

Alexander Morrison (1849–1913) and Edinburgh's botanical connections with Australia

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Abstract

A summary of the life of the Scottish physician and botanist Alexander Morrison is followed by an account of his Australian explorations and plant collections and a brief note on his visit to the New Hebrides (Vanuatu). A number of connections between Australia and the Royal Botanic Garden Edinburgh (E) are noted. Five appendices cover the new taxa described by Morrison, an eponymy, a list of his collecting localities in Victoria and Western Australia, a bibliography of his published works and a list of the Australian collectors who contributed to his herbarium.

Alexander Morrison (1849–1913) was an Edinburgh trained physician who, after emigrating to Australia in 1877, proceeded to make a significant contribution to the study of the native flora, chiefly in Victoria and Western Australia.

His medical education included botany classes given at the Royal Botanic Garden Edinburgh by John Hutton Balfour, who held the then joint posts of Professor of Botany at Edinburgh University and Regius Keeper (Director) of the Botanic Garden. The professor's son, Isaac Bayley Balfour, was a fellow student who subsequently succeeded his father as professor and Regius Keeper.

These formative contacts were sustained by Morrison throughout his explorations in Australia, and undoubtedly influenced his decision to leave his vast herbarium to Edinburgh.

This paper presents a summary of the life and botanical work of Morrison, drawing for the first time on sources in the archive of the Royal Botanic Garden Edinburgh. It is acknowledged to be an incomplete account. Further research at Edinburgh would probably uncover more details of his character and work; furthermore related correspondence must exist at Kew and probably elsewhere, and has yet to be examined.

Over the past 150 years elements of the Australian flora have been studied by a number of botanists connected with the Royal Botanic Garden Edinburgh. With particular emphasis on contemporary researches, the most notable of these are briefly discussed at the end of this paper.

Alexander Morrison: curriculum vitae

An obituary of Morrison (Anon. 1914) provides a fairly full account of his life, and further information is given by Maiden (1921). A synopsis will suffice here, adding some new facts and casting doubt on some others! Further details are also provided by Green (this volume). The only known portrait of Morrison is reproduced in Figure 1.

1849, 15 Mar. Born Wester Dalmeny, west of Edinburgh, son of Thomas Morrison and Anne

Peggie. (Source: old parish records, Scottish Register House.) Today there are still Morrisons at Wester Dalmeny.

1866–1869 Edinburgh University Botany Class summer sessions (signature in class registers, E archive). The statement (Anon. 1914) that Morrison went to Australia aged 18 must therefore be wrong.

1871 Melbourne. Collected with J. H. Morrison, specimens at MICH (Vegter 1976). It is stated (Anon. 1914) that Morrison returned to Europe and trained at Glasgow, Würzburg and Vienna: however there is no evidence that he was ever at Glasgow and the Medical Directory implies that he was educated at Edinburgh alone (D. A. Dow, Archivist, Greater Glasgow Health Board and University Archives, pers. comm.).

1873, 9 Jan. Presented to Edinburgh University Herbarium a collection of Australian plants collected by himself in 1871 (*Trans. Bot. Soc. Edinburgh* 11: 474, 1873).

1873, 13 Feb. Balloted as a Botanical Society of Edinburgh Fellow, address listed as 77 Lothian Road, Edinburgh (*Trans. Bot. Soc. Edinburgh* 11: 474, 1873).

1873 Edinburgh University Botany Class summer sessions (signature in class registers, E archive).

1873, Nov. Listed as a resident Fellow of the Botanical Society of Edinburgh, address now 67 Great King Street, Edinburgh (*Trans. Bot. Soc. Edinburgh* 11 appendix D:3, 1873) and continues to be thus listed, though without an address after Nov. 1876, until Jan. 1879 (*Trans. Bot. Soc. Edinburgh* 12 appendix: xi, xxxiii, lxvi, 1876; 13 appendix: xlv, xc, 1879).

1876 Qualified as licentiate of Royal College of Physicians and Royal College of Surgeons, Edinburgh (D. A. Dow, pers. comm.).

1877, 15 Feb. Registered with General Medical Council (D. A. Dow, pers. comm.).

1877 To Australia on SS *Hastings* as medical officer in charge of immigrants: called at Perth on way (visiting and walking back from York) then on to Melbourne (? via South Australia — specimens this year from Gawler.) Locum for 1 year at Ararat Lunatic Asylum (Anon. 1914).

1878 Private practice, 472 Albert Street, E. Melbourne (Anon. 1914).

1884 Member, Field Naturalists Club of Victoria (*Victorian Naturalist* 30: 145, 1914).

c. 1892 Abandoned medicine due to ill health (Anon. 1914).

1896, 1 May Address Beulah, Domain Road, South Yarra (E archive). Made expedition to New Hebrides (ms diary at E, see p. 151 of present paper).

1897, 1 July Botanist, Bureau of Agriculture, Western Australia, £230 p.a. Private address 153 Brown Street, Perth until final letter (24 July 1905) when 149 Brown Street (E archive).

1906, 19 June Post stopped, retiring allowance of £145 19s 3d but no pension. Private practice again, first at Hay Street, then Rokeby Road, Subiaco. Continued voluntarily in botanical pursuits until leaving state (Anon. 1914).

1908 Delivered Museum lecture 'The adaption of plants to their environment' as reported in the *West Australian* of 21 Sept. 1908 (*Nature* 79: 106, 1908).

date? Became vice president Natural History Association of Western Australia (Hooper & Roberts 1966).

1910 Delivered Museum lecture 'Vegetation and rainfall' (Anon. 1914).

1912 Left Perth. To Melbourne as assistant botanist to A. J. Ewart, Professor of Botany and Government Botanist (Anon. 1914).

1913, Feb. Honorary member of Natural History & Science Society of Western Australia (Anon. 1914).

1913, 7 Dec. Died at Heatherton Sanatorium, Cheltenham, nr Melbourne. Buried at Kew cemetery (Anon. 1914).

'He was a painstaking worker, and exceedingly cautious; he was reticent, retiring, kindly in his disposition and scrupulously honest in all his dealings' (Anon. 1914, p. 109). This latter trait led him to comment in a letter to Isaac Bayley Balfour on 24 July 1905:

With regard to the title of "Doctor" or "MD". You may not know that I did not take the MB when at Edinburgh failing, I understood, in medicine (final exams) which I know better than most other subjects. How far it is applied as a matter of courtesy I do not know and can only accept the compliment gratefully. . .

The ill health which more than once resulted in his abandoning medicine never seemed to restrict his



Fig. 1. Alexander Morrison c. 1898. This portrait is taken from a group photograph in the archive of the Western Australia Department of Agriculture. It was taken soon after Morrison's appointment to the department. At the time he was consulting botanist to the Mueller Botanical Society (N. G. Marchant, pers. comm.).

abounding energy for plant exploration. However, Maiden suggests that it did influence his rate of publication, noting that 'He did not write much, but always effectively . . . he was a charming man, full of information and anxious to impart it, and Australian science has to deplore that the state of his health did not permit him to publish more' (Maiden 1921, p. 164).

Australian exploration and collections

Morrison's Australian botanical explorations were centred on Melbourne and Perth although some specimens are known from Gawler in South Australia: these are dated 1877 and may have been collected on his journey to Victoria. In both Victoria and Western Australia many of his collecting areas follow the lines of the railway. Clearly the railway proved invaluable to Morrison, in his explorations. For example, in a manuscript in the Edinburgh archive he describes a return journey from the Karridale area, in October 1897 in the company of Professor Goebel of Munich: 'During the stoppages made by the train at Boganup and Pieton Junction it is possible to secure a good handful of specimens to be found growing in an almost natural condition close to the stations'. He also made extensive collections in the environs of both Melbourne and Perth, areas now completely engulfed by city sprawl.

In contrast with his journey in the New Hebrides, which is exceptionally well documented (see below), he appears to have left only one diary of his Australian explorations. This is most unfortunate since, in addition to the local information that would have been provided, his lucid easy style would have made inter-

esting and entertaining reading. Consider for instance this extract from the one Australian account that does exist:

The excursion was made from Busselton on the 20th October, on which day it so happened, the coach to Karridale did not run. As the immediate neighbourhood of this quiet town is about as deficient in botanical interest as the town itself is in human interest, we decided to hire a buggy to take us to the Margaret River and to stay at the accommodation house for the night, continuing the journey to Karridale the following day. By this course we secure a day at the Margaret River where the flora is very rich, while being at liberty on the way to make halts for the purpose of collecting wherever we saw a good display of specimens . . .

. . . Before long the rain came down in almost tropical torrents and we were glad to hurry on the horses till the Margaret was reached about one o'clock, by which time we were well soaked and very uncomfortable. The chief comfort at the accommodation house was a good fire at which we were able to partially dry our clothing and get rid of the chill. As the rain continued off and on during the remainder of the day, we could only make short sallies from the hotel to collect specimens, which were of course dripping wet and could not be pressed till freed of all external moisture and that took some time. Flowering plants are found in great profusion here and the locality is a good one at which a few days might be well spent in collecting and studying the Flora, but unfortunately the board and lodging to be had is the reverse of enticing. (Notes of a botanical trip to Karridale; ms. in E archive.)

Unfortunately, he seldom included field notes with his specimens and in many cases the only clue to locality was a small, postage-stamp-sized slip of paper with a cryptic abbreviation and a date. Various people in different places have over the years deciphered these abbreviations. Where known, these are included in the lists of collecting localities given in appendix III. Occasionally, as in the case of *Drosera* or some *Acacia* or *Eucalyptus* species, more detailed notes are provided. He was particularly interested in *Drosera* and corresponded with Bayley Balfour about the genus, sending seeds, bulbs and spirit material to Edinburgh in addition to herbarium specimens. He also corresponded with Diels in Berlin, who was preparing the account of *Drosera* for Engler's *Das Pflanzenreich*. Reference is made in this to Morrison's work (Diels 1906, p.8). Seeds of several other plants were also sent for the garden at Edinburgh. A list of Morrison's published taxa and his full bibliography are given in appendices I & IV.

Throughout his time in Australia Morrison sent specimens to Edinburgh to his erstwhile fellow student Isaac Bayley Balfour, by then Regius Keeper of the Royal Botanic Garden and Professor of Botany at the University. Many of these specimens were then mounted and could immediately be incorporated into the herbarium. (Balfour wrote in 1914: 'we already have in our herbarium many valuable specimens sent by him'.) On his death in 1913 Morrison bequeathed his remaining herbarium to his 'alma mater' Edinburgh University. It seems at first curious that he should not have left his collections in Australia but his letters show a long-standing disillusionment with his employers which may partly explain this. In January 1904 he wrote that 'the government [Western Aus-

tralia] here are completely indifferent to botany or their botanist — so long as the farmers do not complain about the identification of their weeds nothing else is necessary'. And a year later: 'I began here over seven years ago with the hope of at least laying the foundation of a good herbarium but the indifference and inertia of the government authorities discourages even that'. At this point he was 'ready with loins girt to leave' and had applied for the post of Government Botanist in Melbourne on the death of Luehmann. It was to be another seven years before he did move back to Melbourne but in the meantime the termination of his post in Perth seems to reflect further estrangement with the authorities.

Thus Morrison's large, comprehensive herbarium of both phanerogams and cryptogams came to Scotland and correspondence at Edinburgh shows how Bayley Balfour had to justify to the University court the cost of its transport:

Dr Morrison's long sojourn in Australia, his great knowledge of its flora and the exceptional opportunities he had of collecting, make his herbarium a really valuable one alike from the educational and scientific standpoint. . . The herbarium was noteworthy in Australia as the finest private collection and it is the best that has come to Europe since the pioneer work on Australian botany early in the last century . . . It is a worthy and noble gift.

After various hold-ups due to the war and a voyage to London on the SS *Ulysses* the collections eventually arrived in Edinburgh in October 1915. They were contained in 29 cases and it had cost £27 9s 10d to transport them. With no records available we can only guess at reasons for the subsequent hiatus. Shortage of staff during the first world war coupled with the arrival from China of the exciting collections of George Forrest must have resulted in many projects being shelved. In 1930 there is notice of receipt by Kew of c. 5,000 Morrison Western Australian duplicates from Edinburgh. At about this time many specimens must have been incorporated into the Edinburgh herbarium. However, many more languished in boxes through another world war until a final assault was made on them in the early 1960s. (The story at Kew seems to be much the same with the duplicates sent from E in the 1930s not being processed until the early 1950s.) Since then, about 9,000 Morrison specimens have been added to the herbarium at E, and about 7,000 surplus (not always strict duplicates) have been distributed to CANB, PERTH, US, AD, MICH and RSA. Vegter (1976) indicates other locations for Morrison collections: B, BM, CORD, GH, L, MO, NH, S, WAG, WRSL. Morrison's herbarium contains many specimens collected by others; these are noted in appendix V.

Expedition to New Hebrides (Vanuatu)

In the winter of 1896 Morrison, at the suggestion of Ferdinand Mueller, made a botanical excursion to the New Hebrides. By the time of his return Mueller had died and his assistant Johann Georg Luehmann had succeeded him at Melbourne. Thus it was with Luehmann that Morrison worked over his plants.

Many manuscript notes compiled as a result of this journey are to be found in the Edinburgh archive. They

are closely but clearly written in ink or pencil on small (c. 22 x 14 cm) sheets. Included is a diary of the journey (1 May–August 1896) and an ink written manuscript 'Notes on a botanising tour in the New Hebrides' with the pencilled addition 'read at meeting of Mueller Botanic Society, September 6th 1897'. This gives a condensed account of his excursions including notes on how he travelled (ship, foot), where he stayed (with settlers and missionaries) and how he gathered his specimens.* The collecting methods used in the humid, lush areas of the Pacific, where some form of artificial heat was needed, are contrasted with those used for 'the rigid spiny plants so common in Australia many requiring to be placed between boards and stood upon to reduce them to a tolerably flat shape'. Newspapers were not available locally and a stock had to be carried. Calico bags, used by the missionaries for exporting arrowroot, proved useful for holding specimens of fruits and other thick objects. Spirit material was also procured — against the advice of Mueller who thought the jars 'a great impediment to travelling' and considered that everything necessary for the study of specimens was available from the dried material.

For much of the first month 'for reasons of health' Morrison remained on the steamer as it plied from island to island on its normal trading operations. This gave him a good 'general idea of the islands, their native races, coastal flora and fauna'. Two longer visits were made to Aneityum and Eromanga.

Aneityum was reached on 3 June and Morrison was fortunate to stay with D. J. Lawrie, manager of the sawmill company who, in addition to offering hospitality, enlisted

the services of the natives in bringing in specimens from the opposite side of the island and from the higher hills — which they did in a wholesale way by the basket load [until] I was forced in despair of utilising it all to cry Hold! enough!

From Aneityum he moved to Eromanga for a further three weeks.

A much fuller pencil manuscript of his journey, which provides fascinating glimpses into life on the islands, both of the settlers and the natives, is also in the archive at Edinburgh. Short, pertinent sections appear later in ink under such headings as: geological notes on Eromanga; soil on New Hebrides; topography; effects of humid climate; meteorological notes; natives (written on the back of an envelope containing a subscription reminder for membership of the Melbourne Athenaeum!); Dayspring [a missionary trading vessel?]; Eromangan vocabulary; traditions; heathenism; cannibalism; belief in God; sacred stones and carved blocks; native custom; burial of the dead; mourning for the dead; native oven; native pudding; family relationship; marriage; circumcision; population; diseases; notes on different missions *et al.*

Many notes on his collections and on the plants in general are also included with what appear to be details of where duplicates were sent. Few have been found at Edinburgh but correspondence suggests that all the

New Hebrides specimens received at E were sent to K. This has been corroborated recently by Dr Philip Cribb who has found over 80 Morrison New Hebrides collections of Orchidaceae at K, representing over 30 species (Lewis & Cribb 1989)*. None has been found at E. They had been studied earlier by Oakes Ames (1933).

Edinburgh's other Australian connections

Between 1790 and 1795 Edinburgh was the training ground for Robert Brown, who subsequently accompanied Flinders on HMS *Investigator* and made extensive collections of the Australian flora. A set of this material, over 2,000 specimens with distinctive blue 'Iter Australiense' labels, is housed at Edinburgh. It includes many type specimens, and it is probable that many more await detection.

In addition to Brown and Morrison the *Index to collectors in the Edinburgh herbarium* (Hedge & Lamond 1970) contains over 200 Australian entries.

Contemporary research at the Royal Botanic Garden Edinburgh has included three significant contributions to Australian systematics. As part of his world-wide studies of conifers Dr Chris Page has collected wild origin material of all Australian representatives. These are now in cultivation at Edinburgh in experimental glasshouses. Here detailed observations of the various life cycle stages are being recorded and their taxonomic implications assessed. Particular attention is being focused on Tasmanian species, major plantings of which are being established at the Younger Botanic Garden, Benmore, Argyll, one of the Garden's outstations.

In the last twenty years Miss Rosemary Smith has developed an extensive knowledge of the Zingiberaceae and its relatives. She has recently published accounts of the Zingiberaceae and Costaceae in volume 45 of the *Flora of Australia*. In the course of these studies three new species of Zingiberaceae were described from Northern Queensland. B. P. M. Hyland (CSIRO, Division of Forest Research, Atherton) provided invaluable cooperation during the compilation of these accounts.

Since 1974 Dr Roy Watling has been investigating the larger fungi of Australia, with particular emphasis on the families Bolbitiaceae and Boletaceae, and also the genus *Armillaria* (honey fungi). His studies have involved collaboration with many Australian workers, both in the field, as with the exploration of the Cooloola sand dunes in Queensland, and in the laboratory, examining the micromorphology of the spores and chemotaxonomy of the fruitbodies. His co-workers include Dr Glen Kile (Hobart) and Dr R. Hilton (University of Western Australia).

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* In a letter dated 4 Dec. '89 the senior author noted that P. S. Green has confirmed that Morrison's collection from the New Hebrides is at Kew. At least the bulk of it was not incorporated into the main collections until the 1960s. The flimsies that contained his collections were proof copies of St Matthew's gospel translated into a Melanesian language! (Ed.)

References

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The archive at E is only partially catalogued. Most archive material referred to is housed in a box labelled 'Morrison'.

Appendix I

New taxa described by Morrison

- Acacia densiflora* Morrison, *Scot. Bot. Rev.* 1: 96 (1912). T: Western Australia, E Avon Distriet, Kellerberrin, R. B. Leake (E!).
- A. longispinea* Morrison, *Scot. Bot. Rev.* 1: 96 (1912). T: Western Australia, E Avon Distriet, Kununoppin, F. E. Victor (E!).
- Angianthus acrohyalinus* Morrison, *J. Bot.* 50: 167 (1912). T: Western Australia, Globe Hill Station and Minderoo, Ashburton River, October, A. Morrison (E!, K, PERTH).
- Calandrinia creethae* Tratman ex Morrison, *J. Bot.* 50: 165 (1912). T: Western Australia, Laverton, October, Miss Creeth (BM).
- C. schistorhiza* Morrison, *J. Bot.* 50: 164 (1912). T: Western Australia, Boulder, September, W. D. Campbell (BM, K, NSW, PERTH).
- Drosera bulbigena* Morrison, *Trans. Bot. Soc. Edinburgh* 22: 417–418 (1905). T: Western Australia, Coolup, Murray R., R. Helms (K); Wet flats, lower Canning River, A. Morrison (BR1, E!, MEL).
- D. occidentalis* Morrison, *J. Bot.* 50: 166 (1912). T: Western Australia, Beenup, between Canning and Murray Rivers, November, A. Morrison (PERTH).
- Dryandra teretifolia* Morrison, *J. Bot.* 50: 279 (1912). T: Western Australia, Kellerberrin, September, R. B. Leake (E).
- Duboisia campbellii* Morrison, *J. Nat. Hist. Sci. Soc. Western Australia* 2(3): 15 (1906). T: Western Australia, Hannans Lake, Boulder, November; Norseman, Dundas Goldfield, October, W. D. Campbell (BM, PERTH).
- Grevillea simulans* Morrison, *J. Bot.* 50: 277 (1912). T: Western Australia, Varoo and Mindaroo, Ashburton River, A. Morrison (E!).
- G. victorii* Morrison, *J. Bot.* 50: 276 (1912). T: Western Australia, Kununoppin, October, F. E. Victor (E!).
- Helipterum cirratum* Morrison, *J. Bot.* 50: 168 (1912). T: Western Australia, On flat between Globe Hill and Varoo Stations, Ashburton River, October, A. Morrison (E!).
- Indigofera boviparda* Morrison, *J. Bot.* 50: 166 (1912). T: Western Australia, Ashburton River, A. Morrison (E!).
- Isotropis argentea* Ewart & Morrison, *Proc. Roy. Soc. Victoria* 26: 157 (1913). T: Northern Territory, 10 miles W of Eva Downs, 19.viii.1911, G. F. Hill 524a (MEL).
- Jacksonia anomala* Ewart & Morrison, *Proc. Roy. Soc. Victoria* 26: 158 (1913). T: Northern Territory, 18° 27'S, 132°E, 6.vii.1911, G. F. Hill 499 (MEL).
- Petalostyles labicheoides* R. Br. var. *microphylla* Ewart & Morrison, *Proc. Roy. Soc. Victoria* 26: 160 (1913). T: Northern Territory, 40 miles W of Landers Creek, 23.vi.1911, G. F. Hill 364 (MEL).
- Psoralea luteosa* Ewart & Morrison, *Proc. Roy. Soc. Victoria* 26: 161 (1913). T: Northern Territory, N of 15°S, -.ix.1911, W. S. Campbell (MEL).

- Solanum tetrandrum* R. Br. var. *angustifolium* Morrison, *J. Bot.* 50: 275 (1912). T: Western Australia, Ashburton River, October, A. Morrison (BM, E!).
- Tephrosia pubescens* Ewart & Morrison, *Proc. Roy. Soc. Victoria* 26: 163 (1913). T: Northern Territory, Top Spring, 31.viii.1911, G. F. Hill (MEL).

Appendix II

Eponymy — provisional

- Callitris morrisonii* R. Baker, *Proc. Linn. Soc. New South Wales* 31: 717 (1907). [= *C. canescens* (Parl.) S. T. Blake]]
- Dicrastylis morrisonii* Munir, *Brunonia* 1: 485 (1978).
- Hakea morrisoniana* W. V. Fitzg., J. & *Proc. Roy. Soc. Western Australia* 3: 134 (1918).
- Myriocephalus morrisonianus* Diels, *Bot. Jahrb. Syst.* 35: 610 (1905). [= *Helipterum craspedioides* W. V. Fitzg.]
- Platylepis morrisonii* Schlecht., *Fedde Rep. Sp. Nov.* 9: 161 (1911).
- Solanum morrisonii* Domin, *Biblioth. Bot.* 89: 577 (1929). [= *S. sturtianum* F. Muell.]
- 'Morrison feather flower' [*Verticordia nitens* (Lindl.) Endl.] commemorates an earlier Swan River settler, not Alexander (A. George, pers. comm.).
- Dendrobium morrisonii* Schlecht. is named after R. Morrison, a missionary in Anatom, New Hebrides, in 1864.

Appendix III

Collecting localities of Alexander Morrison

Spelling and abbreviations as used by Morrison.

VICTORIA

Aberfeldy River	Mentone
Albert Park	Merri Creek
? Anderson's Creek (Andr Cr)	Mirboo
Ararat	Moe Creek
Bacchus Marsh (B marsh)	Moonee Ponds (M Pds)
Bayswater (B)	Mordialloe (Mord)
Beaconsfield	Mount Buninyong
Berwick (Bwek)	Mount Coranworabal (Mt Coran)
Boxhill (BH)	Mount Dandenong
Brighton (Br)	Mount Eliza
Bunyip	Mount Mitchell
Caulfield	Mount Wellington
Cheltenham (Ch)	Mount William
Clayton's Road	Mueller River
Cleveland Road (Cl)	Munro
Collingwood	Murrumbens
Croydon (Cr)	Northeote
Dandenong (Dng)	North Esk
Dandenong Hills & Range	North Williamstown (NW)
Darebin Creek	Oakleigh (O)
Emerald	Plenty River (Pl R)
Fernshaw	Port Phillip
Ferntree Gully (FG)	Port Melbourne (PM or Pt M)
Frankston (Fr or Frs)	Preston (?Pr)
Gembrook	Red Bluff
Glenmaggee	Ringwood (R, Rd or Rwd)
Gipps Land	Royal Park
Gipsy Village	Sandridge
Grampians	Sandringham
Hatherley (Hath)	Seotelman's Creek
Healesville (Hv)	Studley Park (St Pk)
Heidelberg	Tarwin River
Hobsons Bay	Templestowe
Kew (K)	Thompson River
Kororoit Creek (Kor Cr)	Upper Werribee River (Up W)
Latrobe River	Walhalla
Laverton (L)	Werribee (W)
Lexton	Western Port
Lilydale	Whittlesae
Macallister River	Yarra Yarra River
Melbourne	

WESTERN AUSTRALIA

Albany (Alb)	Kelmscott (K)
Armadale (Arm or Ar)	Killernerrin
Arrino	Kimberley
Arrowsmith River	King George's Sound
Ashburton River	King River
Avon District	King Sound
Avon River	King's Park (Kp)
Balkra	Kununoppin
Barourath	Laverton
Bayswater (B)	Lawlers
Beenup (Benp)	Lion Mill (Lm)
Bellevue (Bv or Bell)	Lockier Range
Beverley	Ludlow
Bioawning	Maddington (Madd or Md)
Black Frog	Mahogany Creek (Mc, Mg or Moh)
Blackwood River	Margaret River (Margt R)
Boorabin	Marradong (Marr)
Boulder City	Melville Park (M Park, Mv or Mel)
Boulder Valley	Menzies
Bowes	Midland Junction (Mj or Mdj)
Boyanup	Minderoo
Bremer Bay (Br. bay)	Minginev
Bridgeton	Mogumber (Mog)
Broomchill	Mooliabenee
Bullabulling	Moore River (Mo)
Bullsbrook (Bb)	Mount Barker
Bunbury	Mount Hunt
Burswood Island	Mount Melara
Busselton	Mount Milligam
Camballing	Mount Narryer
Canning-Jarra Railway	Mount Saddleback (MtSB or Sbmt)
Canning River	Mount Scratch
Cannington (C)	Mount Toolbrunup (Mt Tool or Toolmt)
Cape Leeuwin	Mundarring (Md)
Carnamah (Car)	Murchison River
Carnarvon	Murray River (Mr)
Champion Bay	Nagade
Chapman River	Nanutarra
Claisebrook	Narrogin (Nrgn)
Claremont (Cl)	Newcastle
Conical Hill (Coni)	New Norde
Coolgardie (Cg)	Northam (Nh)
Coolup	Northampton
Coorow	Onslow
Cottesloe (Ct or Cott)	Perth (P)
Cue	Picton (Pt)
Dalton	Pingelly
Dandaragan	Pinjarrah (Pj)
Darling Range (Dr)	Plantagenet District
Darlington (D)	Port Hamelin
Derby	Queens Park
Dongara	Quindalup
Donnybrook	Red Gum Pass (Rgp)
Drakesbrook (Dr or Drb)	Sampsons Brook (Sb)
Ebbanowah (Eb)	Sandhill
Ebbano Mill	Shark's Bay
Ellen's Peak	Smith's Mill (Sm M or Sm)
Fremantle (Fre)	Solomon's Well
Freshwater Bay	Southern Cross (Sth X)
Gascoyne River	Stirling Range (St)
Geographe Bay	Subiaco (Sub or S)
Geraldton (Gerd)	Sussex District
Gillingarra (Gill)	Swan River
Gingin (Gn or Ggn)	Swan View (Sv or Sw)
Globe Hill	Tenterden
Gooseberry Hill (Gh)	Toll's Creek
Granite Hill	Uaroo
Granite Ridge	Vasse River (Vr)
Greenmount (Gr or Grmt)	Victoria District
Green's Siding	Victoria Park (VP)
Guildford (Gd or G)	Wagerup
Hamelin Bay	Wagin
Hampton Plains Estate	Walkaway
Hannan's Lake	Warrangup
Harvey River	
Helena River (Hele)	
Helenvale	
Henderson's Lake	
Highgate Hill (Hg)	

Hotham River
 Irwin River
 Israelite Bay
 Janebrook
 Jarrahdale (Jrdle)
 Kalamunda (Km)
 Kalgoorlie
 Kamballie
 Karridale (Kd or Karr)
 Kattenning
 Kellerberrin

Watheroo (Wath)
 William's District
 Wongan Hills (Wh or Wg)
 Wooroloo
 Yandanooka (Y)
 Yandoo Brook
 Yetermerup (Yet)
 York
 York District

Appendix IV

Bibliography of Alexander Morrison

- 1894a New Victorian microfungi. *Victorian Naturalist* 11: 90-91.
- 1894b Notices of Victorian fungi, concluded. *Victorian Naturalist* 11: 119-120.
- 1897a The poison plants of Western Australia part 3. In L. Lindley Cowan (ed.), *The West Australian settlers guide and farmers handbook*. (Bureau of Agriculture: Perth): pp. 573-592.
- 1897b New Hebrides. *Gard. Chron.* ser. 3, 21: 300, fig. 102 — [photo of *Agathis obtusa* & a figure that may be Morrison].
- 1898 Mar. a Economic aspect of the flora of Vasse. *Producers gazette and settlers record of Western Australia*, 175-178.
- 1898 Mar. b Native poison plants. *Producers gazette and settlers record of Western Australia*, 214-218 [MS. in archive at E].
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- 1902 The natural features of the New Hebrides. In H. A. Robertson *Erromanga, The Martyr Isle*. (Hodder & Stoughton: London). pp. 449-463 [MS. in archive at E].
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- 1906b Flora. *Western Australian year book* 1902-04, 141-143.
- 1907 Further note on Australian tuberous droseras. *Trans. Bot. Soc. Edinburgh* 23: 236-237.
- 1910 The adaptation of plants to environment. *J. Nat. Hist. Sci. Soc. Western Australia* 3: 1-11.
- 1912a New or imperfectly described species of *Acacia* from Western Australia. *Scot. Bot. Rev.* 1: 96-99 (repeated in *Trans. Bot. Soc. Edinburgh* 26: 51-56, 1913).
- 1912b New and rare West Australian plants I. *J. Bot.* 50: 164-168; 11. 50: 275-279.
- 1913 (with A. J. Ewart). Contributions to the Flora of Australia 21. Flora of the Northern Territory (Leguminosae). *Proc. Roy. Soc. Victoria* 26: 152-164.
- Additional archive manuscripts (at E):
 Notes on a botanical trip to Karridale in 1897.
 Review of A. R. Wallace (1893) *Australasia*.
 Review of Coville, Botany of Death Valley expedition.
 New Hebrides manuscripts (referred to in text).

Appendix V

Collectors who contributed specimens to E via Morrison's herbarium

Adams, R.	W.A. 1899
Brooke, I. P.	W.A.
Brown, Maitland	W.A. 1897
Campbell, W. D.	W.A. 1899-1901
Conigrave, C. P.	N.S.W. 1899
Dalton	W.A. 1897
Gregory, J. H.	W.A. 1900-01
Hann, F. H.	W.A. 1902
Helms, R.	Vic. 1891, W.A. 1896-99
Hutchinson, E.	W.A. 1909
James, C. R.	W.A. 1909-10
Kelso, E.	W.A. 1900-02
Lankester, A. E.	W.A. 1897
Lea, A.	W.A.
Leake, R. B.	W.A.
Newman	W.A. 1899
Tyson, I.	Qld 1897, W.A. 1899-1910
Vaughan, A. C.	W.A. 1902
Vietor, F. E.	W.A. 1899-1912
Vines, F. B.	W.A. 1898
Webster, L. C.	W.A. 1901
Wellstead, I.	W.A. 1897-1898

Approximately 300 Australian collectors are represented at E.
Hedge & Lamond (1970) have documented the collections obtained
up to 1970.