., *nom. illeg.* (= *Gossypium cunninghamii* Tod.) (NY21163) and *Sida subspicata* F.Muell. ex Benth. (NY21255). Specimens in B, distributed from BM, include *Hakea stenophylla* A.Cunn. ex R.Br. (A.Cunningham 109, B10 0295503). Specimens in US, ex BM, include *Acacia holosericea* A.Cunn. ex G.Don (A.Cunningham 478, US1276688). Specimens in PH, ex BM, include *Grevillea cunninghamii* R.Br. (A.Cunningham 176, PH13094), and *Acacia oleifolia* A.Cunn. ex Loudon, *nom. illeg.* (= *A. uncinata* Lindl., A. Cunningham 426, PH 50147), both originally in the Herbarium, University of Pennsylvania, and obtained 'From Sth. Kensington [i.e. BM] per J.M.M.'.

Royal Botanic Gardens Kew (K) distributions

In the years after 1840, Kew also distributed some historical Australian collections, including a few by Allan Cunningham. In NY a small number of specimens, ex herbarium John Torrey, were received from K. Some bear the Herbarium Benthamianum circular handstamp (for example, *Ratonia tenax* Benth. (=*Toechima tenax* (Benth.) Radlk.), NY338016; *Acacia siculiformis* A.Cunn. ex Benth., NY1691), and seem to be originally from Hooker (see 'New Holland. A.Cunningham, Hooker, 1835' below). Others bear a manuscript 'herb. Benth.' (*Grevillea rosmarinifolia* A.Cunn., NY284702), or just 'Kew distribution' (*Acacia cunninghamii* Sweet (=*A. trinervata* Sieber ex DC.), NY1599). Kew also seems to have distributed similar specimens, ex herb. Hooker, ex herb. Bentham, to other herbaria, including MEL (e.g. *Neoroepera banksii* Benth., A.Cunningham 291, MEL515924). In some cases these distributions explain specimens missing from Kew. For example, in *Olearia argophylla* the Cunningham sheet in Kew has labels for two collections, but only one specimen. The missing specimen, with a duplicated label, is in MEL. A similar absence of a specimen of *Ozothamnus diosmifolius* in Kew is matched by another specimen in MEL, also received as exchange (see Appendix 1, under G-DC 68 and 71). The Smithsonian Institution (US) was also a recipient of Cunningham specimens from Kew (e.g. *Acacia neriifolia* A.Cunn. ex Benth., A.Cunningham s.n., US813808). The Director, Kew, was the conduit for distribution of at least one Cunningham specimen from the herbarium of John Stuart Mill to PH (see below under H.C.Watson).

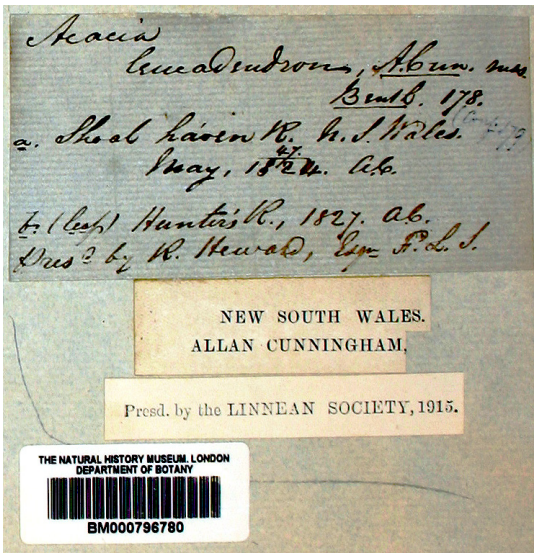


Fig. 11. Labels on a sheet of *Acacia leucodendron* A.Cunn. ex Benth. (BM796780), documenting a donation of two Cunningham fragments, a twig from the Shoalhaven River (Cunningham 47, May 1824), and a single leaf from the Hunter R. (Cunningham s.n., 1827), to the Linnean Society by Robert Heward, and the subsequent transfer to BM via K. The printed label 'Presd. by the LINNEAN SOCIETY, 1915.' is only found on sheets in BM. The other printed label 'NEW SOUTH WALES / ALLAN CUNNINGHAM' was applied routinely to Cunningham specimens by curatorial staff at BM, and was often annotated in ink with a brief collection locality and/or shipping number.

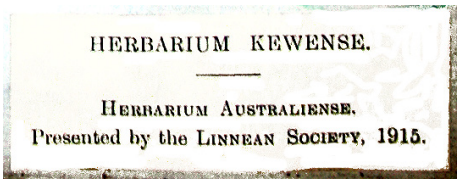


Fig. 12. The second type of label documenting transfer of Cunningham (and other) specimens from the Linnean Society in 1915. Only found on K specimens.

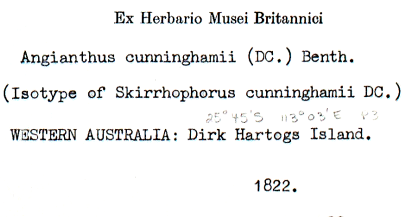


Fig. 13. Label from a specimen of *Angianthus cunninghamii* (DC.) Benth. distributed from BM to CANB(436695) in the 1970–1980s.

Reliquae Cunninghamianiae

Another suite of Cunningham specimens has an uncertain origin. These sheets bear a small printed label 'No. …/ Reliquiae Cunninghamianae / N.S.W. (interior), cir. 1836.' to which a manuscript number and name is added. There is usually no other information. It seems that these specimens must be remnants of herbaria accumulated by Allan and Richard Cunningham, but which had long lost any definite dates or locality information, and which were the remnants (reliquiae) of the collection inherited by Heward (*q.v.*). As such, the specimens may have been collected by either Allan or Richard Cunningham, or by one of their associates or colleagues (e.g. Anderson, Fraser, Mitchell, Sieber, Baxter, etc). The numbers attached to these specimens seem to be unrelated to the Aiton/Banks shipping numbers, and to have been applied *post facto*. The source of these specimens was probably Heward, but the manuscript annotations are not by him. Alternatively they may have been one of Watson's distributions. An example of one of these specimens is of 'Cassia nemophila' (=*Senna artemisioides* (Gaudich. ex DC.) Randell), numbered 89, K, (Fig. 14) mounted with another specimen of the same species, collected by Cunningham (no. 180) in 1817 on the Lachlan River, and donated by Heward to the Linnean Society, and by them to Kew.

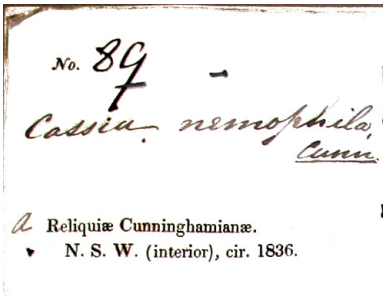


Fig. 14. A 'Reliquiae Cunninghamianiae' label on a specimen of *Senna artemisioides* (Gaudich. ex DC.) Randell in K.

New Holland. A. Cunningham, Hooker, 1835/1838

A number of specimens in K, and a few elsewhere (NY, MEL), bear printed, unbordered labels inscribed 'New Holland / A. Cunningham Hooker, 1835.' These specimens seem to be from a secondary distribution, by Hooker to Bentham, of material he had received from Richard and Allan Cunningham from 1823–1832. There seem to have been two distributions, in 1835, and 1838 (date on labels changed in manuscript). The labels bear a determination, and/or locality, in manuscript, in a hand which seems to be Bentham's, and most if not all have the circular handstamp of the Benthamian donation to Kew in 1854. For example, two specimens in NY bearing these labels (*Ratonia tenax* Benth. (=*Toechima tenax* (Benth.) Radlk., NY 38016; *Acacia siculiformis* A.Cunn. ex Benth., NY 1691) also have the 'Herbarium Benthamianum 1854' circular handstamp, which indicates they were part of the Bentham donation to Kew, and also a boxed handstamp 'Torrey Herbarium'. Their provenance therefore seems to be: Richard or Allan Cunningham to W.Hooker before 1832; distribution by Hooker to Bentham 1835 (the label on the *Acacia* sheet has been altered in mss to 1838); donation by Bentham to Kew 1854; distribution from Kew to the Torrey Herbarium; incorporation of Torrey herbarium in NY. In both of these cases the determination on the labels seems to be that of Bentham. An example from MEL is *Ptilotus lanatus* Moq. var *lanatus* (MEL1058713, ex herb. Bentham). There are also many of these labels on specimens still in K, including *Acacia lanigera* A.Cunn., Bathurst, (K, ex herb. Bentham). For an example, see figure 15. Similar labels are also known, inscribed 'R.Cunningham', and seem to be also part of a donation from Hooker to Bentham in 1838 (e.g. *Acacia trinervata* Sieber ex DC., R.Cunningham *s.n.*, Mt Tomah, K, ex herb. Bentham). It is likely that the labels were printed by/for Bentham, as there are similar ones in his herbarium for specimens of, for example, Major Thomas Mitchell.

Specimens distributed by H.C.Watson

Hewitt Cottrell Watson (1804–1881) was the third of 10 children born to Holland Watson, Magistrate and Mayor of Congleton, Cheshire, and his wife Harriett (Anonymous 1839; Baker 1881; Meikle 1949; Egerton 2003). Watson did not get on with his father and siblings, and family life was tense. He trained in law in Liverpool, but became interested in phrenology, leading to a study of medicine and natural history at

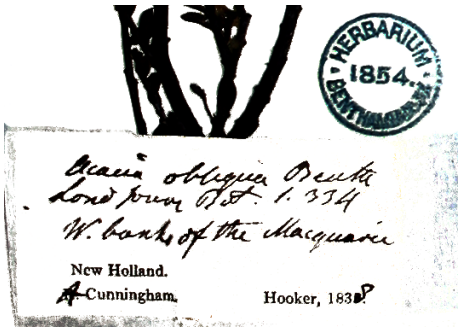


Fig. 15. A printed 'New Holland. A. Cunningham' generic label, on a specimen of *Acacia acinacea* Lindl. (K, ex herb. Bentham), apparently used by Bentham on specimens received from W.Hooker in 1835 and 1838. In this case, the specimen is a syntype of *Acacia obliqua* A.Cunn. ex Benth., *nom. illeg.* 'W. banks of the Macquarie.'

Edinburgh University (1828–1832), but he left before taking a degree. Robert Graham, Professor of Botany at the University of Edinburgh (and a friend of Cunningham's) encouraged his interest in botany. His interest in phrenology led to him becoming editor of the *Phrenological Journal* (1837–1840). Watson's main interest in botany was in plant biogeography, and he established the Vice-Comital system for recording distribution of British plants, often referred to as the Watsonian vice-counties system. At various times he applied for Chairs of Botany in Dublin and King's College, London, but was unsuccessful. Of particular relevance here is his work in botanical exchange activities. Watson developed the concept of a national exchange club for botanical specimens, and when the Edinburgh Botanical Society inaugurated a system, Watson was a heavy user. Later, he became Vice-President of the London Botanical Society, and for several years from 1841 he ran their botanical exchange scheme (Egerton 2004). Among the specimens passing through his hands were some of Cunningham's. In several herbaria (E, K, MEL, NY) are specimens bearing a printed, bordered label

'Collected in Australia, by ALLAN CUNNINGHAM, / ANDERSON and others. / No. (*From H.C.Watson*).' (Fig. 16)

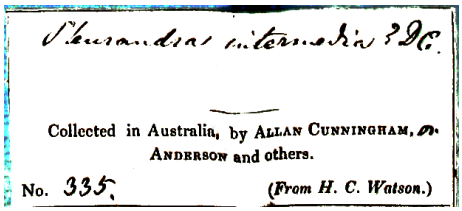


Fig. 16. A printed label used by H.C.Watson to distribute specimens from Cunningham's herbarium which had lost details of collector, date, and/or locality. These labels are to be found in several herbaria.

The name of the taxon and a number are added in manuscript. These numbers seem to be Watson's, perhaps from numbered sets of specimens offered for exchange: they are not Cunningham numbers. How Watson obtained these specimens is unknown, but the vagueness of the collecting information suggests that these might be the loose remnants of Cunningham's bequest to Heward. The 'others' could include Richard Cunningham, Baxter, Fraser, Mitchell, and Sieber, all of whom are represented in Cunningham's final herbarium. Examples of Cunningham specimens bearing these labels include *Callistachys lanceolata* Vent. (E); *Gompholobium uncinatum* A.Cunn. ex Benth. (E); *Styphelia tubiflora* Sm. (NY329061, ex herb. Meisner), *Acacia conferta* A.Cunn. ex. Benth. (NY1589, ex herb. Meisner) and *Dillwynia sericea* A.Cunn. (NY7713, ex Columbia University); *Eremophila maculata* (Ker Gawl.) F.Muell. subsp *maculata*, (MEL83912); *Angophora hispida* (Sm.) Blaxell, (MEL2114992) and *Sprengelia incarnata* Sm. (PH27594). Occasionally, as in the case of *Daviesia genistifolia* A.Cunn. ex Benth. (MEL80817), some of these specimens are also annotated 'Mitchell's Expedition of 1835', i.e. the expedition on which Richard Cunningham was killed. These must be from Allan Cunningham's bequest, and collected either by Richard Cunningham, or (perhaps) Mitchell, as confirmed by a specimen of *Acacia calamifolia* Sweet ex Lindl. in K, with the standard printed Heward presentation label for Cunningham specimens (Fig. 9) but with a manuscript label 'Lachlan River, N.S.Wales, Mitchell's Expedition, No. 109, 1835.'

Watson's specimens were often owned by several people before being lodged in an official herbarium. The major recipients are discussed below.

John Ball (1818–1889): *Viminaria denudata* (Vent.) Sm. (=*Viminaria juncea* (Schrad. & J.C.Wendl.) Hoffmanns.), distributed by Watson, and now in E, bears a printed label

'HERBARIUM OF JOHN BALL, F.R.S., / PRESENTED BY HIS TRUSTEES, 1891'.

John Ball trained as a Barrister, but never practised. As Assistant Under-Secretary of State for the Colonies from 1855, he facilitated W. Hooker's plans to publish colonial floras. He was a member of the Botanical Society of London, and probably acquired his Cunningham specimens from Watson there (Herries Davies 2004).

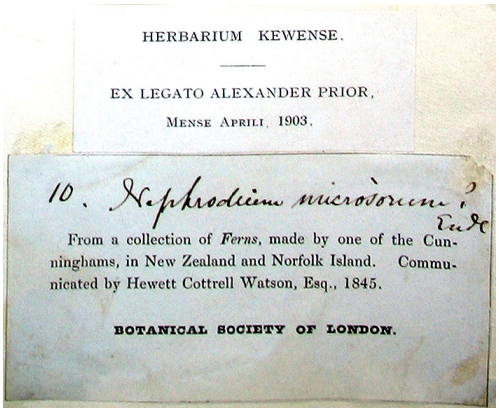
Richard Chandler Alexander **(later Prior)** (1809–1902): A specimen of 'Adiantum affine Willd.' in Kew bears a printed label

'From a collection of Ferns, made by one of the Cunninghams, in New Zealand and Norfolk Island. Communicated by Hewett Cottrell Watson, Esq., 1845 / BOTANICAL SOCIETY OF LONDON.'

The specimen also bears a printed label

'HERBARIUM KEWENSE. / EX LEGATO ALEXANDER PRIOR / MENSE APRILI, 1903.'

There is a duplicate of the above in K which has the ex Linnean Society label of 1915. Another specimen in K, of *Blechnum minus* (R.Br.) Ettingsh. from Wycaddy [River], New Zealand, A. Cunningham 182, 1838, bears similar Watson and Prior labels. Examples of these labels are shown in figure 17. Richard Alexander was trained as a physician but poor health led to him abandoning the profession, and studying botany and literature in semi-retirement until the end of his long life. In 1849 he inherited property and a private income on condition that he change his surname to his mother's maiden name, Prior. His British herbarium was acquired by BM in 1930 as part of the C.E. Salmon herbarium, but his overseas herbarium of some 30,000 specimens was deposited at Kew in 1903 (Natural History Museum 2014).


HERBARIUM KEWENSE.

EX LEGATO ALEXANDER PRIOR,

MENSE APRILI, 1903.

10. Nephrodium microsorum ?

From a collection of *Ferns*, made by one of the Cunninghams, in New Zealand and Norfolk Island. Communicated by Hewett Cottrell Watson, Esq., 1845.

BOTANICAL SOCIETY OF LONDON.

Fig. 17. The Botanical Society of London label used by H.C.Watson to distribute Allan and Richard Cunningham's ferns of New Zealand and Norfolk Island, usually without details of collection. Some of these specimens went to Alexander Prior, who left them to K. This pair of labels is on a specimen of *Lastreopsis glabella* (A.Cunn.) Tindale (held at K).

Charles Morgan Lemann (1806–1852): Cunningham specimens in CGE, ex Watson, often bear a printed label 'Cambridge Botan. Museum / Herb. C.M.Lemann, M.D. / Presented by his directions in 1852 / Named and arranged by G.Bentham, 1853–1861.' See, for example, *Trachymene linearis* Spreng. (=*Platysace linearifolia* (Cav.) C.Norman, and *Trachymene ovalis* DC. (=*Trachymene lanceolata* var. *ovata* (Labill.) Domin), both in CGE. Charles Lemann, M.D., F.L.S. formed a world-wide herbarium of about 30,000 specimens '*from his liberal subscriptions to botanical collectors and the contributions of his friends*' and from his own travels in Madeira, the Canaries and Spain. It was reported to be rich in Australian collections, among others. On his death the collection was bequeathed to Cambridge University, and curated by Bentham (Anonymous, 1853).

John Miers (1789–1879): Another recipient of Cunningham material from Watson was John Miers. Miers was a botanist and engineer who travelled in South America (Chile, Argentina and Brazil) between 1818 and 1838. On his return to England he published a number of major papers on South American botany (Allen 2004). He received Cunningham specimens from Watson, perhaps via the exchange club, and they were later bequeathed to the Natural History Museum (BM). Examples are collections by Cunningham from Tasmania: *Acacia ruscifolia* A.Cunn. (=*A. verticillata* subsp. *ruscifolia* (A.Cunn. ex G.Don) Court), *Acacia dependens* A.Cunn. ex Benth., *nom. illeg.* (=*A. mucronata* subsp. *dependens* (Hook.f.) Court), *Acacia diffusa* Ker Gawl.

(=*A. genistifolia* Link), and *Tasmannia aromatica* R.Br. ex DC. (=*T. lanceolata* (Poir.) A.C.Sm.) all now in BM, which have a label

'HERB. JOHN MIERS –Bequeathed 1879'.

He also received (or saw) the Brazilian specimen which became the type of *Stipecoma parabolica* Miers (=*Peltastes peltatus* (Vell.) Woodson), now in BM (holotype) and MO (isotype).

Schultz Bipontinus/Cosson: There are also Cunningham specimens in P, ex Watson: for example, *Eurybia erubescens* Sieber ex DC. (=*Olearia erubescens* (Sieber ex Spreng.) Dippel), ex Watson, ex herb. Schultz.Bip., ex herb. Cosson (P711290). Carl H. Schultz (known as 'Bipontinus') (1805–1867) was a botanist and physician resident in München and Deidesheim from 1829–1867. He specialised in studies of the Asteraceae, and obtained Cunningham specimens of this family from Watson. On his death Schultz's Asteraceae collections were purchased by Ernest S-C. Cosson (1819–1889), and were presented (along with the rest of Cosson's herbarium and library) to the Paris Muséum by Cosson's grandson, Dr. Durand, in 1904. (Stafleu and Cowan 1976, 1985)

John Stuart Mill (1806–1873): In PH (26143) there is a specimen of *Hymenophyllum flexuosum* A.Cunn., a New Zealand species, with a handwritten label 'No. 8. Cunningham's Ferns of New Zealand & Norfolk Island.' in a hand which is not Cunningham's. Given the similarity in wording between this and other printed labels on specimens distributed by Watson (see 'R.C. Alexander (later Prior)' above) it is reasonable to assume that this specimen was also distributed by Watson. It is mounted on a sheet with another New Zealand collection by S.Chapman, associated with which is a printed label

'From the / HERBARIUM OF JOHN STUART MILL / PRESENTED BY MISS TAYLOR, THROUGH THE DIRECTOR OF THE ROYAL / GARDENS, KEW, 1876.'

John Mill, philosopher, political economist and civil servant, made many contributions to philosophy and social theory, and was the person who first developed the concept of falsifiability as a key component of the scientific method. He is not noted as a botanist, but was closely involved with the Bentham family, and on visits to Montpellier, France, developed a lifetime interest in collecting botanical specimens through the influence of George Bentham (Harris 2004). The 'Miss Taylor' of the label is Helen Taylor (1831–1907), his stepdaughter.

Abel Aubert du Petit-Thouars

There are a number of specimens in P with a printed label 'N$^{\text{vlle.}}$ Hollande. Allan Cunningham. Voyage de la Vénus, 1839.' The *Vénus* was despatched from Brest in 1836 to report on the whale fisheries of the Pacific. The naturalist on board was Abel Aubert du Petit-Thouars (1793–1864). After travelling extensively around the Pacific, including South America, Kamchatka, Hawaii and Tahiti, the expedition called into Sydney on 25$^{\text{th}}$ November 1838. At this time Cunningham had recently returned seriously ill from New Zealand and was recuperating with friends (almost certainly the Suttor family) in Elizabeth Street, Sydney. Cunningham had previously entertained visiting French naturalists, and it is likely he did the same on this occasion, although no documentation has been found. Some of the specimens ex Petit-Thouars are numbered (for example *Gompholobium uncinatum* A.Cunn. ex Benth., A.Cunningham 49, P3087446; *Myoporum floribundum* A.Cunn. ex Benth., A.Cunningham 190, P720517), but these numbers seem to have been added *de novo*, and do not relate to Cunningham's earlier shipping numbers.

George Samuel Jenman and Thomas Moore

George Samuel Jenman (1845–1902), a Kew-trained gardener and botanist, was Superintendent of Castleton Botanic Gardens, Jamaica (1873–79) and Government Botanist, British Guiana (1879–1902). He was particularly interested in ferns, and wrote extensively on Caribbean taxa. At some point he acquired a small set of Cunningham's ferns, mostly from New Zealand. These sheets bear a private label on poor quality paper with a printed indicia

'EX HERB. / ALLAN CUNNINGHAM'

and manuscript details of collection and publication of the name. (Fig. 18). After being held by the Department of Agriculture, British Guiana, they were presented to Kew in 1934. Jenman's main personal collections are held at NY, with replicates widely distributed. Jenman's Cunningham specimens have only been seen in K, but may be distributed elsewhere. An example is *Blechnum filiforme* (A.Cunn.) Ettingh., 'dry hills, Wangaroa,

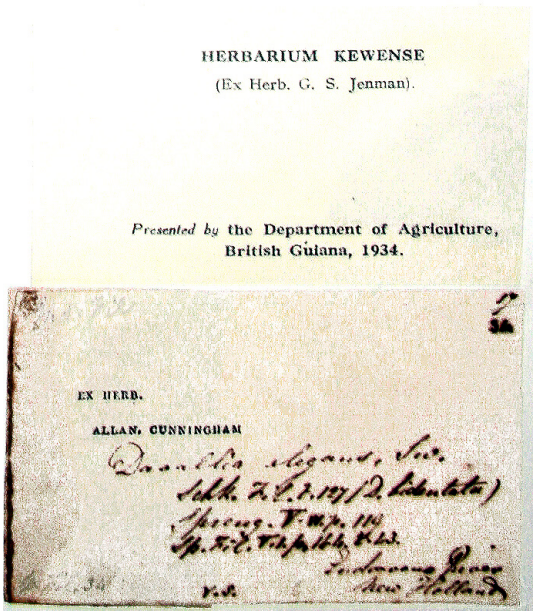


Fig. 18. The type of label apparently prepared by Robert Heward for Cunningham's fern collection, some of which were used on specimens distributed to other collectors, such as G.S.Jenman. Also shown is the label used to document receipt of Jenman's herbarium by K. On a specimen of *Davallia denticulata* (Burm.f.) Mett. ex Kuhn, in K.

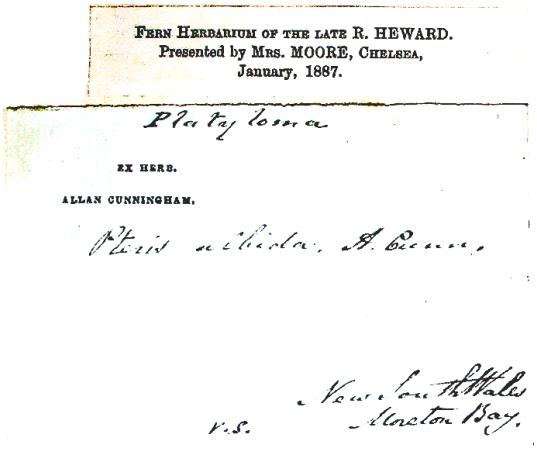


Fig. 19. Heward label as in Fig. 18, together with the donation label of Mrs Moore, identifying the specimen as from Heward's own herbarium. On a specimen of *Pellaea falcata* (R.Br.) Fee, in K.

A.Cunningham s.n.', K. How Jenman obtained these specimens is unknown, but it is possible that they came via Heward, another fern afficionado. In Kew there are a number of specimens, including *Dicksonia lanata* Colenso and *Polystichum neozelandicum* Fee from New Zealand, collected by Cunningham in 1838. Both bear the same kind of 'Ex Herb. Allan Cunningham' printed label as the Jenman specimens, but there is no British Guiana label. Instead there is a small printed label

'FERN HERBARIUM OF THE LATE R. HEWARD. / Presented by MRS. MOORE, CHELSEA, / January, 1887.' (Fig. 19).

The 'Mrs Moore' of this label is presumably the wife/widow of Thomas Moore (1821–1887), curator of the Society of Apothecaries Garden 1848–1887 (later renamed Chelsea Physic Garden). The Thomas Moore herbarium, in part, was purchased by Kew in 1885 (Desmond 2007). Moore was a specialist in ferns, and must have received all or part of Heward's fern herbarium when the latter died in 1877. These 'EX HERB. / ALLAN CUNNINGHAM' labels, then, were probably produced by Heward. For additional information on the Moore herbarium see Johns (1991).

Cunningham's other collections

Cunningham also collected geological specimens, insects, bird skins and other animals. The fate of these collections is more obscure (as are those of other early faunal collectors in Australia: see Fletcher, 1901), and has not been pursued by me to any great extent. These specimens were not covered by his contract with Banks and the Treasury, and he was free to dispose of them as he saw fit.

Geological collections. Cunningham had a keen interest in geology and his Journals frequently refer to the geology of the country in which he was collecting. One of his major published papers was an account of the geology of the western side of the Dividing Range between Hunters River and Moreton Bay (Cunningham 1834–1835). Some of the specimens he accumulated were donated to the Royal Geological Society, but their whereabouts is now unknown. Vallance observed

'*Manuscript lists, now in the British Museum (Natural History), of specimens donated to the Geological Society of London bear witness to geological activity by Fraser and by his colleague on Oxley's 1817 venture Allan Cunningham [1791–1839], the eminent collector for the Royal Gardens at Kew. The specimens themselves must be presumed lost.*' (Vallance 1986)

Bird collections. While resident in London, Cunningham joined the Linnean Society (see above), and in the Transactions of that Society for 1833 (vol. 16, p. 794), a donation of 'Skins of 6 species of Birds from New Holland, by Allan Cunningham Esq. F.L.S.' is recorded. The collections of the Society were disposed of by gift or sale (Fletcher 1901) about 1852–55. The fate of Cunningham's specimens is unknown.

In a letter to Heward, Cunningham mentioned that in his final visit to New Zealand he had obtained

'*…a specimen of that rarest of all the birds of New Zealand, the Kiwi (Apteryx australis) which I shall forward home to Mr. Yarrell, for the Zoological Society*.' (Cunningham 1838)

This was confirmed in a letter to Robert Brown:

'*Whilst in New Zealand I obtained at some cost in money a live Apterae or Kiwi of the natives. I killed the bird, prepared the specimen of the skin & placed the body in a large jar in spirits. The former I sent to Mr. Yarrell for the Mus. of the Zoological Soc., the latter for Mr. Owen for dissection.*' (Cunningham 1839)

The Museum of the Zoological Society was closed in 1855, with Types being transferred to the BM. In addition the Trustees of the BM bought '*a valuable series of specimens*' for £500, while other specimens were bought by the Queens Colleges of Cork and Galway (£700), and smaller purchases were made by provincial museums and private individuals (Scherren 1905, p. 123). The 'Mr. Owen' referred to above was Richard Owen (1804–1892), a leading anatomist, perhaps most noted for his opposition to Darwin and the theory of evolution. He was also instrumental in development of the Natural History Museum (BM), and became its Curator of Natural History. He published two major papers on the anatomy of the Kiwi (Owen 1839, 1840). Neither paper mentioned Cunningham, but that of 1840, written after Cunningham's specimen would have arrived, mentions that it was based on a number of specimens, including two, either of which may have been Cunningham's:

'*…the abdominal viscera with the bones and tendons of the feet of a female Apteryx, were liberally presented to me by Dr. Logan, R.N., through the friendly intercession of Sir. Wm. Hooker. Subsequently I received the entire body of a male Apteryx, preserved in spirits, from my esteemed friend Mr. Geo. Bennett, of Sydney, N. S. Wales, a zealous and corresponding Member of the Zoological Society*.' (Owen 1840)

Cunningham's Kiwi, if it still survives, is probably in the collection of the BM. Cunningham himself wrote a short account (published posthumously) of the habits of the Kiwi, gleaned during his two visits to New Zealand in 1826 and 1838 (Cunningham 1840).

Other vertebrates. When Cunningham arrived back in England in July 1831, he brought with him specimens of insects, animals and other natural history objects, which he immediately distributed to experts. In March of the following year J.E. Gray of the BM described three new animals from Australia, based on specimens sent to BM by Cunningham (Gray 1832). One of these, Cunningham's Skink, *Tiliqua cunninghami* J.E.Gray, 1832 now *Egernia cunninghami* (J.E.Gray, 1832) was named in his honour, based on a specimen collected '…in scrubby country in lat. 29º, …on his overland journey from Port Jackson towards Moreton Bay in the winter of 1827.' The other lizard, the Eastern Stone Gecko, *Diplodactylus vittatus* J.E.Gray, 1832, was the first species of a new genus, and came from temperate eastern New Holland. The mammal was the first species to be described of the genus *Pseudomys*, *P. australis* J.E.Gray, 1832, collected from 'swampy sandy grounds on the SW side of Liverpool Plains.' The type specimens are preserved in the Natural History Museum, London (BM).

Insect collections. Cunningham (1818) mentioned in a letter to Aiton that he had included insect specimens in his despatch by the Brig *Kangaroo* in March 1817. He did not mention to whom these were addressed. White

observed that

'*The NW coast of New Holland has been but little investigated, and yet in the quarter the late Allan Cunningham gathered a rich harvest of rare and unknown species* [of insects].' White (1841, p. 455)

Later, under *Papilio liris* Godart, 1819, he recorded that

'*the whole of his* [Cunningham's] *collection was bought by Mr Children, and many of the rare Lepidoptera in it were named by Mr. G.R.Gray* [of the British Museum]' (White 1841, p. 473)

Fletcher (1901) also recorded that Cunningham's insect collections were in the Children Collection. This collection was sold in 1840, and is now in the BM (Gunther 1978). In discussing *Papilio liris*, under the name *Pachliopta liris* (Godart, 1819), D'Abrera observed

'…*The species itself is almost exclusively distributed among the islands of the Timor Sea. Waterhouse* [What Butterfly is That? (1932)] *tells of the specimens (now in the British Museum (Nat. Hist.) perhaps erroneously recorded as having been caught by Allan Cunningham over a hundred years ago in north-western Australia. Cunningham, he further tells us, also visited Timor on the same trip, and since then no further specimens have been recorded from Australia.*' D'Abrera (1971, p. 78)

Artefacts. Cunningham showed very little interest in collecting artefacts, with one major exception. In a letter to Aiton he reported:

'*Upon my return from New Zealand I brought to the Colony a model of the war Canoe of those islands, which was obtained for me by one of the Missionaries at Cook's Bay of Plenty on the East Coast of the Northern Island. Mentioning it last year in a letter to my Brother, he has in a late Communication suggested to me the propriety of sending it home to you, as it would prove an interesting subject for Virginia Water. On his recommendation therefore it has been packed within a Case 16 feet in length, and addressed to you on His Majesty's Service, [&] has been shipped on board the Ship* Eliza *commanded by Captain Leary, a Lieut. of the Royal Navy, who, having with great pleasure received the object of Curiosity. which may prove interesting to His Majesty, will be happy to convey it home free of cost, notwithstanding it has been entered on the Manifest.*' (Cunningham 1828a)

The fate of this gift is not known. Virginia Water Lake is in Windsor Great Park, outside London.

Conclusions

Allan Cunningham was recognised by his contemporaries to be a collector of major importance, as he was the first botanist to visit much of the north and north-western coasts of Australia with King, he was the first to explore much of the dry country west of the ranges in New South Wales and south-eastern Queensland, and visited northern New Zealand on two occasions. European botanists and dilettante naturalists were therefore very keen to see and, if possible, possess, samples of his collections, and replicates and fragments were therefore rapidly and widely distributed, in some cases through several hands, as shown above. At a later date, the main repositories of his herbarium (BM and K) secondarily distributed replicates, most notably in a repatriation of specimens to Australia in the 1970s and early 1980s, but also to other herbaria in North America and Europe. Ordinarily this would not result in major repercussions for taxonomists, but in Cunningham's case, his were often the first and/or the best examples collected of many species, and his collections became types for hundreds of names. Dispersal of replicates before, during and after description of his newly discovered taxa meant that the full suite of replicates relating to any one name were not often cited by those describing the taxa, and isotypes, syntypes and putative type specimens, numbering probably hundreds of specimens, still lie unrecognised in many herbaria. The recognition of replicates is complicated by the fact that data was often lost or mistakenly transcribed when collections were divided, and Cunningham's shipping numbers were usually misinterpreted by taxonomists as unique collecting numbers, leading many to exclude as types duplicates in, for example, BM and K, because they bore different numbers to those in (particularly) G-DC.

Examples of confusing numbering (taken from the table of Asteraceae in Appendix 1) include the following. The original Cunningham specimens of what is now *Olearia pimeleoides* from Peels Range were shipped to Aiton (K) and Banks (now BM) in 1817–1818 under the shipping number 333. In 1834 Cunningham sent a replicate of the same collection to Candolle in Geneva, renumbering it as no. 14. Candolle described the species as *Eurybia pimeleoides*, adopting Cunningham's manuscript epithet. At some time, probably in the 1970s, the Natural History Museum (BM) sent a part of their collection to PERTH, but an error of transcription led to the PERTH specimen being numbered 33. Another replicate of this collection was also sent to PERTH, bearing the number 16, probably a private herbarium number applied by a temporary owner (Watson or one of his customers). In this case it is reasonable to interpret the G-DC collection (numbered 14) as the

holotype, and the BM and K specimens (numbered 333) plus the PERTH specimens (16 and 33) as isotypes. A different situation exists for *Olearia ramulosa*. In this case, it seems that Cunningham sent to K and BM at least two collections of his 'Aster sp.', numbered 331 and 332. One came from the Vale of Clwydd, the other being more loosely described as from the 'Country near Bathurst'. Two specimens in BM have been located, one bearing each number. None were located in K, but there may be material there that was overlooked. When Cunningham sent material to Candolle in 1834 he listed it as no. 16, and described the locality as the aggregate 'Vale of Clwyd[d] and Country near Bathurst'. Subsequently MEL received duplicates of both numbers 331 and 332, probably from BM. In this case, it could be argued that the G-DC specimen is the holotype, and that MEL2164323, which has a label also describing the joint locality is an isotype, and because that specimen is numbered 331, then the BM specimen bearing number 331 is also an isotype. The BM and MEL specimens numbered 332 would then be non-type material. Alternatively it could be argued that all five specimens are syntypes, and that lectotypification is needed. Consideration of how such cases are to be resolved should only be made in the light of full knowledge of the identity, history, and location of all relevant specimens. This paper attempts to go some way towards making this data available for the Asteraceae described in Candolle's *Prodromus*. For other groups, much more investigation will be needed.

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White A (1841) Notes on some insects from King Georges Sound, collected and presented to the British Museum by Captain George Grey, Appendix F, in Grey G, *Journals of Two Expeditions of Discovery in North-west and Western Australia During the Years 1837, 38 and 39*. (T. & W.Boone: London)

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Appendix 1. Asteraceae specimens sent to Candolle in 1834, for the *Prodromus*

Cunningham sent two parcels of Asteraceae to Candolle from London in 1834, for inclusion in the latter's *Prodromus* vol. 5. These specimens were taken from Cunningham's residual herbarium brought back with him to London from Sydney. Replicates of these specimens had been despatched from Sydney some years previously to Aiton in Kew and Banks in Soho Square, with shipping numbers attached. However, for Candolle's shipments, Cunningham numbered them anew, starting from 1. The first shipment, sent in January, was numbered 1–9, the second, sent in August, was numbered 10–143. The first list, with Candolle's annotations, still exists in Genève, while a portion of the second list (specimens 101 to144) annotated by Candolle still exists in the British Library. These two documents, plus surviving specimens, make it possible to reconstruct much of the contents of the two consignments, and to match G-DC numbers with those in K and BM. This is important, because Candolle used Cunningham's specimens to describe many new Australian Asteraceae. The G-DC specimens are holotypes for many of these names, but the K and BM replicates, bearing different shipping numbers, are often overlooked or disregarded, despite the fact that they are part of the same gathering, and thus isotypes.

In the table below, the **first column** gives the numbers on specimens in the G-DC herbarium. Where images of these specimens were available on-line (http://www.ville-ge.ch/musinfo/bd/cjb/chg/index.php?lang=en) at the time of writing, the G-DC barcode number is provided. Where this was not the case, just the Cunningham number is given (barcodes are only added when specimen data are digitised). Some specimens are annotated 'specimen not located'. These specimens probably exist, but were not found during a brief visit to the Geneva herbarium in June 2012, and they are not currently listed on-line. Where specimens were not located, but data are available (Numbers 101–144) from the British Library list, this is provided in italics. In the **second column**, matching specimens, where known, in K, BM, MEL and other herbaria are listed by their original

shipping number (i.e. by the number under which they were sent to Aiton and Banks). In this column s.n. (sine numero) means that in these herbaria the specimens no longer retain this original shipping number. Note that the Cunningham shipping numbers often are written in pencil (sometimes faint), and in those labels prepared by Heward (K), he wrote over the pencilled annotations in ink, so that they are not always obvious. The pencilled numbers are usually in the form 46 314 (see type of *Senecio anethifolius*, K215103), of which the first seems to be a family number, and only the second is the shipping number. Alternatively, the shipping number may appear alone on a slitted tag attached originally to the stem of the specimen. In this column the herbarium sheet barcodes are given where they were available at the time of writing (e.g. K797532, in G-DC 1). Allocation of these barcodes is a work in progress, and many sheets presently lacking barcodes will be allocated one in future. Where no barcode is currently available, the sheets are cited as, for example, K, s.n. (see G-DC 1). A query (?) in front of an entry in this column indicates doubt as to whether the specimen belongs in that place or not. Unless indicated otherwise, locality data matches that given in column 3 (i.e. that in G-DC). The **third column** contains an abbreviated collection locality, taken from the G-DC specimens. It may differ in wording slightly on specimens in BM, K and MEL etc (if significantly different this is noted), but will serve to establish general congruence. The **fourth column** is the date of collection, mainly as on G-DC specimens, but sometimes expanded from other replicates. The **fifth column** contains manuscript names found on the G-DC sheets, given in normal typeface, with spellings and authorities as written (but with 'C.' expanded to 'Cunn.'), usually in the order Cunningham field identification(s) / Candolle name. This is followed in bold typeface by the currently accepted name.

Abbreviations:

AC = Allan Cunningham

H.K. = Hortus Kewensis

herb. = (from the) herbarium (of)

loc. = locality

prob. = probably

s.n. = sine numero (unnumbered)

Shipping number in G-DC	Shipping number in K/ BM	Locality (abbreviated)	Date	Mss name(s) / current name
1 – G-DC 465707	s.n. (K797532) 169 (K797531) ?s.n. (K s.n., herb. Lambert, herb. Bentham – dated Dec. 1822) 169 (BM, s.n. - 'Bathurst, Nov. 1822.') 169 (BM, s.n. – 'Bathurst, 1822.') 169 (BRI324529) ? s.n. (P711313 – no AC label, but donated by Candolle in 1837)	Limestone hills North of Bathurst	Nov. 1822	Aster rosmarinifolius Cunn. / Olearia / Eurybia rosmarinifolia DC. / **Olearia rosmarinifolia (DC.) Benth.**
2 – G-DC 465663, 465665, & 465666	s.n. (K, s.n.) s.n. (BM624781 – plus number 1757, not of AC) 141 (BM, s.n.) 141 (BRI AQ0249741 – 'Sep. 1828.' No loc.)	Bog, Western shore of Stradbroke Island, Moreton Bay	Sep. 1828	Aster hygrophilus Cunn. / Eurybia hygrophila DC. / **Olearia hygrophila (DC.) Benth.**
3 – G-DC 465673	35 (K, s.n. , herb. Hooker) s.n. (BM, s.n. –'Aster lepidophyllus, 1827.') 35 (BRI270332) 35 (CANB436694, ex BM)	North of Dumaresq's River	June 1827	Aster lepidophyllus / Eurybia ramosissima DC. / **Olearia ramosissima (DC.) Benth.**

4 – G-DC 465669		Base of a Pine (Callitris) range, North of the Cugeegang [=Cugeegong] River	May 1829	Aster sp. / Eurybia tenuifolia DC. / **Olearia tenuifolia (DC.) Benth.**
5 – G-DC 465648	s.n. (K, s.n., herb. Hooker – 'Argyle & Camden') 31 (MEL2162739 – 'South of Lake George, 1818 [sic – AC was at L. George in 1824 only].)	Marshy lands on plains immediately on the South of Lake George	Apr. 1824	Aster rutaeodorus Cunn. / Eurybia glandulosa DC. / **Olearia glandulosa (Labill.) Benth.**
6 – G-DC 465661	148 (K797528, dated Nov. 1822) 148 (BM, s.n., dated 1822)	Mountainous country North of Bathurst	Sep. 1822 (in G-DC). This date is erroneous. Cunningham only left Parramatta late Sep. and was N of Bathurst in Nov.	Aster chrysophylla / Eurybia chrysophylla DC. / **Olearia chrysophylla (DC.) Benth.**
7 – G-DC s.n.		Southern districts of the Colony of New South Wales	Apr. 1825	Cassinia sp. / Cassinia cunninghamii DC. / **Cassinia aculeata (Labill.) R.Br.**
8 – G-DC s.n.	25 (K, s.n. – note by Cunningham 'Sent to De Candolle Mar. 1834, who however would give no opinion as to the genus. No. 8 DeC list') 25 BRI245701 25 MEL1562715	South of Lake George	Apr. 1824	Anthemidiae / Steiroglossa rigidula DC. / **Brachyscome rigidula (DC.) G.L.Davis**
9 – specimen not located	s.n. (K, s.n. – Lake George, 'Sent to D.C. No. 9, unnamed') 66 (K, s.n., Cugeegong R., May 1823 – 'No. 9 sent Dec.'	Plains S. of Lake George; also N. of the Cugeegong River, a tributary of the Macquarie River.	Apr. 1824 (Lake George); also May 1823 (Cugeegong River)	Calotis / **Calotis lappulacea Benth.**
10 – G-DC s.n.	44 (CANB452107, ex BM) ***	On the grassy banks of the Hastings River, Port Macquarie	May 1818	Centaurea riparia Cunn. / **Centratherum riparium (A.Cunn. ex DC.) A.R.Bean**
11 – specimen not located				
12 – G-DC 495246	97 (K768779, also numbered 2) s.n. (K768780) s.n. (MEL233259 – 'KGS near the Tone River' no date.)	Oyster Harbour, King Georges Sound	25 Jan. 1818	Celmisia spathulata Cunn. / **Trichocline spathulata (A.Cunn. ex DC.) J.H.Willis**
13 –G-DC 465670	330 (K, s.n.) 330 (BRI249952 – 'Elstons Plains, 1817.')	Barren scrubs near Bathurst	13 Apr. 1817	Aster sp. (Spongotrichum) / Eurybia tenuifolia var. bathurstiana DC. / **Olearia tenuifolia (DC.) Benth.**
14 – G-DC 465689	s.n. (K, s.n., herb. Hooker – Peel's Range 20 June) 333 (K, s.n.) 333 (BM, s.n.) 33 [sic] (PERTH872962) 16 (PERTH874523 – '16' is prob. not an AC no.)	Sterile brushy country near Peel's Range	20 June 1817	Aster pimeleoides Cunn. / Eurybia pimeleoides DC. / **Olearia pimeleoides (DC.) Benth.**
15 – G-DC 465652	334 (K838974 334 (BM, s.n.)	Sterile country SW of the Lachlan River	19 May 1817	Aster decurrens Cunn. / Eurybia decurrens DC. / **Olearia decurrens (DC.) Benth.**

16 – G-DC 494297	331 (BM, s.n. – 'Olearia ramulosa, A.Cunningham 331, 1817.') 331 (MEL2164323A – 'Colony & Vale of Clwydd, 11 Apr. 1817.') ? 332 (BM, s.n. – 'Olearia ramulosa, A.Cunningham 332, 1817.') ? 332 (MEL2164323B)	Vale of Clwyd and Country near Bathurst	Apr. 1817	Aster sp. / Olearia ramulosa DC. / **Olearia ramulosa (Labill.) Benth.**
17 – G-DC 494301		Western branches of Hunters River	Apr. 1825	Aster sp. / Olearia ramulosa DC. / **Olearia ramulosa (Labill.) Benth.**
18 – G-DC 465645		Brushy forests North side of Liverpool Plains	July 1827	Aster propinquus Cunn. / Eurybia propinqua DC. / **Olearia sp.**
19 – G-DC 465601	279 (K890267) s.n. (K, s.n., herb. Hooker – labelled 'Bruns[k] Bay' the generalised loc. for Prince Regents River) 279 (BM, s.n. – 'Brunswick Bay, 1820.')	Prince Regents River	Oct. 1820	Aster? macrorrhizus / Eurybiopsis macrorhiza DC. / **Minuria macrorhiza (DC.) Lander**
20 – G-DC 494557		Valley of Wangaroa, New Zealand	Nov. 1826	Aster? / Vittadinia australis Richard / **Vittadinia australis A.Rich.**
21 – G-DC 494563	s.n. (K, s.n., alluvial flats, Lachlan River, 27 Apr. 1817) ?328 (BM, s.n.)	Grassy flats, Lachlan River	Apr. 1817	Vittadinia cuneata DC. / **Vittadinia cuneata DC.**
22 – G-DC 494564	327 (K, s.n.) 327 (CANB237086 – fragment from K specimen) 327 (BM, s.n.) 327 (CANB452110 & 237086, ex BM)	Dry barren tracts. Lachlan River	26 Apr. 1817	Vittadinia cuneata DC. / **Vittadinia cuneata DC.**
23 – G-DC 495945	326 (K, s.n., herb. Hooker) s.n. (K, s.n., herb. Hooker, named Fl. Australiense) 326 (K, s.n., herb. Bentham) 326 (MEL1506708 – without loc. or date.)	Lachlan River	27 Apr. 1817	Minuria leptophylla DC. / **Minuria leptophylla DC.**
24 – G-DC 495946	s.n. (K, s.n., herb. Hooker, labelled 'Aster sp., 15 Ap.' & mounted with the above. 325 (K, s.n., dated 15 Apr. 1817)	Rocky hills, Lachlan River	15 Apr. 1817	Minuria tenuissima DC. / **Minuria leptophylla DC.**
25 – G-DC s.n.	269 (K890329, herb. Hooker) s.n. (K890330, 'Aster, E.C. Tr.', mounted with K890329) 269 (BM, s.n.)	Cleveland Bay	14 June 1819	Aster? / Vittadinia scabra DC. / **Peripleura scabra (DC.) G.L.Nesom**
26 – G-DC s.n.	55 (K, s.n.) s.n. (BM, s.n.) s.n. (MEL 2164154)	Hobart Town, Van Diemens Land	Jan. 1819	Eurybia viscosa Cass. / **Olearia viscosa (Labill.) Benth.**

27 – G-DC 494308	159 (BM, s.n. – 'Verge of Mt. Range above Five Islands, 1818.' ? s.n. (BM, s.n. – 'Aster ellipticus, Colony, 1819', mounted on same sheet as above.)	Shaded dry woods, mountain range, Illawarra	1824	Aster (Haxtonia) ellipticus Cunn. / Olearia elliptica DC. / **Olearia elliptica DC.**
28 – G-DC 465630	s.n. (K, s.n.) 97 (BM, s.n. – 'Neighbourhood of Five Islands, 1818.') 97 (BM, s.n. – 'Colony, 1819.') 97 (CANB452109, ex BM – 'Five Islands, 1818.') ? 98 (K910510 p.p., Oct. 1818) See also G-DC 68.	Shaded woods, Mountain at the Illawarra District	-	Aster (Haxtonia) argophyllus Cunn. / Eurybia argophylla (Labill.) Cass. / **Olearia argophylla (Labill.) F.Muell. ex Benth.**
29 – specimen not located				
30 – G-DC 465681	440 (possibly a Fraser no.) (K)	East coast of the Northern Island, New Zealand	Oct. 1826	Eurybia cydoniaefolia DC. / **Olearia cydoniifolia (DC.) Benth**. This is an Australian species. There is a note by J.D.Hooker on a K sheet that Cunningham saw only Fraser's Australian specimens.
31 – G-DC 465690		On the immediate banks of rivers, New Zealand	Nov. 1826	Aster elaeagnifolius Cunn. / Eurybia furfuracea DC. / **Olearia furfuracea (A.Rich.) Hook.f.**
32, but also marked 57, from Aiton / Banks list – G-DC 465714	s.n. (K) s.n. (MEL2280137) Aiton/Banks shipping list gives 57	Mt Wellington, Van Diemen's Land	8 Jan. 1819	Aster ledifolius Cunn. / Eurybia hakeaefolia DC. / **Olearia ledifolia (DC.) Benth.**
33 – G-DC 465691	? s.n. (K – 'beneath large rocks, Cox's Pass', but dated Sep. 1817)	Stony hills, Blue Mountains	Apr. 1817	Aster (Haxtonia) berberifolius Cunn. / Eurybia erubescens DC. / **Olearia erubescens (Sieber ex Spreng.) Dippel**
34 – G-DC 494281	s.n. (K797576 – the '4' on the label is the sp. no. in Candolle's Prodromus) s.n. (K s.n., herb. Hooker)	Campbell Cataracts, Blue Mountains	1820	Aster (Haxtonia) sinuatus Cunn. / Olearia quercifolia DC. / **Olearia quercifolia Sieber ex DC.**
35 – G-DC 465683		Elevated brushy country North of Bathurst	Nov. 1822	Aster (Haxtonia) ilicifolius Cunn. / Eurybia erubescens var. ilicifolia DC. / **Olearia erubescens (Sieber ex Spreng.) Dippel**
36 – G-DC s.n.		King George Sound	Dec. 1821	Helichrysum asteroides DC. / **Ixiolaena viscosa Benth.**
37 – G-DC 465713	s.n. (K838955 – the '25' on the label is the sp. no. in Candolle's Prodromus) 99 (BM, s.n.)	Lagoon, King Georges Sound	24 Jan. 1818	Aster elaeophilus Cunn. / Eurybia elaeophila DC. / **Olearia elaeophila (DC.) Benth.**
38 – G-DC 494642	47 (K, s.n. – dated 12 May–July 1817) s.n. (K, s.n., herb. Hooker, locality 'L.R.')	Wet plains, Lachlan River	July 1817	Therogeron integerrima DC. / **Minuria integerrima (DC.) Benth.**

39 – G-DC 494643	s.n. (K, s.n., 2 specimens, herb. Hooker) ? s.n. (K, s.n., but dated Feb. 1817 in error – Cunningham was in Parramatta in Feb.)	Molles Plains, Lachlan River	4 July 1817	Therogeron denticulatum DC. / **Minuria denticulata (DC.) Benth**.
40 – G-DC 454048	s.n. (K, s.n. – Peel's Range, 19 June 1817) 316 (K, s.n. – brushy arid country on Lachlan River, mounted with the above) s.n. (K, s.n, herb. Hooker – near Peel's Range) ? 50 (MEL2157054 – 'Interior, 1817.' 335 (MEL2279113 – 'Rocky hills, Peels Range, 1817.' Also has no. 51, not of AC.)	Interior of New South Wales (Peels Range etc)	June 1817	Calotis dilatata DC. / **Calotis cuneifolia R.Br.**
41 – G-DC 454034	337 (K882172 337 (MEL220761) 337 (BRI10104)	Shaded rocky spots, Peels Range, interior of New South Wales	11 June 1817	Brachycome ciliaris Cunn.? / Bellis ciliaris Labill. / Brachycome multifida DC. / **Brachyscome multifida DC.**
42 – G-DC 454021	?338 (BM, s.n., filed as B. marginata) ?with 338 (BM, s.n., filed as B. multifida)	Swampy ground, Sidmouth Valley near Bathurst	Apr. 1817	Brachycome heterodonta DC. / **Brachyscome dentata Gaudich.**
43 – G-DC 454015	47 (K, s.n.) ?339 (BM, s.n., but dated 1824))	Smith's Plains, Lachlan River	25 June 1817	Brachycome scapiformis DC. / **Brachyscome spathulatus Gaudich.**
44 – G-DC 454025		Wet plains on Lachlan River	10 May 1817	Brachycome heterodonta DC. / **Brachyscome dentata Gaudich.**
45 – G-DC 454047	58 (MEL2035078) 58 (K, s.n.) ? s.n. (K, s.n. – 'Goulburn Plains, April 1824 [sic].'	Dry gravelly downs, Goulburn Plains	May 1824	Brachycome? angustifolia Cunn. / **Brachyscome graminea (Labill.) F.Muell.**
46 – specimen not located				
47 – specimen not located				
48 – specimen not located				
49 – G-DC s.n.	s.n. (K, s.n.)	King Georges Sound	1829, Coll. J.B.Wilson	Anthemideae / Steiroglossa chamomillaefolia DC. / **aff. Brachyscome iberidifolia Benth.**
50 – G-DC 497947		Barren hills, Lachlan River	Apr. 1817	Minuria tenuissima DC. / **Minuria leptophylla DC.**
51 – G-DC 214749	s.n. (K, s.n., herb. Hooker – 'E.C.Tr.' [East Coast Tropics] s.n. (K373282– 'Lockyers Creek, Brisbane River'.) s.n. (BM, s.n. – 'Moreton Bay, 1829.') s.n. (BM, s.n. – 'Lockyers Creek falling into the Brisbane, July 1829.') 37 (BRI AQ0270493) 37 (MEL2165584) 37 (MEL2165130)	Brisbane River, Moreton Bay	July 1829	Baccharideae / Conyza / Pluchea / Tessaria / Monenteles globiferus DC. / **Pterocaulon sphacelatum (Labill.) F.Muell.**

52 – G-DC s.n.	s.n. (K373284.)	Cape Cleveland	14 June 1829	Baccharideae / Pluchea / Monenteles intermedius DC. / **Pterocaulon sphacelatum (Labill.) F.Muell.**
53 – G-DC s.n.	s.n. (K, s.n.) s.n. (K, s.n., herb. Hooker.)	Alligator Rivers, Van Diemens Gulf	8 May 1818	Sphaeranthoides / ?Pluchea / Sphaeranthus glaber DC. / **Sphaeranthus africanus L.**
54 – G-DC s.n.	122 (K, s.n.) s.n. (K, s.n., herb. Hooker) 122 (BM, s.n.)	Enderby Island, Dampiers Archipelago	Feb. 1818	Sphaeranthoides / Pluchea / Tessaria / Monenteles sphaeranthoides DC. / **Pterocaulon sphaeranthoides (DC.) F.Muell.**
55 – specimen not located				
56 – G-DC 456547	261 (BM, s.n.)	Vicinity of Cape Cleveland	15 June 1819	Bidens / Glossogyne pedunculosa DC. / **Glossocardia bidens (Retz.) Veldkamp**
57 – G-DC 135234	244 (BM820300) s.n. (K, s.n.) 244 (K, s.n.) 244 (MEL2104980)	Cliffy shores, Islands of the North Coast of Australia [Palm Bay, Crockers Island]	15 Apr. 1818	Verbesina radula / Wollastonia procumbens DC. / **Acunniana procumbens (DC.) Orchard**
58 – G-DC 455078	304 (BM, s.n.) 304 (K, s.n.)	Barren stony spots, Islands of the North Coast of Australia [South Goulburn Island]	Apr. 1818	Wedelia sp.? / Wollastonia insularis DC. / **Wollastonia biflora (L.) DC.**
59 – G-DC 134413	184 (BM820301) s.n. (K, s.n.)	Grassy rocky spots, Goulburn Island	28 Mar. 1818	Verbesina sp. / **Blainvillea cunninghamii (DC.) Orchard**
60 – specimen not located				
61 – specimen not located				
62 – G-DC s.n.	s.n. (K, s.n.) ? s.n. (K, s.n., herb. Bentham – printed label 'New Holland, A.Cunningham, Hooker, 1835.') s.n. (K, s.n., herb. Hooker – Note by AC 'Appears to be Cassinia of Br. in H.K., not Linn. Tr. which gives way to Wendland's name of Angianthus. Frequent on D.H.I. [Dirk Hartog Island]') 288 (BM, s.n.) 288 (CANB436695 , ex BM) 288 (PERTH2793547)	Dirk Hartogs Island	Jan. 1822	Angianthus / ?Cassinia aurea R.Br. / Skirrhophorus cunninghamii DC. / **Angianthus cunninghamii (DC.) Benth.**
63 – G-DC s.n., and an unnumbered duplicate in G (222921)	13 (K357092) 16 (MEL1582698) 16 (MEL1582699) s.n. (MEL1582833) 16 (BRI370507)	Summit of Mount Dangar on the Goulburn River	16 May 1825	Cassinia aculeata R.Br. / **Cassinia cunninghamii DC.**

64 – G-DC s.n.	15 (K357433) ? 58 (MEL221269 – 'Liverpool Plains, 1825.') ? 58 (MEL1583046 – 'N.S.Wales, May 1825.')) s.n. (CANB452106, ex BM – 'Western skirts of Liverpool Plains, 1817' date in error. AC only visited Liverpool Plains in 1825.)	Northwestern margins of Liverpool Plains	May 1825	Cassinia laevis R.Br. / **Cassinia laevis R.Br.**
65 – G-DC s.n.	287 (K357432)	Country to the SW of the Lachlan River	23 May & 20 June 1817	Cassinia rosmarinifolia Cunn. / **Cassinia laevis**
66 – G-DC s.n.	288 (K, s.n.) ? s.n. (MEL1582750)	Waterfall at Mt Lachlan, West from Bathurst	Apr. 1817	Cassinia hydrophila Cunn. / Cassinia hygrophila Cunn. / **Cassinia quinquefaria R.Br.**
67 – G-DC s.n.	95 (K357148 & 357149 95 (MEL221362)	Western side of Liverpool Plains	May 1825	Cassinia uncata Cunn. / **Cassinia uncata A.Cunn. ex DC.**
68 – G-DC s.n.	102 (K910510 p.p., 1818). The Kew specimen label cites 2 collection numbers, but there is only 1 specimen. A note by Burbidge that the K specimen is not a duplicate of that in G-DC seems in error. 102 (MEL720752A, 720753A –'Illawarra, 30 Oct. 1818.') 98 (BM, s.n. – 'Olearia viscidula, Near Five Islands, 1818.') 102 (BRI370530 – no loc., Oct. 1818.) See also G-DC 28.	Illawarra District near Port Jackson	Oct. 1818	Cassinia argophylla Cunn. / **Ozothamnus argophyllus (A.Cunn. ex DC.) Anderb.**
69 – G-DC s.n.	9 (K910470) 9 (BRI266037)	Twofold Bay	Dec. 1817	Cassinia obovata Cunn. / **Ozothamnus obcordatus DC.**
70 – G-DC s.n.	134 (K357162)	Cap Hill, Illawarra District	Oct. 1818	Cassinia berberifolia Cunn. / **Cassinia denticulata R.Br.**
71 – G-DC s.n.	? 293 (K910495 – Bathurst, Apr. 1817. Another label on the same sheet, AC 298, 1 day N of Lachlan River, 4 Aug. 1817, lacks a corresponding specimen) 298 (MEL 0720708A, 'between Lachlan & Macquarie Rivers, 4 Aug. 1817.')	North of Bathurst and on banks of Lachlan River	4 Aug. 1817 (This date on the G-DC specimen must relate to the Lachlan River collection.)	Ozothamnus ericifolius Cunn. / **Ozothamnus diosmifolius (Vent.) DC.**
72 – G-DC s.n.	301 (K899463)	King Georges Sound	Jan. 1822	Siloxerus humifusus Labill. / **Siloxerus humifusus Labill.**
73 – specimen not located				
74 – G-DC 465642	150 (BM, s.n., - filed as Olearia axillaris F.Muell.)	Enderby's Island, Dampier Archipelago	1818	Eurybia dampieri DC. / **Olearia sp.**
75 – specimen not located				
76 – specimen not located				

77 – G-DC s.n.	290 (K, s.n., as H. gracile DC.) s.n. (K, s.n., as H. ramosum DC.) Both specimens in K a good match for that in G-DC. s.n. (MEL2280150) s.n. (PERTH1064150)	King Georges Sound	- [1821]	Gnaphalieae / Helichrysum ramosum DC. / **Pithocarpa ramosa (DC.) Schmidt-Leb. & R.L.Barrett**
78 – G-DC s.n.	s.n. (K910468)	Hastings River, Port Macquarie	1819	Gnaphalieae / Helichrysum obovatum DC. / **Ozothamnus obovatus (DC.) Anderb.**
79 – specimen not located	**			
80 – specimen not located				
81 – G-DC s.n.	s.n. (K910502)	King George Sound	1818	Gnaphalium / Helichrysum cordatum DC. / **Pithocarpa cordata (DC.) Schmidt-Leb. & R.L.Barrett**
82 – specimen not located				
83 – specimen not located				
84 – specimen not located				
85 – specimen not located				
86 – specimen not located				
87 – specimen not located				
88 – specimen not located				
89 – G-DC s.n.	? 112 (K899131) 267 (BRI AQ0594208) 267 (MEL1585998) 267 (CANB436696, ex BM) 267 (PERTH1064169 – also with no. 119.)	Cape Cleveland	16 June 1819	Gnaphalium / Helichrysum rupicola DC. / **Coronidium rupicola (DC.) Paul G. Wilson**
90 – G-DC s.n.	s.n. (K9977 & 9978 – at Endeavour River only) [?1]20 (K, s.n. – 'Port Bowen.')	Endeavour River & Port Bowen [both localities on specimen in G-DC]	1820	Gnaphalium / Helichrysum collinum DC. / **Coronidium rupicola (DC.) Paul G. Wilson**
90/2 – G-DC s.n.		Wangaroa, New Zealand	Nov. 1826	Gnaphalium lanatum Forst. / Gnaphalium cunninghamii DC. / **Euchiton involucratus (G.Forst.) Holub**
91 – G-DC s.n.	s.n. (BM, s.n. – 'King Georges Sound, Voyage of Bathurst, 1821-22.')	King Georges Sound	Jan. 1822	Leptorhynchos medius Cunn. / **Leptorhynchos scaber (Benth.) Haegi**
92 – G-DC s.n.		Vicinity of Bathurst	Oct. 1822	Leptorhynchos elongatus DC. / **Leptorhynchos elongatus DC.**
93 – G-DC s.n.	s.n. (MEL248341 – 'Tasmania')	Hobart Town, Van Diemens Land	1819	Leptorhynchos squamatus Less. / **Leptorhynchos squamatus (Labill.) Less.**
94 – specimen not located				

95 – G-DC s.n.		Near Bathurst	1822	Leptorhynchos hemisphaericus DC. / **Leptorhynchos squamatus (Labill.) Less.**
96 – specimen not located				
97 – G-DC s.n.	s.n. (K, s.n. – 'Craspedia, banks of creeks, Cow Pastures, Campden.') 19 (K, s.n. – 'grassy situations on the banks of creeks, Camden.' Also numbered 128, prob. not by AC.)	Grassy spots, banks of creeks, near Port Jackson	Apr. 1824	Gnaphalium / Helichrysum rutidolepis DC. / **Coronidium scorpioides (Labill.) Paul G. Wilson**
98 – specimen not located				
99 – G-DC 457409	468 (K, s.n.) 468 (BM, s.n.)	Port Keats	7 Sep. 1819	Erigeron? / Blumea integrifolia DC. / **Blumea integrifolia DC.**
100 – G-DC 457434	s.n. (K, s.n. – 2 specimens, dated 28 Sep. and Oct. 1820, mounted on one sheet.) 280 (BM, s.n. – 'Brunswick Bay, 1820.' 280 (MEL544150 – 'Regents River, Oct. 1820.') 280 (PERTH2793520)	[Prince] Regents River	1820	Erigeron? / Blumea cunninghamii DC. / **Blumea axillaris (Lam.) DC.** or **Blumea mollis (D.Don) Merr.**
101 – Specimen not located	s.n. (K, s.n., herb. Hooker) s.n. (BM, s.n.)	*A remarkable pigmy plant on Molles Plain, Lachlan R.*	*July 1817*	Pteropogon pygmaeum DC. / **Rhodanthe pygmaea (DC.) Paul G. Wilson**
102 – G-DC s.n.	64 (K910438 – label refers to R.Cunningham collns also)	Iokianga [=Hokianga] River, New Zealand	Sep. 1826	Cassinia retorta Cunn. / **Ozothamnus leptophyllus (G.Forst.) Breitw. & J.M.Ward**
103 – G-DC s.n.	61 (K910476) s.n. (MEL2280137)	Mount Wellington near Hobart Town	Jan. 1819	Cassinia ledifolia Cunn. / **Ozothamnus ledifolius (A.Cunn. ex DC.) Hook.f**.
104 – G-DC s.n.	60 (K910462) 135 (MEL2164872 – 'A shrub of stunted growth on the rocky face of Mt Wellington.') s.n. (MEL2280136 – 'In insula Van Diemen.')	Mount Wellington near Hobart Town	Jan. 1819	Cassinia cuneifolia Cunn. / **Ozothamnus rodwayi Orchard**
105 – specimen not located	62 (K, s.n., Jan. 1819. Sheet also bears no. 136, prob. not of AC.)	*A glutinous shrub on Mount Wellington near Hobart Town*	*1819*	Baccharideae / Baccharis? lepidophylla DC. / **Ozothamnus hookeri Sond.**
106 – specimen not located	s.n. (K, s.n., herb. Hooker – 'Glen Finlass and again in gullies of Macq. R..') s.n. (K, s.n. – 'Glen Finlass & in other ravines of the Macquarie River.') 309 (BM, s.n.) 309 (MEL109106 – 'New South Wales, 1817.' Also bears no. 138, prob. not of AC.)	*Ravines on the Macquarie River*	*1817*	Helichrysum linifolium Cunn. / Helichrysum anthemoides Sieb. / **Rhodanthe anthemoides (Sieber ex Spreng.) Paul G. Wilson**

107 – specimen not located	368 (K899196) 368 (BM, s.n., but 'Molles Plains.')	*Peel's Range, Interior*	*1817*	Helichrysum floribundum Cunn. / Helichrysum floribundum DC. / **Rhodanthe floribunda (A.Cunn. ex DC.) Paul G. Wilson**
108 – specimen not located	304 (K899429) s.n. (K899430) 304 (BM, s.n.) s.n. (AD140446))	*Molle's Plains, Lachlan River*	*1817*	Helichrysum molle Cunn. / Helichrysum molle DC. / **Leucochrysum molle (A.Cunn. ex DC.) Paul G. Wilson**
109 – specimen not located	141 (K, s.n.) s.n. (K, s.n., herb. Hooker – 'Pipers Hill, L.R.') 302 (BM, s.n. – 'Lachlan River, July 1817.') 302 (BM, s.n. –'Lachlan River, 1817.') 302 (MEL2280263 – 'Lachlan River, 1817.') 302 (BRI354809)	*Hills on the Lachlan River, outer squamae of involucre often tinted with a reddish brown*	- [30 July 1817]	Helichrysum bicolorum Cunn. / Helichrysum bicolorum DC. / **Leucochrysum albicans var. tricolor (DC.) Paul G. Wilson**
110 – specimen not located	301 (K, s.n.) s.n. (K, s.n., herb. Hooker – 'Elichrysum albicans, Bath^{t} Pl^{ns}.') 301 (NSW584687 – 'Cox's River.') 301 (BRI248831 – 'Bathurst, Apr. 1817.')	*Field's Geog. Mem.* [Blue Mountains to north of Bathurst]	[13 Apr.] *1824*	Helichrysum albicans Cunn. / Helichrysum albicans DC. non Sieb. / **Leucochrysum albicans (A.Cunn.) Paul G. Wilson**
111 – G-DC s.n.	116 (K, s.n. – also numbered 143, prob. not by AC). 116 (MEL2155723) 116 (BRI248182)	Macquarie Harbour, Van Diemen's Land	Jan. 1819	Helichrysum dealbatum Labill. / **Argentipallium dealbatum (Labill.) Paul G.Wilson**
112 – G-DC s.n.	s.n. (K, s.n. – Macquarie Harbour, 11 Jan. 1819). 144 (MEL2160116A – 'Tasmania.')	Macquarie Harbour	Jan. 1819	Helichrysum scorpioides Labill. / **Coronidium scorpioides (Labill.) Paul G. Wilson**
113 – G-DC s.n.	68 (K899093 – It is not clear from the label whether this specimen is from AC's 1826 trip, or from R.Cunningham, 1834, or Colenso, 1839. It matches the G-DC specimen fairly well.)	Open fern lands, New Zealand	1826	Helichrysum micranthum Cunn. / **Anaphalioides trinervis (G.Forst.) Anderb.**
114 – specimen not located	114 (K, s.n. – 'South Coast, Australia, W. Baxter' with AC tag '114, 1829'	*A curious & very distinct specs, So. coast Austr. Gul. Baxter*	*1829*	Helichrysum baxteri Cunn. / Helichrysum baxteri DC. / **Chrysocephalum baxteri (A.Cunn. ex DC.) Anderb.**
115 – G-DC s.n.	s.n. (K, s.n., herb. Hooker – 'Elichrysum, S. of the Colony.') 16 (CANB436697, ex BM)	Coast near Port Jackson	1817	Helichrysum elatum Cunn. / **Coronidium elatum (A.Cunn. ex DC.) Paul G. Wilson**

116 – G-DC s.n.	s.n. (K, s.n., mounted with a Fraser and a Riley specimen) 266 (BRI AQ0594207 – 'Rodds Bay, 1819.' 266 (CANB4636693, ex BM) ? s.n. (MEL2161006 & 2162188, without date or loc., may belong here)	Rodds Bay	May 1819	Helichrysum lanuginosum Cunn. / **Coronidium lanuginosum (A.Cunn. ex DC.) Paul G. Wilson**
117 – G-DC 328465	265 (K899119)	Endeavour River	July 1819	Helichrysum banksii Cunn. / **?Xerochrysum bracteatum (Vent.) Tzvelev**
118 – specimen not located	s.n. (K, s.n., herb. Hooker.) 305 (K899178 – also with '151', prob. not of AC)	*Molle's Plains, Lachlan River*	[4 Jul.] *1817*	Helichrysum polygalifolia Cunn. / Helichrysum polygalifolia DC. / **Rhodanthe polygalifolia (A.Cunn. ex DC.) Paul G. Wilson**
119 – specimen not located		*Peel's Range, Interior in Long. 146°E*	*1817*	Helichrysum diffusum Cunn. / Helichrysum diffusum DC. / **Rhodanthe diffusa (A.Cunn. ex DC.) Paul G. Wilson**
120 – specimen not located	300 (K, s.n., herb. Bentham – Western side of the Blue Mountains, 11 Apr. 1817) 300 (MEL61351 – 'N.S.Wales, 1817.')	*Bathurst*	-	Helichrysum, closely allied to chrysanthum / H. bracteatum? / H. viscosum DC. H. viscosum Sieb. / **Bracteantha viscosa (Sieber ex DC.) Anderb. & Haegi**
121 – G-DC 328540		Moreton Bay	Oct. 1824	Helichrysum macrocephalum Cunn. / **Helichrysum macrocephalum DC. / Gnaphalium macrocephalum (DC.) Sch.Bip.**
122 – G-DC s.n.	297 (K, s.n. – also with number '156 DC.') s.n. (K, s.n., herb. Hooker – 'Podolepis rugata, K.G.S.') 297 (BM, s.n.)	King Georges Sound	Jan. 1822	Podolepis rugata Labill. / **Podolepis rugata Labill.**
123 – specimen not located	32 (K, s.n. – 'Podolepis acuminata Br, in Hort. Kew., Plains at Bathurst', no date) ? 320 (BM, s.n. – 'Vale of Clwyd near Bathurst.') 320 (MEL716196 – no loc., '1817.')	*New South Wales*	*1817*	Podolepis acuminata Brown in Hort. Kew. / Podolepis acuminata DC. / **Podolepis jaceoides (Sims) Voss**
124 – G-DC s.n.	s.n. (K899335) s.n. (BM, s.n. – 'Moreton Bay' without date or no.) s.n. (BRI AQ0354841) s.n. (MEL2280269 & 2280270)	Moreton Bay	Oct. 1824	Podolepis longipedata Cunn. / **Podolepis longipedata A.Cunn. ex DC.**
125 – G-DC s.n.	299 (K, s.n.) 299 (BM, s.n.) 299 (MEL696453 – 'Dirk Hartogs.')	Dirk Hartogs Island	Jan. 1822	Podolepis gracilis Graham / **Podolepis gracilis (Lehm.) Graham**

126 – specimen not located	s.n. (K, s.n. – 'Lachlan River, 29 Apr. 1817.' ? s.n. (MEL2160879 – 'New South Wales' no date. May belong here or in the next collection.)	*Lachlan River*	*1817*	*Podolepis inundata Cunn.* / *Podolepis inundata DC.* / **Podolepis canescens A.Cunn. ex DC.**
127 – G-DC s.n. [photo of this sheet in MEL2280347]	s.n. (K, s.n. –'Hills near Crokers Range West from Wellington Valley, Nov. 1825.') s.n. (BM, s.n. – 'Hills near Crokers Range, 1825.' Two sheets.) s.n. (BM, s.n. –'Crokers Range, Nov. 1825.' Also no. 1763, not by AC.) 39 (MEL696480 – 'Crokers Range, 1825.')) 39 (BRI354837 – 'Crokers Range, Nov. 1825.')	West from Wellington Valley	Nov. 1825	Podolepis canescens Cunn. / **Podolepis canescens A.Cunn. ex DC.**
128 – G-DC s.n.	s.n. (K901800, herb. Bentham, annotated 'herb DC. 1837') s.n. (K901801, dated Jan. 1822) 300 (BM, s.n.)	Dirk Hartogs Island	Jan. 1822	Podolepis divaricata Cunn. / **Gnephosis tenuissima Cass.**
129 – G-DC 495611		Close forests on the banks of Rivers Cowa-Cowa etc.	1826	Brachyglottis repanda Forst. / **Brachyglottis repanda J.R.Forst. & G.Forst.**
130 – G-DC s.n.	s.n. (K, s.n.) s.n. (CANB473095, ex K) ? 310 (MEL1551059A - 'Bathurst, Macquarie River, 15 Apr. 1817.')	Lake George	Apr. 1824	Senecio / Senecio georgianus DC. / **Senecio georgianus DC.**
Avec 130 – G-DC s.n.	23 (K, s.n.)	Lake George	-	Senecio cunninghamii DC. / **Senecio cunninghamii DC.**
131 – G-DC s.n.	24 (K, s.n. – also numbered 169)	Swampy plains on the south of Lake George	Apr. 1824	Senecio / Senecio ciliolatus DC. / **Senecio ciliolatus DC.**
132 – G-DC s.n.	s.n. (K, s.n., herb. Hooker – 'with the Trachymene of Erin Head.') 183 (K, s.n. – 'Rocky hills N. of Bathurst.', also numbered 188) 183 (BM, s.n.) 183 (MEL2168946 – 'North from Bathurst, 1822.' Also bears no. 170, prob. not of AC.)	North of Bathurst	Nov. 1822	Senecio velleioides Cunn. / **Senecio velleioides A.Cunn. ex DC.**
133 – G-DC s.n.	113 (K, s.n.) s.n. (K, s.n.)	Sandy ridges on the shores of Macquarie Harbour	Jan. 1819	Senecio otiphyllus Cunn. / **Senecio odoratus Hornem.**
134 – G-DC s.n.	61 (K852315)	South from Lake George	1824	Senecio / Erichtites glabrescens DC. / **Senecio glabrescens (DC.) Sch. Bip.**
135 – G-DC s.n.	102 (K, s.n.)	Vicinity of Bathurst	Oct. 1822	Senecio / Erichtites bathurstiana DC. / **Senecio bathurstianus (DC.) Sch. Bip.**

136 – specimen not located	314 (K215103) 314 (BM, s.n.) 314 (MEL2280349 – photo)	*Peel's Range, Interior*	*1817*	Senecio anethifolius Cunn. / Senecio anethifolius DC. / **Senecio anethifolius A.Cunn. ex DC**.
137 – specimen not located	317 (K215101) 317 (MEL2279258 – photo of K sheet)	*Peel's Range*	*1817*	Senecio / Senecio platylepis DC. / **Senecio platylepis DC.**
138 – specimen not located	311 (K, s.n.) s.n. (K, s.n., herb. Hooker)	*Molle's Plains, Lachlan River*	[3 July] *1817*	Senecio othonnaeoides Cunn. non Sieb. / Elachothamnus cunninghami / **Minuria cunninghamii (DC.) Benth.**
139 – G-DC s.n.	293 (K852259)	Summit of Bald Head, King Georges Sound	Jan. 1822	Senecio / Senecio ramosissimus DC. / **Senecio ramosissimus DC.**
140 – specimen not located	63 (K, s.n.)	*Mount Wellington V. D. Land*	*8 Jan. 1819*	Senecio sp. / Senecio rupicola Rich. / **Senecio pinnatifolius A.Rich.**
141 – specimen not located	61 (MEL22775 – 'Macleys Plains' no date.)	*Lachlan River*	*1817*	Senecio glandulosus Cunn. / Erechtites glandulosa DC. / **Senecio campylocarpus I.Thomps.**
142 – specimen not located	315 (K, s.n. – also has later inked '185'.) 315 (BM, s.n.)	Lachlan River	1817	Senecio / Senecio brachylaenus DC. / **?Senecio sp. aff. cunninghamii**
143 – specimen not located	318 (K, s.n.) 318 (BM, s.n.)	*Macquarie River near Bathurst*	[15 Apr.] *1817*	Senecio / Senecio macquariensis DC. / **Senecio pinnatifolius A.Rich.**
144 – G-DC s.n.	s.n. (K, s.n. – 'Crepis, Bathurst country, Nov. 1822'). s.n. (K, s.n., herb. Hooker 'A & E' det. Holzapfel)	Country around Bathurst	1822	Crepis? / **Picris angustifolia subsp. carolorum-henricorum (Lack) Holzapfel**
Unnumbered G-DC 465625	s.n. (K, s.n.) Shipping list gives 119 (The 9 on the K label is a species no. from Candolle's Prodromus).)	Summit of Mt. Wellington, Van Diemens Land	[8] Jan. 1819	Aster (Haptonia) persoonioides Cunn. / **Olearia persoonioides (DC.) Benth.**
Unnumbered G-DC 495217	s.n. (K, s.n., herb. Hooker – 'Arctotis gnaphalioides, perm^{t} bogs Blue Mts.') s.n. (K, s.n., herb. Hooker – 'Adenostyleae, bogs, Blue Mountains.') ? s.n. (MEL47454 – no loc. or date.)	Elevated boggy grounds on the Blue Mountains	Apr. 1817	Celmisia longifolia Cass. / **Celmisia longifolia Cass.**
Unnumbered G-DC 494290		Port Jackson		Aster aculeatus Labill. / Olearia aculeata DC. / **Olearia ramulosa (Labill.) Benth.**
Unnumbered G-DC	s.n. (K, s.n. – 'Lachlan River, 22 July 1817.')	Wet plains Lachlan River.	July 1817	Steiroglossa humilis DC. / **Brachyscome diversifolia (Graham ex Hook.) Fischer & C.Meyer**
Unnumbered G-DC	s.n. (K, s.n., herb. Hooker – 'Molle's Plains.') ? 345 (K882912 – 'Molles Plains, 10 July 1817', det B. leptocarpa by Short.)	Wet plains, Lachlan River, 29 July 1817 Also, Molle's Plains, Lachlan River, 10 July 1817	10 & 29 July 1817	Steiroglossa lineariloba DC. / **Brachyscome lineariloba (DC.) Druce**

* The Types of ***Steiroglossa humilis*** DC. (***Brachyscome diversifolia*** **(Graham ex Hook.) Fisch. & C.A Meyer var. diversifolia**) and ***Steiroglossa lineariloba*** DC. (***Brachyscome lineariloba*** **(DC.) Druce**) listed as Unnumbered above, may be two of the missing numbers 46–48 in G-DC.

** One of the missing '***Gnaphalium/Helichrysum***' specimens in G-DC (79, 80, 82–88) is probably ***Helichrysum ciliatum*** **var. *cunninghamii* DC.** a name of uncertain application, of which an isotype exists in K (s.n., no shipping no.) 'Open plains, Bathurst, 15 Apr. 1817'.

*** There must be two sheets of ***Centratherum riparium*** in G. The one seen by me had a number (10) and date. That cited by Bean (2009) did not, but was clearly part of the same gathering. No Cunningham collections of this plant were found in BM or K, but there is a specimen with the Aiton/Brown shipping number 44 in CANB, received from BM.

**** ***Podolepis gracilis/canescen***s. The sheet MEL696453 has been tentatively identified as ***P. canescens*** rather than ***P. gracilis***. It bears two Cunningham numbers 298 and 299. Only the latter has been associated with a ***Podolepis*** species. The tag for 298 probably belonged to a specimen of ***Ozothamnus diosmifolius***, since removed.

Appendix 2.

Specimens collected on the Wycaddie River, Bay of Islands, May 1838, in company with Captain Cecille of *L'Héroine*. A set of these specimens was presented to Captain Cecille 'for his government'. Cunningham had finished writing his Flora of New Zealand just before leaving England in 1836, and was thus fully informed on then-current names of New Zealand plants.

Number and Cunningham's manuscript name	**Current name**
1. Knightia excelsa R.Br. (in fruit)	Knightia excelsa R.Br.
2. Leiospermum racemosum D.Don	Weinmannia racemosa L.f.
3. Myrtus bullata Sol.	Lophomyrtus bullata (Sol. ex A.Cunn.)Burret
4. Cyathea dealbata Sw.	Cyathea dealbata (G.Forst.) Sw.
5. Metrosideros robusta A.Cunn.	Metrosideros robusta A.Cunn.
6. Hartighsia spectabilis A.Juss.	Dysoxylum spectabile (G.Forst.) Hook.f.
7. Dacrydium cupressinum Sol.	Dacrydium cupressinum Lamb.
8. Dracophyllum latifolium A.Cunn.	Dracophyllum latifolium A.Cunn.
9. Vitex littoralis A.Cunn.	Vitex lucens Kirk
10. Drimys axillaris Forst. [Myrsine salicina Hew.] Name in square brackets inserted by Heward.	Pseudowintera axillaris (J.R.Forst. & G.Forst) Dandy, or more likely, Myrsine salicina Heward ex Hook.f.
11. Podocarpus totarra D.Don	Podocarpus totara G.Benn. ex D.Don
12. P. ferruginea D.Don	Prumnopitys ferruginea (D.Don) de Laub.
13. Phyllocladus trichomanoides D.Don	Phyllocladus trichomanoides D.Don
14. Piper excelsum D.Don	Piper excelsum Forst.f.
15. Dacrydium excelsum D.Don	Dacrycarpus dacrydioides (A.Rich.) de Laub.
16. Laurus Taraira A.Cunn.	Beilschmiedia tarairi (A.Cunn.) Benth. & Hook.f. ex Kirk
17. Laurelia novae-zelandiae R.Cunn. mss	Laurelia novae-zelandiae A.Cunn.
18. Metrosideros tomentosa A.Cunn.	Metrosideros excelsa Sol. ex Gaertn.