

# The major botanical explorations of F.M. Bailey

A.R. Bean

## Summary

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Key Words: historical botany; Frederick Manson Bailey; herbarium specimens; type specimens; handwriting; British New Guinea flora; Queensland flora; New Guinea flora

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## Introduction

Frederick Manson Bailey (1827–1915) arrived in Brisbane the capital of the Colony of Queensland, in September 1861, with his wife and two small children<sup>1</sup>. In November of that year, he set himself up as a “seedsman” in Edward Street, selling mainly vegetable seeds to the people of the town, but also fresh fruit imported from Sydney<sup>2</sup>. The venture was ultimately not successful, and in 1866, he was declared insolvent<sup>3</sup>.

Although Bailey's business failed, his reputation as a knowledgeable botanist was slowly building, and from 1873, he was sporadically funded to make trips to various parts of Queensland, on behalf of the Acclimatisation Society<sup>4</sup>, for whom he was appointed ‘collector’, and for the “Board of Enquiry into Diseases of Live stock and plants”, headed by former explorer A.C. Gregory. Later, as the Colonial Botanist, he was able to make further journeys, although by that time, he was not a young man, and the long trips must have been physically taxing for him.

This paper reports on six major trips made by Bailey, five in the then Colony of Queensland: 1. Cardwell, 1873; 2. Tambo, 1876; 3. Trinity Bay, 1877; 4. Roxborough Downs, 1895/96; 5. Torres Strait, 1897; and one to British New Guinea, 1898. A seventh major journey, to Mt Bellenden Ker, in 1889, has been well documented by Dowe & Broughton (2007), and is not included here. For five of the six trips, an itinerary and a map are provided; for the Trinity Bay trip, there is insufficient information available for that to be possible. For each trip, some of the plant species collected by Bailey (most now preserved at the Queensland Herbarium) are discussed. F.M. Bailey's handwriting is briefly discussed, and a sample included and transcribed. A handwritten label, of the type most often used in the 1870s, is also included.

## Materials and methods

The Queensland Herbarium specimen database (HerbreCs) was used to generate a list of specimens collected by F.M. Bailey for each of the years when one of the studied journeys took place. Since the label data for specimens from the 19<sup>th</sup> century often lack the

collector name and/or the date of collection, other search criteria were used to detect specimens potentially collected by Bailey in those years.

The Trove website (National Library of Australia 2009-onwards) has been used to uncover relevant newspaper articles and reports. Some information was gleaned from a descriptive account of Bailey's tour to British New Guinea. Finally, the Queensland Herbarium archives contain a notebook belonging to F.M. Bailey, in which he detailed plants and places from the Torres Strait trip and part of the British New Guinea trip.

### Cardwell, 1873 (Map 1)

Bailey boarded a north-bound steam ship in Brisbane on 13<sup>th</sup> May 1873. At Rockhampton, a few days later, he visited plant collector and gardener Anthelme Thozet (1826–1878) and was evidently cordially received. At the stop-over in Townsville, he had time to botanise on Castle Hill, primarily looking for ferns. He arrived at Cardwell on the 21<sup>st</sup> May (Bailey 1873).

As he was collecting on behalf of the Acclimatisation Society, his main priority was the collection of live material that could be cultivated and multiplied back in Brisbane, and the collection of seeds for the same purpose. The collection of dried herbarium specimens was a secondary consideration only.

Mr Stone, the owner of “Vale of Herbert” (or Herbert Vale) station on the Herbert River, c. 30 km (in a straight line) SW of Cardwell, invited Bailey to stay at his home. While botanising there, he evidently travelled by horse, as he mentioned the grass being “in most places, over the horses' backs”. His first collecting locality was the Seaview Range, where Bailey did a little botanising, mostly in the rain. On the lowlands between “Vale of Herbert” (18° 28'S 145° 51'E) and the Seaview Range, Bailey reported finding *Tapeinochilos pungens* (Teijsm. & Binn.) Miq. (now *T. ananassae* (Hassk.) K.Schum.), which he described as “a truly handsome plant and one well worthy of cultivation for ornamental purposes” (Bailey 1873). The Queensland

Herbarium (BRI) has no voucher relating to this sighting, although there is a specimen at the National Herbarium of Victoria (MEL) collected by John Dallachy from the Herbert River in December 1867. Bailey's collecting site at the Seaview Range is unknown, but it is probable that he crossed the Herbert River at Stone's Ford, some 7 km upstream from the homestead, and climbed up onto the range from there. During his time at Herbert Vale, he climbed Mt Graham, a peak of 834 metres. He was not the first botanist to visit the mountain – John Dallachy had been there on more than one occasion, most recently in September 1869 (Dowe & Maroske 2020). At BRI, there are just two specimens collected by Bailey from this mountain, namely *Alsophila rebecca* F.Muell. and *Davallia repens* (L.f.) Kuhn. Bailey said the ‘going was difficult’ on the mountain, because of the slippery terrain and the ‘entanglement of the calami’ (*Calamus* spp.). He found a grove of *Angiopteris evecta* (G.Forst.) Hoffm. at the base of a waterfall and carried a whole plant back down the mountain. This primitive fern is often about 3 metres tall and widely spreading, and very heavy because of its high water content. Bringing such a heavy and unwieldy load down a slippery mountain was a remarkable feat.

When Bailey had been at Herbert Vale for a month, Mr Stone was ready to go to Cardwell with a dray for supplies. Bailey made use of the dray to transport all his live and dried collections, presumably including the *Angiopteris*. Along the way, Stone allowed Bailey to botanise for two days at Dalrymple Gap, where he delighted in the rich fern flora.

After his return to Cardwell, Bailey's travels were limited to the vicinity of the town, apart from a trip by boat to Garden Island, situated in Rockingham Bay. It is a small island only about 600 metres long, but with a quite rich flora. In his report, he listed the species he saw there (Bailey 1873), but he perhaps did not collect any specimens, as there are none from Garden Island preserved at BRI. Bailey forwarded “12 large cases of plants and seeds” to the society before his return journey<sup>5</sup>.

Bailey left Cardwell by steam ship on 14<sup>th</sup> July 1873, and on the return journey stopped at Bowen, where he called upon botanical collector Eugene Fitzalan (1830–1911), saying “I received from him a few kinds of seeds for the society”. He then visited Port Mackay, intending to stay for two weeks, but due to the lack of a steam ship, ended up staying four weeks. He visited Homebush station and Pioneer station at the invitation of the owners. He declared that Mackay was “a poor field for collecting, the Flora being mostly southern”. However, he brought back with him ‘a good quantity’ of young plants of *Heritiera littoralis* Aiton from Mackay (Bailey 1873).

Around 55 specimens from Bailey’s Cardwell trip are extant. These comprise the oldest specimens of the Queensland Herbarium at its inception in 1874 (Bean 2020). Two of Bailey’s collections from Rockingham Bay, not present at BRI, but evidently sent to Mueller at MEL, were named *Dendrobium baileyi* F.Muell. and *Bulbophyllum baileyi* F.Muell. in 1874 and 1875 respectively. Other specimens included *Osbeckia chinensis* L., which reaches its southern limit at Cardwell, *Lithomyrtus obtusa* (Endl.) N.Snow & Guymer, *Timonius timon* (Spreng.) Merr., and *Orthosiphon aristatus* (Blume) Miq. The latter has not been found in the North Kennedy district by any subsequent collector.

### **Tambo, 1876 (Map 2)**

In 1876, Bailey was funded by the “Board of Enquiry into Diseases of Live Stock and Plants” to travel to the Warrego pastoral district of Queensland, to assess the potential of native grasses and other plants as fodder for livestock. He left Brisbane in early October<sup>6</sup>. His initial mode of travel is not known, but it is likely that he took a train from Brisbane to Dalby (which was the terminus at that time), and probably travelled by coach from Dalby to Roma.

In his report written after the trip, Bailey stated that he bought a horse at Roma and then travelled westward with Mr Hunter (Inspector of Brands and Sheep), passing along their way Amby Downs and Mitchell Downs. He said that the weather was very dry and not much

grass was evident (Bailey 1877). However, he listed the names of numerous species of grass and other herbs that he observed along the way.

Bailey stated that he visited seven stations in the Warrego district and the ‘Barcoo’. Of these, he named only Mt Maria, Oakwood and Enniskillen in his report. The other destinations, or places he passed through, gleaned from Queensland Herbarium specimen records, were Mount Abundance and Amby Downs (west of Roma), Lansdowne (south of Tambo), Biddenham (W of Augathella) and Burenda Downs (now known as Burenda), east of Augathella. His report notes that there is “through the Warrego and Barcoo a kind of Acacia (*Albizzia basaltica* Benth.) called ‘dead finish’, which is greatly eaten by stock. The cattle bush of the Barcoo (*Ventilago viminalis* Hook.) was pointed out to me at Enniskillen as a valuable fodder.” (Bailey 1877).

It seems that Enniskillen station on the Barcoo River was his ultimate destination. His report does not mention the return journey at all, and one assumes that having studied the herbage of the Warrego district and the upper Barcoo River, his duties were complete. We know from specimen records (*Acacia triptera* Benth., *A. macradenia* Benth., *Flindersia dissosperma* (F.Muell.) Domin, *Astrotricha intermedia* A.R.Bean) that his return route was firstly from Tambo to Springsure via Mitchell’s Pinches and Mantuan Downs. There are several Bailey specimens from Springsure, so he must have had some spare time there. As there are no botanical collections between Springsure and Rockhampton, one assumes that he travelled by coach for that leg of the journey. The main road from Springsure to Rockhampton passed to the north of Blackdown Tableland and went through Gainsford (Pugh 1876). He spent a few days at Rockhampton before boarding a steam ship on 21<sup>st</sup> November 1876, bound for Brisbane<sup>7</sup>.

Around 70 plant specimens collected by Bailey during this trip are present at BRI. One daisy specimen collected by Bailey was subsequently described by Mueller as

*Helipterum polygalifolium* var. *leucactinum* F.Muell., and this collection is now the lectotype of that name. The current scientific name is *Rhodanthe diffusa* subsp. *leucactina* (F.Muell.) Paul G.Wilson. *Leptorhynchos baileyi* F.Muell. is based on a collection made by Bailey from Mount Abundance. At Burenda Downs he collected *Ptilotus brachyanthus* (F.Muell. ex Benth.) F.Muell., a species now listed as Endangered under the *Nature Conservation Act 1992*. At Mt Maria, he collected *Pimelea trichostachya* Lindl., and in his report he mentions that *P. haematostachya* F.Muell. is common in the Leichhardt district, saying “this plant belongs to a poisonous family, but fortunately stock reject it”. Bailey was just the second person (after Robert Brown) to collect a specimen of the striking shrub *Astrotricha intermedia*. He found it at Mitchell’s Pinch/Pinches (a locality no longer used, at about 24° 23’S 147° 23’E), between Tambo and Springsure. The label at BRI describes the inflorescence and flowers, but at some stage, the fertile parts must have been lost, as only leaves and a short piece of a branchlet are now present on the specimen.

### Trinity Bay, 1877

In early May 1877, Bailey boarded a steam ship bound for Cairns. Bailey referred to the land surrounding Cairns as Trinity Bay. In a letter to L.A. Bernays of the Acclimatisation Society, Bailey mentioned several significant plant species he found there, and recorded a few places that he visited (namely Barron River, Smithfield, and “the township of Cairns”), but gave no indication of his itinerary<sup>8</sup>. It is likely that he travelled at least some distance along the “Douglas track”, a road then under construction on the ranges north-west of Cairns. The original settlement of Smithfield lies at the base of the range where this track commenced (J. Dowe, pers. comm.).

There are about 60 specimens at BRI resulting from this excursion – this includes six from “Green Island” or “Green Island, off Trinity Bay” with field labels in Bailey’s handwriting. Green Island is a coral cay about 20 km east of Cairns. It is very likely that these specimens were collected during

the 1877 trip. On subsequent trips to Cairns, Bailey dispensed with the term “Trinity Bay”.

His collection of *Daphnandra repandula* (F.Muell.) F.Muell. was one of two collections used by Mueller when describing the species; the other collection (by J. Dallachy) was ultimately chosen as the lectotype. An orchid collected by Bailey became the type of *Microstylis bernaysii* F.Muell. (now *Dienia montana* (Sm.) M.AClem. & D.L.Jones), and his collection of *Acacia oraria* F.Muell. is one of the syntypes of the name. Bailey himself named *Acrostichum neglectum* F.M.Bailey (now *Diploblechnum neglectum* (F.M.Bailey) Gasper & V.A.O.Dittrich) from one of his Trinity Bay collections. Other significant collections from this trip included *Laportea interrupta* (L.) Chew (a new record for Australia), the lovely ferns *Goniophlebium subauriculatum* (Blume) C.Presl and *Teratophyllum brightiae* (F.Muell.) Holttum; *Mackinlaya confusa* Hemsl., the 1<sup>st</sup> collection of *Polyscias purpurea* C.T.White, a 2<sup>nd</sup> collection of *Bulbophyllum baileyi*, and some small herbaceous species of the eucalypt woodlands, including *Mitrasacme stellata* R.Br., *Rotala mexicana* Cham. & Schltld. and *Ammannia multiflora* Roxb. Bailey made special mention of the creeping fern *Trichomanes peltatum* Poir. (now *Didymoglossum tahitense* (Nadeaud) Ebihara & K.Iwats.), saying “the glittering fronds clothe the stems of the trees in some of the close damp gullies as with a silk coat”.

### Roxborough Downs, 1895/96 (Map 3)

In 1895, a great number of cattle died at Roxborough Downs, in the west of Queensland near the Northern Territory border. It was presumed that the cattle died from eating some poisonous plant, and so Bailey was dispatched to try and identify the species that caused the trouble.

Bailey left Brisbane by steamer on 23<sup>rd</sup> November 1895, headed for Rockhampton. He then travelled by train to Longreach, then to Winton and Boulia by mail coach, and the final leg to Roxborough Downs was made by buggy. Bailey told a reporter that he “was well received everywhere, and at almost every

place *en route*, people waited on him and submitted specimens of supposed poisonous and other plants for his inspection"<sup>9</sup>.

He reached Winton on the 28<sup>th</sup> November<sup>10</sup>, but the latter part of the journey, past Winton, was greatly prolonged because of flooding at the Diamantina River and Hamilton River. The coach was obliged to wait two weeks for these rivers to drop before it could resume its journey. Between the creeks and rivers, when the track was boggy, the coach had to stop every few yards so that the wheels could be cleared of the mud that adhered to them. But that was not the end of the travellers' trials: "Where the road was dry it was exceedingly rough. Travelling cattle had been over it in wet weather and cut it up. The sun dried the ploughed up track with all its inequalities, and it may easily be imagined that the coach passengers quite expected their heads to be shaken from their bodies, as they were jolted in all directions for very many weary hours"<sup>11</sup>. Bailey stated, "With the thermometer standing from 100° to 120° in the shade, being stuck up by flooded creeks, and tormented by flies, I found it hard to work up even a slight botanic enthusiasm".

Bailey finally reached Roxborough Downs (via Glenormiston) on 20<sup>th</sup> December 1895. Upon arrival, he promptly began to examine plants at the locations where the cattle had died. Bailey concluded that the culprit plant species was "a form of *Eremophila bignoniiflora*" that was common there<sup>12</sup>. Bailey collected and preserved a specimen of it (BRI [AQ68698]), which he later re-identified as *Eremophila latrobei* F.Muell., and his label includes the notation "from amongst the Gydia where the cattle were poisoned". Bailey left Roxborough Downs very early in January 1896<sup>13</sup>, and his return journey must have been without incident because he arrived back in Brisbane on the 10<sup>th</sup> January 1896. About 31 plant specimens were collected by Bailey during the trip, including one new species, *Acacia georginae* F.M.Bailey. Other specimens collected at Roxborough Downs included *Eucalyptus coolabah* Blakely & Jacobs, *Mentha australis* R.Br., *Ipomoea diamantinensis* J.M.Black ex

Eardley (all near the Georgina River), as well as *Goodenia lunata* J.M.Black, *Crotalaria dissitiflora* Benth. and *Capparis anomala* (F.Muell.) Byng & Christenh. Bailey also made a few collections from the Boulia area (including *Solanum chenopodium* F.Muell.), and seven collections from Middleton.

#### Torres Strait, 1897 (Map 4)

On the 25<sup>th</sup> May 1897, Bailey left Brisbane aboard the steam ship "Warrego" headed for north Queensland. His destination was Thursday Island (TI) in the Torres Strait, as well as adjoining islands and the adjacent mainland. The purpose of the trip was "extending his knowledge of the indigenous flora, and collecting specimens for the Queensland herbarium"<sup>14</sup>. He arrived at TI around 10 am on the 31<sup>st</sup> May, where he was booked into the Grand Hotel (Bailey adnot.). This trip to Torres Strait is perhaps the only time when Bailey gave sequential numbers to his specimens, although many remained un-numbered.

He spent the first few days collecting the flora of TI. On the 3<sup>rd</sup> June, he travelled by "little steamer" to Somerset, the home of Francis (Frank) Jardine, with whom he stayed. On the 7<sup>th</sup> June, a steam ship dropped him on Turtle Island (now known as Turtle Head Island, c. 20 km SSE of Somerset), apparently returning him to Somerset that same day (Bailey adnot.). He wanted to visit the island because this is where he thought Robert Brown had collected *Calostemma album* R.Br. (now *Proiphys alba* (R.Br.) Mabb.), but Brown's Turtle Island is in the Gulf of Carpentaria, as Bentham (1873) had recorded. Bailey did not find *C. album* there, but he did find an *Erythrina* sp. which he considered to be new, and so it turned out to be. Later that year, Bailey named it *Erythrina insularis* F.M.Bailey.

The next day, 8<sup>th</sup> June, he returned to TI, and on the 9<sup>th</sup> and 10<sup>th</sup> he was engaged in changing papers and making notes on specimens he had collected at Somerset. After that, he resumed collecting on TI. On the 15<sup>th</sup> June, he travelled to Hammond Island, where he spent a day and a half, returning

to TI early on the 17<sup>th</sup>. On the 21<sup>st</sup> June, he visited Goods Island, apparently as a day trip. Bailey commented that while he did collect a few specimens there, the flora was very similar to that of TI. He left TI on the 22<sup>nd</sup> June and arrived at Cairns on the evening of the 24<sup>th</sup>. He spent the 25<sup>th</sup> around the town; on the 26<sup>th</sup> he did a day trip to Kuranda; late on the 29<sup>th</sup> he travelled to Kamerunga, where he spent the next few days. Here he was probably accommodated by Ebenezer Cowley, with whom he had a close working relationship (Dowe 2014). On the 3<sup>rd</sup> July, he returned to Cairns, and boarded a south-bound ship, leaving Cairns about 11 pm. He had a stopover in Rockhampton for a few days, during which time he took a trip to Gracemere, and also called upon Mrs Thozet (the widow of well-known plant collector Anthelme Thozet) at North Rockhampton. Bailey then boarded the S.S. Aramac and arrived back in Brisbane on the 15<sup>th</sup> July 1897 (Bailey adnot.).

There are about 230 specimens at BRI collected by Bailey from the Torres Strait, and a further ten or so specimens from Cairns and Kamerunga. Apart from the *Erythrina*, Bailey named eight species from specimens he collected from Torres Strait – *Asystasia australasica* F.M.Bailey, *Alstonia somersetensis* F.M.Bailey (syn. of *A. spectabilis* R.Br. subsp. *spectabilis*), *Parsonsia nesophila* F.M.Bailey (syn. of *P. velutina* R.Br.), *Hoya sanae* F.M.Bailey (= *Hoya australis* subsp. *sanae* (F.M.Bailey) K.D.Hill), *Hydriastele douglasiana* F.M.Bailey (syn. of *H. wendlandiana* (F.Muell.) H.Wendl. & Drude, *Eriochloa decumbens* F.M.Bailey (syn. of *E. fatmensis* (Hochst. ex Steud.) Clayton), *Paspalum polo* F.M.Bailey (syn. of *P. scrobiculatum* L.) and *Lobelia douglasiana* F.M.Bailey. Bailey's collections covered a large number of plant families, and a variety of habitats. For example, from the mangroves his collections included *Ceriops tagal* (Perr.) C.B.Rob., *Aegialitis annulata* R.Br., *Fimbristylis ferruginea* (L.) Vahl; from the beaches *Spinifex longifolius* R.Br., *Guettarda speciosa* L., *Ipomoea pes-caprae* (L.) R.Br., *Pemphis acidula* J.R.Forst. & G.Forst.; from the eucalypt woodland *Tacca leontopetaloides* (L.) Kuntze, *Corymbia*

*novoguineensis* (D.J.Carr & S.G.M.Carr) K.D.Hill & L.A.S.Johnson, *Acacia simsii* A.Cunn. ex Benth., *Parinari nonda* F.Muell. ex Benth.; and from the rainforest *Sterculia quadrifida* R.Br., *Aidia racemosa* (Cav.) Tirveng., *Gmelina dalrympleana* (F.Muell.) H.J.Lam and *Ptychosperma elegans* (R.Br.) Blume.

### British New Guinea, 1898 (Map 5)

The south-eastern part of the island of New Guinea was annexed in 1883 by the Queensland government on behalf of the British Empire and a Protectorate was proclaimed in 1884. In 1888 the Protectorate plus some adjacent islands was formally annexed by Britain and became known as British New Guinea with Lieutenant-Governor George Le Hunte being the responsible administrator at the time of Bailey's visit.

Bailey left Brisbane on the 16<sup>th</sup> April 1898 on board a steam ship bound for Cooktown. He was in the company of several political dignitaries, including Lord Lamington (the then Governor of Queensland) and Sir Hugh Nelson<sup>15</sup> (the former Premier of Queensland).

The journey from Cooktown to British New Guinea was undertaken by the steamer "Merrie England", a ship that drew criticism from all on board because of its lack of comfort and sea-worthiness and provoked "many swear words" from the passengers. Their first stop (23<sup>rd</sup> April) was Lizard Island, where Bailey busily studied the flora while the rest of the company climbed to the highest point of the island. This is where he found *Stackhousia intermedia* F.M.Bailey, a species he described later that year. They reached Port Moresby on 25<sup>th</sup> April. Bailey apparently spent time around Port Moresby while the rest of the party did a tour of the hinterland on horseback. Bailey collected only a few specimens from Port Moresby, before getting back on board "Merrie England"<sup>16</sup>, which headed eastward along the New Guinea coastline. According to Van Steenis-Kruseman (2020), places visited included Kapa-Kapa (28<sup>th</sup> April); Vatorata and Arema (29<sup>th</sup> April); Dedele (30<sup>th</sup> April); Dufaure Isl. (1<sup>st</sup> May); Samarai (3<sup>rd</sup> May); Milne Bay (4<sup>th</sup>

May); Mita and Awaima (5<sup>th</sup> May); Dogura (6<sup>th</sup> May); Porlock Bay (7<sup>th</sup> May). No botanical collections were made during this period. The first collection site was the Mambare River (8–11<sup>th</sup> May), very close to the border with Kaiser-Wilhelmsland, the part of the island then under German control. Here the steamer anchored at the mouth of the river, while a party of men, including Bailey<sup>17</sup>, went up the river in a launch, for a distance of 40 miles<sup>18</sup>. It was along this river that Bailey collected the spiny climbing palm *Korthalsia zippelii* Blume. There are five BRI specimens from the nearby Gira River (16<sup>th</sup> May), including the enigmatic *Meryta colorata* F.M.Bailey. From here the steamer headed back towards Samarai, stopping at numerous bays and villages. Bailey (1898a) mentioned receiving a flowering specimen of *Tabernaemontana aurantiaca* Gaudich. from the Musa River, but no specimen of that is now present at BRI.

On the 24<sup>th</sup> and 25<sup>th</sup> May, they were anchored in a small bay at the foot of Mt Trafalgar. Bailey wrote that he had a fever during this latter part of the trip (caused by malaria) and it is likely that he did not go ashore there. However, this appears to have been Bailey's most productive location, and in his notebook, he wrote that he was kept busy examining plant specimens brought to him by Lord Lamington (C.W. Cochrane-Baillie). Several of the species documented in his report (Bailey 1899) were from this site. Sir Hugh Nelson had become very ill from malaria, and so from here the steamer headed directly for Samarai, reaching it around 8pm on 26<sup>th</sup> May. The next day they left Samarai, heading directly for Cooktown, arriving there on 30<sup>th</sup> May. Bailey left Cooktown on the 2<sup>nd</sup> June and arrived in Brisbane on the morning of the 6<sup>th</sup> June 1898 (Bailey adnot.).

Bailey's extant collections from the British New Guinea tour are few. He explained that this was because of "the entire want of proper convenience for drying botanical specimens on board the 'Merrie England', and this applies more particularly to the succulent plants. I am extremely sorry for this inability to prepare good herbarium specimens, because copious notes, or descriptions enabling one to fully

determine plants and to prepare descriptions for publication, leave one without what is most desirable to have— viz., duplicate specimens to forward to various oversea botanic departments" (Bailey 1898b, 1899).

Nevertheless, Bailey described numerous new taxa from the collections made during his tour of British New Guinea: *Acriopsis nelsoniana* F.M.Bailey, *Arenga gracilicaulis* F.M.Bailey, *Bursera macgregorii* F.M.Bailey, *Costus lamingtonii* F.M.Bailey, *Dendrobium breviracemosum* F.M.Bailey, *D. giulianettii* F.M.Bailey, *Drymophloeus mambare* F.M.Bailey, *Fagraea obovata* var. *papuana* F.M.Bailey, *Gardenia lamingtonii* F.M.Bailey, *Hoya coronaria* var. *papuana* F.M.Bailey, *H. dimorpha* F.M.Bailey, *H. lamingtoniae* F.M.Bailey, *Justicia gilliganii* F.M.Bailey, *Lyonsia viridiflora* F.M.Bailey, *Meryta colorata*, *Mussaenda procera* F.M.Bailey, *Nephelium winterianum* F.M.Bailey, *Scolopendrium mambare* F.M.Bailey, *Spathoglottis papuana* F.M.Bailey and *Vavaea papuana* F.M.Bailey.

### Handwriting

F.M. Bailey's handwriting (**Fig. 1**) may be described as forward-sloping, with many sharp acute angles, with only narrow loops for the f, g, y, l, and these sometimes lacking. The lower case u, m and n are often very difficult to distinguish. A transcription of **Fig. 1** is as follows: "... home all bagged was off the same panicle so quite ripe enough to grow. I rubbed the flesh off a few of the fruits but would not do so again for the hairs in the pulp surrounding the stones made my hands very uncomfortable until I thought of using Eucalypt oil, which stopped the irritation.

I have parts of a frond in a bundle with other species of the order and some young flower buds at the bottom of the bag of fruit by which I hope to run out a description ..."

**Fig. 2** shows the label type most often used by Bailey in the 1870s. The species is *Ventilago viminalis* Hook. and the locality is "Enniskillin Barcoo".

from all bags was off the  
 same parcel so quite ripe  
 enough to grow. I rubbed  
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 fruits but would not do  
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 stopped the irritation  
~~the~~  
 I have parts of a frame  
 in a basket with  
 other species of the dider  
 and some yellow flowers  
 buds at the bottom of the  
 bag of ferns by which  
 I hope to run out in August

Fig. 1. F.M. Bailey handwriting sample (from Queensland Herbarium archives).

MUSEUM HERBARIUM.		
BRISBANE.	Order	<i>Rhamnae</i>
	Genus	<i>Ventitago</i>
	Species	<i>vicinialis</i> Hook
	Habitat	Inniskillin Barcoo
	Collector	F M B (Cattle Bush.)
	Flora Australiensis, vol.	F
F. M. BAILEY, C.M.R.S.T., &c., Keeper of Herbarium.		
		QUEENSLAND.

Fig. 2. Herbarium label used by F.M. Bailey in 1876 (BRI [AQ109924]).



## Conclusion

The six expeditions outlined here resulted in approximately 505 herbarium gatherings with the great majority collected by Bailey himself. This figure is only 14% of the 3605 specimens currently databased under F.M. Bailey's name at BRI, but the time expended on these trips was only about 2% of his time as a professional botanist.

It is estimated that 39 specimens collected on these six expeditions became the sole or partial basis for the description of new species. In other words, 39 specimens became type material.

The labelling of specimens collected on these trips varies tremendously. Some labels are roughly torn scraps of paper upon which Bailey has written a locality name, some are rectangular but handwritten, some have a small printed "Herbarium Queensland Museum" label, and some have the larger "Museum Herbarium" label (see **Fig. 2**). Many labels are undated, but a good proportion bear the year or month-year.

Bailey was evidently not afraid to take on physical challenges despite his advancing years. He gladly participated in the Bellenden Ker expedition in 1889, when he was aged 62, despite the knowledge that the mountain is very steep and slippery. The only concession he made was to not venture too far from the various camps along the route, allowing Archibald Meston or others in the party to collect plant specimens for him from further afield (Dowe & Broughton 2007). His trip to Roxborough Downs in the summer of 1895/96 was quite arduous and without comforts. The trip to Torres Strait was the most successful in terms of the number of specimens collected, and more comfortable for him, but he was nevertheless kept busy the entire time with collecting and processing specimens and writing botanical descriptions. On the British New Guinea trip, Bailey did receive assistance from Lord Lamington (C.W. Cochrane-Baillie) in the collection of specimens, but this was because Bailey was afflicted by malaria for the latter part of the trip.

Bailey's unflagging work on these expeditions resulted in a very significant contribution to our knowledge of the Queensland flora and, to a lesser extent, the New Guinea flora.

## Acknowledgements

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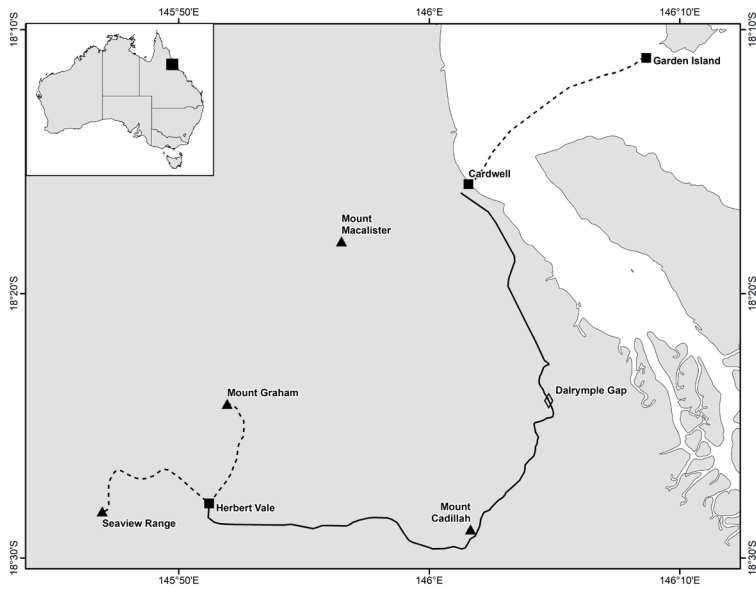
## References

- BAILEY, F.M. (1873). Botany of the North. *The Brisbane Courier* (Qld: 1864–1933), Thursday 30 October 1873, page 3.
- (1877). Report on Mr F.M. Bailey's tour to westward. *The Queenslander* (Brisbane, Qld: 1866–1939), page 24.
- (1898a). Notes on the vegetation of New Guinea. *Proceedings of the Royal Society of Queensland* 14: 14–20.
- (1898b). Contributions to the flora of New Guinea. *Queensland Agricultural Journal* 3: 154–162.
- (1899). Appendix DD. Botany – Contributions to the flora of New Guinea. In *Annual Report on British New Guinea 1<sup>st</sup> July 1897 to 30<sup>th</sup> June 1898*. Government Printer: Brisbane.
- BEAN, A.R. (2020). The founding of the Queensland Herbarium. *Australasian Systematic Botany Society Newsletter* 184: 41–43.
- BENTHAM, G. (1873). *Flora Australiensis*. Volume 6. L. Reeve & Co.: London.
- DOWE, J.L. (2014). The botanical collections of Ebenezer Cowley. *Austrobaileya* 9: 263–278.
- DOWE, J.L. & BROUGHTON, A.D. (2007). F.M. Bailey's ascent of Mt Bellenden-Ker in 1889, and notes on the publication priority of new vascular plant species from the Expedition. *Austrobaileya* 7: 555–566.

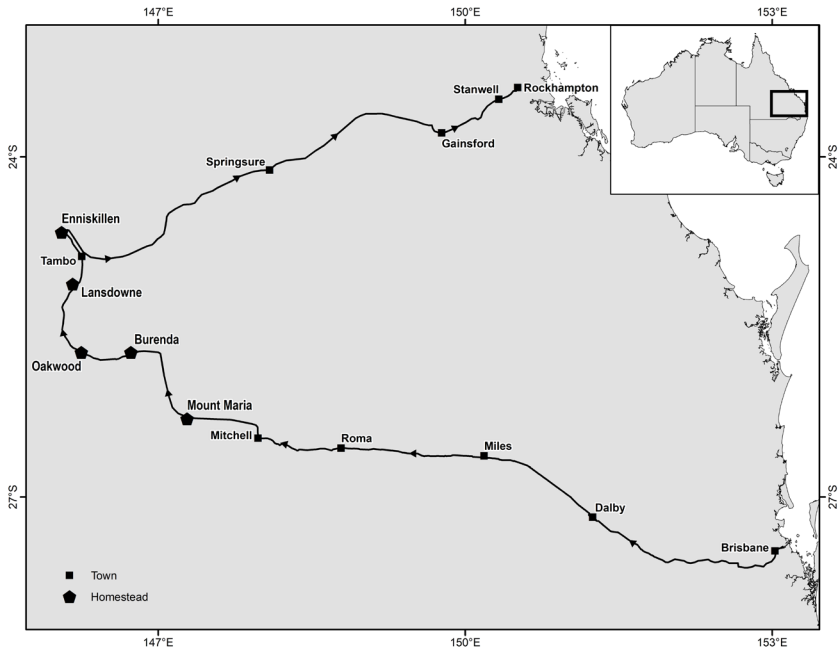
- DOWE, J.L. & MAROSKE, S. (2020). John Dallachy (1804–71): collecting botanical specimens at Rockingham Bay. Supplementary Material, File S2. *Historical Records of Australian Science* 31: 101–117. <https://www.publish.csiro.au/hr/pdf/HR19013>, accessed 2 January 2021.
- NATIONAL LIBRARY OF AUSTRALIA (2009-onwards). Trove. <https://trove.nla.gov.au>, accessed 13 April 2020.
- PUGH, T.P. (1876). *Pugh's Queensland Almanac, Law calendar, Directory, and Coast Guide, for 1876*. Thorne & Greenwell: Brisbane.
- VAN STEENIS-KRUSEMAN, M.J. (2020). *Cyclopaedia of Malesian Collectors*. <http://www.nationaalherbarium.nl/FMCollectors/>, accessed 15 February 2020.

## Endnotes

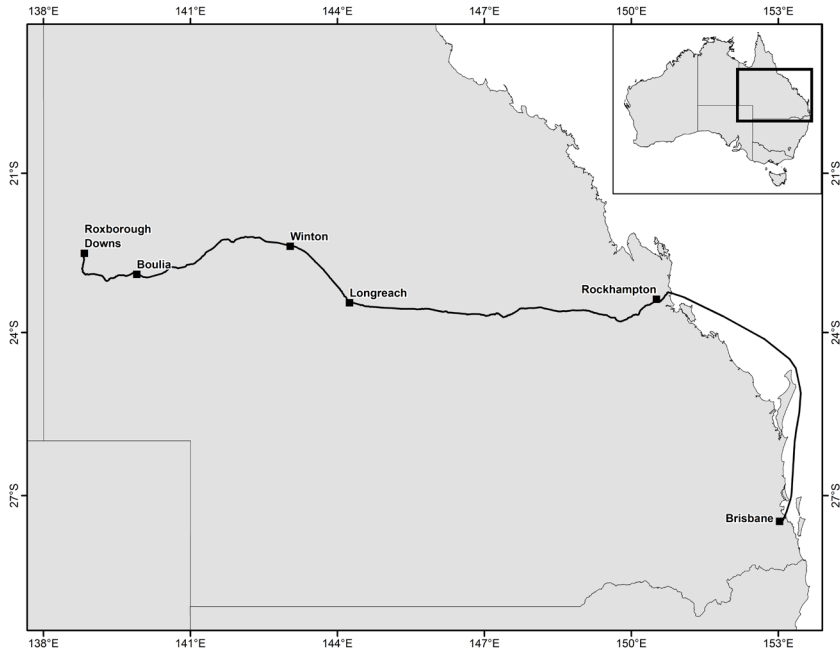
- <sup>1</sup> Sydney Mail (NSW: 1860-71), 14 September 1861, p. 5
- <sup>2</sup> The Courier (Brisbane, Qld), 27 November 1861, p. 1.
- <sup>3</sup> The Queenslander (Brisbane, Qld), 22 September 1866, p. 8.
- <sup>4</sup> Queensland Acclimatisation Society report, The Telegraph (Brisbane, Qld), 29 January 1873, p. 3.
- <sup>5</sup> The Queenslander (Brisbane, Qld), 23 August 1873, p. 3.
- <sup>6</sup> He was in Roma during the week preceding the 14<sup>th</sup> October. Dalby Herald and Western Queensland Advertiser (Qld), 21 October 1876, p. 2.
- <sup>7</sup> Rockhampton Bulletin (Rockhampton, Qld), 21 November 1876, p. 2.
- <sup>8</sup> The Brisbane Courier (Brisbane, Qld), 15 February 1878, p. 3.
- <sup>9</sup> Telegraph (Brisbane, Qld), 11 January 1896, p. 4.
- <sup>10</sup> Morning Bulletin (Rockhampton, Qld), 2 December 1895, p. 5.
- <sup>11</sup> Telegraph (Brisbane, Qld), 11 January 1896, p. 4.
- <sup>12</sup> Morning Bulletin (Rockhampton, Qld), 20 January 1896, p. 5.
- <sup>13</sup> Some of Bailey's Roxborough Downs specimens are dated "Jan 1896".
- <sup>14</sup> The Brisbane Courier (Brisbane, Qld), 17 July 1897, p. 4.
- <sup>15</sup> Warwick Argus (Qld), 19 April 1898, p. 2.
- <sup>16</sup> The Brisbane Courier (Brisbane, Qld), 2 July 1898, p. 6.
- <sup>17</sup> The Queenslander (Brisbane, Qld), 27 August 1898, p. 422.
- <sup>18</sup> Mackay Mercury (Qld), 2 June 1898, p. 3.



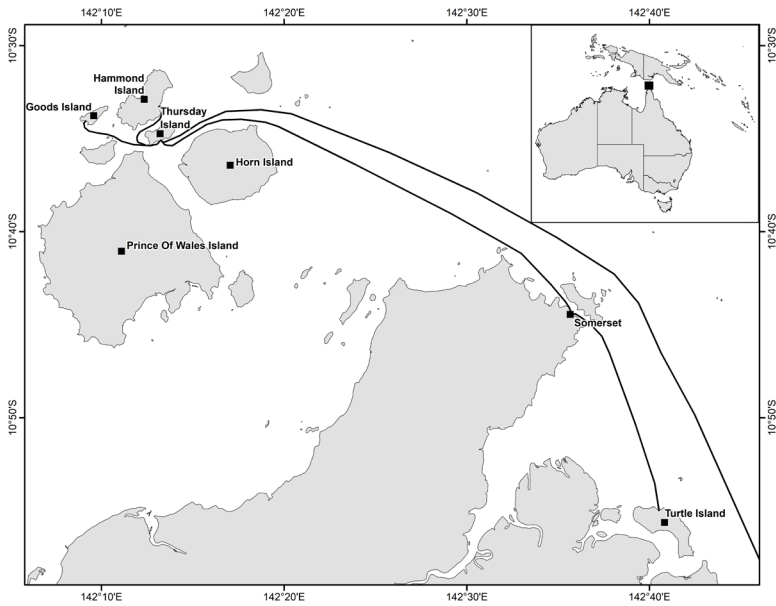
Map 1. Bailey's route on the 1873 expedition to Cardwell.



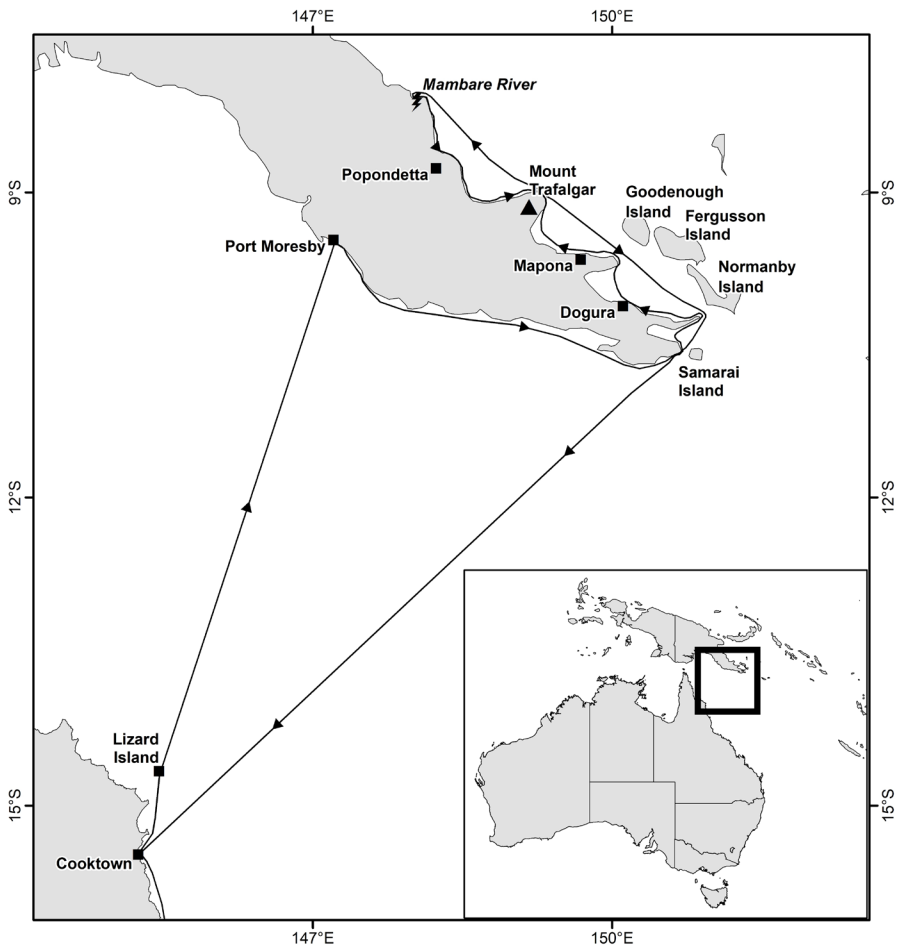
Map 2. Bailey's route on the 1876 expedition to Tambo.



**Map 3.** Bailey's route to Roxborough Downs in 1895/96.



**Map 4.** Bailey's route on his trip to Torres Strait in 1897.



Map 5. The route of the "Merrie England" in April–May 1898.