James Drummond's newspaper accounts of his collecting activities, in particular his 4th Collection and *Hakea victoria* (Proteaceae)

R.M. Barker

State Herbarium of South Australia, Botanic Gardens, North Terrace, Adelaide, South Australia 5000

Abstract

R.M. Barker. James Drummond's newspaper accounts of his collecting activities, in particular his 4th Collection and *Hakea victoria* (Proteaceae). Nuytsia 11(1): 1-9 (1996). At least three plants, *Hakea victoria*, *Gastrolobium leakeanum* and *Verticordia grandis*, all recognized and published by James Drummond, were first published in Perth newspapers, not in journals edited by William Hooker as has been assumed. This is possibly so for other plants attributed to Drummond in Hooker's journals. The full newspaper account of the expedition on which Drummond made his 4th Collection is reproduced here since Hooker only communicated an abridged version of Drummond's original letter.

Introduction

James Drummond appears to have been a prolific contributor to the two Perth newspapers, *The Inquirer* and *The Perth Gazette*. According to Erickson (1969), even by 1842, "Drummond's long screeds on Botany already occupied many columns of *The Inquirer* and during 1843 he wrote "letters for *The Inquirer* on the *Botany of Western Australia"*, which apparently appeared in that paper throughout 1842-43. One letter to *The Inquirer,* which was not printed was Drummond's June 1843 letter on the black Kangaroo Paw in which he provided a formal description of "*Anigozanthus Molloyiae*" which he wished to name in honour of the late Mrs Georgiana Molloy. Nor was this letter reproduced by Hooker, even though it resides in the Drummond letters at Kew (Erickson *l.c.*) and so this botanical tribute to Mrs Molloy was never published.

It was apparently Drummond's custom to submit his letters to the Western Australian newspapers before they were sent to Hooker in England and consequently some, if not all, of the Drummond letters published by Hooker were preceded by newspaper articles. An example is a letter sent to the businessman and probable Drummond sponsor, Mr George Leake. This was published in *The Inquirer* on 6 December 1848 and later reproduced in full by Hooker. A series of 5 weekly articles for *The Perth Gazette* during 1852, published under the title "the Botany of the North-western district of Western Australia" was also based on Drummond's letters and they were later reproduced by Hooker (see Table 1). These relate to Drummond's 6th Collection.

Although these communications were full of botanical information and comments on novelties, Drummond only rarely proposed names for the new taxa he recognized (see Barker & Barker 1990,

Table VI for some of these), but where he did, the account in Hooker's journals may well be predated by a newspaper account.

Drummond letters known to have been prepublished in Western Australian newspapers

During his time as the Australian Botanical Liaison Officer in Kew in 1992, Dr Philip Short of the National Herbarium of Victoria found evidence suggesting that the first publication of *Hakea victoria* by James Drummond was probably not, as has always been thought, in an English journal produced by William Hooker in 1848, but was almost certainly within the Western Australian newspaper *The Inquirer,* probably in 1847. Since the author is part of a project to revise the genus *Hakea,* along with L. Haegi and W.R. Barker of the same institution, this was drawn to our attention.

This prompted the current investigation, and so a copy of the complete text of the James Drummond letter printed in *The Inquirer* in 1847 was obtained from the Battye Library in Perth. A very much abridged part of it appeared in Botanical Magazine 74 Companion pp. 1-3 (Drummond 1848) as "Notice of Mr. Drummond's discovery of three remarkable plants in South-West Australia".

This latter publication has always been cited as containing the protologue for *Hakea victoria* but *The Inquirer* article clearly predates it (Principle III, International Rules of Botanical Nomenclature, Greuter *et al.* 1994). Names published in a non-scientific newspaper before January 1, 1953 are effectively and validly published (Art. 29, International Code of Botanical Nomenclature). As a consequence other names which appear in this same article are also validly published (provided they are accompanied by an adequate description) and should be considered by botanists revising the groups concerned (e.g. *Kingia Cygnorum*, *Anigozanthus Cheyneii*, *Banksia Hookeri*, *Lambertia Hakeoides*); most appear to be synonyms of earlier names.

Because it was obvious from references given in Erickson (1969) that other letters written by Drummond had also found their way to the newspapers in Perth, copies of Drummond articles in *The Inquirer* of 6th December 1848 and in *The Perth Gazette* over 5 weeks from 16th April to 14th May 1852, were also requested from the Battye Library. These articles were found to correspond to accounts reproduced in Hooker's journals as shown in Table 1. Unlike the original case, these articles were not abridged but reproduced by Hooker in full.

However, because of the earlier publication of the newspaper accounts, two species, *Gastrolobium leakeanum* and *Verticordia grandis*, previously thought to have been published originally in Hooker's Journal of Botany and Kew Gardens Miscellany (Vol. 1, p. 247 in 1849 and Vol. 5, p. 119 in 1853, respectively; see Barker & Barker 1990), should now be cited as follows:

Gastrolobium leakeanum J. Drumm., *The Inquirer*, without page number (6 December 1848)
Verticordia grandis J. Drumm., *The Perth Gazette*, without page number (23 April 1852)

The list of Drummond letters published in newspapers, and their subsequent publication by Hooker, given in Table 1, should not be considered to be exhaustive. Other Drummond letters with botanical names were published by Hooker (Barker & Barker *l.c.*) and these too may be predated by newspaper articles.

Table 1. Newspaper reproductions of Drummond's letters with their corresponding (later) articles reproduced by Hooker.

Newspaper article	Hooker's journal
The Inquirer, 7 April 1847	Not published
The Inquirer, 14 April 1847	Bot. Mag. 74, Companion pp. 1-3 (1848)
The Inquirer, 6 December 1848	Hooker's J. Bot. Kew Gard. Misc. 1: 247-251 (1849)
The Perth Gazette, 16 April 1852	Hooker's J. Bot. Kew Gard. Misc. 5: 115-118 (1853)
The Perth Gazette, 23 April 1852	Hooker's J. Bot. Kew Gard. Misc. 5: 118-122 (1853)
The Perth Gazette, 30 April 1852	Hooker's J. Bot. Kew Gard. Misc. 5: 139-143 (1853)
The Perth Gazette, 7 May 1852	Hooker's J. Bot. Kew Gard. Misc. 5: 143-145 (1853)
The Perth Gazette, 14 May 1852	Hooker's J. Bot. Kew Gard. Misc. 5: 178-183 (1853)

Hakea victoria J. Drumm.

The place and date of publication of the original subject of this enquiry, *Hakea victoria* Drumm., having been established as *The Inquirer* dated 14 April 1847, two other matters concerning this species should be discussed here.

Spelling

There has been some confusion over the spelling of the specific epithet. It was frequently cited as "*victoriae*", probably firstly by Meisner (1852) and then by Bentham (1870), followed by Western Australian botanists in the earlier part of this century, e.g. Gardner 1930, Beard 1965. The spelling "*victorae*" by Erickson (1969) is presumably an orthographic error, since her account also contains the spelling "*victoriae*". The spelling is clearly "*victoria*" in the original article as well as in the Hooker reproduction and in other accounts of the species from the Hooker stable, e.g. Bot. Mag. 4528.

Collections

Drummond states in the article that he collected 16 bract-bearing tops of *Hakea victoria* i.e. as was his normal practice, enough for his 14 subscribers, one for Hooker and one to retain. They presumably survived the difficult trip on the horse's back described below and in any case Drummond carried one specimen, 14 feet high, in his hand all the way to Cape Riche. However, only a specimen in MEL (a single leaf and fruit) and a fragment in Meisner's herbarium in NY still survive. Just what happened to the copious collection is unknown. *H. victoria* was not flowering at the time of collection but did contain fruits and the collection may have all been used as a seed source. Support for this theory is given by the fact that a leaf from a cultivated specimen in K is mounted with the NY material. The specimens did reach England since Hooker noted at the end of the article he reproduced that "Noble specimens of the three plants here noticed have reached our hands and bear testimony to the correctness of Mr. Drummond's remarks. The *Banksia* is probably the little known *B. solandri* Br., the others are quite new."

Drummond's account of his 4th Collection

Since the original text is not easily accessible and is probably of interest to naturalists in general it has been reproduced in full here with those parts published by Hooker in bold face. Excerpts of parts of *The Inquirer* article were reproduced by Erickson (1969) in her account of the life of James Drummond, but most botanical references were missing. There are also comments on the botany of a number of groups of plants, on geology and on the itinerary followed. It is, however, only a very succinct account considering that Drummond collected 16 sets of 400 species in this the 4th Collection and that it lasted at least from November 1846, when James Drummond and George Maxwell departed Gingin, to late March 1847 when they returned to Perth (Erickson 1969).

The Inquirer 7th April 1847

Mr Drummond's Journal. - As we anticipated, Mr Drummond, with his usual courtesy and anxiety to diffuse information, has directed that the letter which he is about to transmit to Sir W.J.Hooker should, on its way, be placed in the hands of *The Inquirer*, if desired. We need hardly say that we gladly availed ourselves of the offer, and we make no apology for publishing, entire a document so full of interest to the lovers of science, and so well calculated to maintain the high character of Mr Drummond:

Dear Sir, - I wrote to you about two months since to say that I had set out on a journey to the south, wishing to extend my observations on the botany of this colony from its farthest north to its farthest south settlements. I visited Gingin, a farm of Mr. W.L.Brockman, situated on a fine and ever-running stream of the purest water, a tributary of the Moore River. On the road to it I found an interesting species of *Genetyllus** [*Darwinia*], with very small heath-like leaves, but large heads of drooping flowers surrounded by ciliated bracts - an earnest of more important discoveries since made in this fine genus of *Myrtaceae*. I also found in that same locality an interesting plant belonging to *Sirophulinae* [probably *Scrophulinae*], and a very distinct and showy species of *Grevillea*, with linear leaves and scarlet flowers, growing 12 or 15 feet high. On reaching the brook on which Mr Brockman's farm is situated, I was delighted to find it in many places almost filled with a remarkable fern [?*Adiantum*] - a rare order in this part of New Holland; it resembles a good deal *Aspidium Felix Mas*, but it is a larger plant, bearing fructification on the margins of the fronds; the stems creep mostly on the dead wood which is covered with the water of the brook. Mr Brockman's farm consists mostly of remarkable hills of secondary limestone, covered to the depth of several feet with a rich black soil; barley produces heavy crops on this soil, but for several years the wheat has suffered apparently from the ravages of a fungus. A *malvaceous* plant, new to me was abundantly in flower. These limestone hills abut on the common ironstone formation of the Darling Range. Crossing the ironstone hills in a south-west direction from Gingin, I found the tops of several covered with a magnificent *Conospermum*, with linear leaves, about 18 inches long, and bearing large corymbs of snow-white inflorescences (the true flowers are small and black.) This would be a most desirable plant to cultivate in England, but no seeds were formed on it at this time. After leaving the York district, we travelled mostly by the King George's Sound road, until we got from it a distinct view of the Toolbrunup hills [Stirling Ranges], when we made straight for one of the highest and most conspicuous mountains [Donnelly Peak], which lies to the N.W. of the one marked "Mongerup" in Arrowsmith's map of Western Australia. For about 15 miles we passed over very barren country, but we found a good passage to the east of a remarkable saddle-backed hill, and by digging in a sort of a watercourse we found abundance of excellent water, which no doubt is a permanent spring. By following a kangaroo or native path from this spring, it soon led us into a grassy valley, in which we travelled about 4 miles, when we reached the N.W. end of the highest hill which appears from the K.G.'s Sound road to the north of the Gordon River. Here we found no water; but by following a branch of the same valley until we came directly S.W. of the highest point of the hill, we found plenty of water within 2 feet of the surface. *(To be continued.)*

**Genetyllus* is presumably a misspelling of *Genetyllis*, a genus of Myrtaceae published by de Candolle. The name is invalid.

The Inquirer 14th April 1847

Mr Drummond's Journal [Continued]

We this week conclude Mr Drummond's interesting account of his botanical researches, which we earnestly recommend to the attentive perusal of our readers, and especially of those who are lovers of science: -

Here we spent Christmas Day, and from that circumstance I named the place Christmas Valley; good grass is abundant in many parts of this valley. The principal part of these hills is the old red sandstone formation, containing no trace of organic remains, but passing in many places into micaceous schist of very inferior quality for building purposes. a large portion of the surface of this hill is covered with detached fragments of fine grained sandstone, but just under the highest part on the S.W. side, the strata appear in their natural horizontal position. The botany of the sandstone formation is exceedingly interesting; here we have *Banksia Grandis, Banksia Coccinea*, and a new glaucous entire-leaved species nearly allied to *B. Quercifolia, Isopogon Loudonii,* with a clear trunk 5 or 6 inches in diameter, and a fine *Petrophila* with leaves like banksia. I have only seen on this hill a fine new *Dryandra* of the *Spenora* group, *Huniclidium Baxterii (Hakea Baxterii,* the true plant); and here we have the head-quarters of *Kingia Australis*, with its silvery leaves, apparently a distinct species from our Swan River *Kingia,* which grows much larger, with its leaves more resembling a *Zanthorreae[sic];* I name the Swan River form *K. Cygnorum*. Here in all probability, many of these plants flourished when their first known habitat, near K.G.'s Sound was many feet under the waters of the ocean. In Christmas Valley I found a beautiful little *Helichrysum,* with crimson bracts, varying to rose-colour inside, but perhaps only a variety of *H. Macranthum.* This nameless hill, which I ascended several times, produced several new plants and seeds of other orders. We next visited Mongerup, distant only about 4 miles, but twice that distance by the circuit we had to take to reach its base. We encamped N.W. from the highest part of the hill: I soon found water in a spring near our baggage, and my assistant, Maxwell, found water in a native well about a mile up the watercourse we were on. As Mongerup appeared to be but little higher than the hill which we had so particularly examined I intended to pay it but a passing visit, and to have gone on to others more distant; and my principal object was to examine the strata, which appeared to have a remarkable inclination from the horizon. If we suppose one and one hundred to represent the perpendicular, fifty will represent the horizon, but the strata on Mongerup appear at an angle of 85; their inclination on this hill is towards the S.W. The afternoon was very warm, and I suffered much from the heat in ascending a bare part of the hill. On returning I drank freely of the water from the spring near our baggage; in a short time it acted but very gently as an emetic; I thought it might have been fatigue and excessive heat which caused some degree of illness which I felt. I took some salts, and finding myself but little disposed to travel the next day, I sent Maxwell with our collections, which were cumbersome, to Neurabup [on the Kalgan River to the east of the Porongerup Range], to have them conveyed by a settler residing there to King Georges Sound. This day I examined the peaked hill which forms so remarkable an object from the K.G's Sound road, near Mount Barrow; the hill is close to Mongerup. The rocks are micaceous slate, and the vegetation very different from Mongerup. This day I had taken no unusual exercise, but on drinking freely from the water from my well, which looked uncommonly clear and tempting, it acted again as an emetic, but otherwise disturbing the system so little, that as soon as it ceased operating I put my plants in order and went out again in the afternoon. As Maxwell must necessarily be two days absent, **I determined to have another view of the top of Mongerup. I hid our supply of flour and pork as well as I could, in case of a visit from the natives: I had now to bring water from the native well. Starting at 5 o'clock, I reached the highest summit of the hill by 11. I ascended by the N.E. angle, and at about the height of 2,000 feet I found first making its appearance a splendid *Banksia*, with leaves more than 9 inches long and about 5 wide, irregularly jagged and sinnated [*sic*] like an English oak [*Banksia solandri* R.Br.]. To this splendid plant I have given the specific name of *Hookeri*. From the remains of the flowers they appear to have been scarlet. I had scarcely time to make myself acquainted with this fine *Banksia*, when I found another exceedingly interesting and beautiful plant, a species of *Genetyllus [Darwinia],* growing to the size, and having a considerable resemblance in habit and foliage to *Beaufortia Decussata*, but having the inflorescence inclosed by beautiful bracts, white, variegated with crimson veins; these bracts are as elegantly formed as the petals of the finest tulip, and they are almost as large, hanging in a bell-shaped form from the ends of the slender branches [*Darwinia macrostegia*]. I thought I could never gather enough of this charming plant, and I procured abundance of perfect seeds. As one is obliged to use their hands as well, and almost as often, as their feet, in ascending or descending these very steep hills, I had gone very lightly equipped, I was therefore obliged to make use of my shirt and**

neckhandkerchief (making the shirt into a bag), to bring down a supply of *Banksia* cones. Securing the load so as not to impede the use of my hands. I reached our sleeping place at 3 o'clock, much fatigued with my load, but highly gratified, having this day found at least two plants which will continue to be admired while a taste for the beauties of nature remains to the human race.

When passing from Mongerup to Toolbrunup, we encamped under Talyuberlup, where I found several new and interesting plants; but here we could find no water. Among the plants was a very remarkable *Banksia,* with drooping globular flowers of an orange colour, variegated with crimson. The cones are round, and as large as a 14lb cannon shot. The plant grows about four feet high, with linear leaves with rigid spine-like teeth. This day I gathered for the first time the plant I suppose to be the *Dryandra Nervosa* of Mr. Brown, three *Hakeas* I had not seen before, but two of them are described by Mr. Brown. After searching until 5 o'clock, we made the Calgan River, and reached it about 8 o'clock. On the way I gathered for the first time a splendid *Anigozanthus,* with blood red flowers [almost certainly *A. rufus* Labill.]. From this place we found it common in the sandy valleys all the way to Cape Riche. I have named it, in compliment to my kind friends, Mr. and Mrs. Cheyne, *Anigozanthus Cheyneii.* We spent a day on the Calgan *[sic]*, and I was unsuccessful in my botanical researches. On the top of an ironstone hill, near our bivouac, I found a fine pinnate leaved scarlet *Grevillea* which I had not seen before, and a very distinct *Aphragmous Dryandra*, with glabrous buds and bracts surrounding the flowers. On leaving the Calgan we made straight for Toolbrunup, the hill marked in Arrowsmith's map as 3,000 feet high. In this day's journey I gathered for the first time the largest coned *Banksia* which I have ever seen, a shrub about four feet high, and much resembling in everything but the fructification, the orange and crimson globe flowered species. I call this plant the *Kangaroo Banksia* from the resemblance its bleached tomentose grey looking cones bear to the small species of kangaroo. We encamped near a small wood of gum trees, the only ones to be seen. On the left bank of the brook, about 3 miles northwest from the highest top of the Toolbrunup hills, these trees form an excellent landmark, and we found plenty of water and middling good feed for our horses in their vicinity. The highest point of Toolbrunup is of the old red sandstone formation, and it has the strata so regularly horizontal that they look from below like a fortification built by man. the mountain is so very steep that the highest point is only accessible by following up the southwest angle. The top of the mountain produces my *Banksia Hookeri*, and another new *Genetyllus* [*Darwinia*], with scarlet *fuschia* [sic] like bracts, but the plant is very rare. I also found a new *Lambertia*, with short lanceolate acuminate but scarcely pungent leaves. I call the species *Lambertia Hakeoides*; it probably belongs to the 7-flowered group, but it is widely different from any described species. I found a curious *umbelliferous* plant, and a rose-coloured *Stylidium*, with glaucous leaves, which were new to me, on this remarkable hill. Although the strata are regular and horizontal on the highest peak of this, on the next below they lie at all possible angles, a large mass of the very summit of this second peak being perfectly perpendicular, yet the disorganizing cause appears to have acted only on the surface; the micaceas [*sic*] schist which forms the nucleus where it is exposed by the action of a current of water, appears to be horizontal. From Toolbrunup to Congineerup, distant about 20 miles to the east by south, we found an easy passage, and we encamped under the highest part of this immense mass of hills. They are of little interest to the botanist; they are micaceous slate, containing a large proportion of mica, which, by its decomposition, forms a rich soil. In several places on the side of these hills I observed a fine cruciate [*?Xanthosia* sp.], with multifid *cardamine* like leaves, and small white flowers. I call the species *C. Gigantea*; from its taste and smell, I consider it an excellent substitute for all sorts of cress. Although these mountains, for their size, produced little of interest, the sandy country close to their base and extending about half way to Cape Riche, produced another very distinct *Dryandra* of the aphragmous group: this plant has broader and much shorter lobes to its pinnated leaves than *Nervosa.* Meisner, in his observations of *D. Nervosae* in the "Plantae Preissiana", seems to think that the distinctions in the aphragmous group are not much to be depended on, but in reality there are no more distinct species of the genus or plants of the order to which they belong, or any that are easier seen to be distinct, whether in or out of flower, than the aphragmous *Dryandras.*

To Cape Riche we had a hard day's work; the distance is about 25 miles, and we had found no water on the road. The promontory of Cape Riche will, in time to come, be a spot celebrated in the botany of Western Australia. Here the German botanist, Mr. L. Preiss, in a visit to the farm of the worthy proprietor (himself at the time resident at K.G.'s Sound), found many of his rarest plants: the *Collium Conkoberup*, now better known as the Mount Melville by Mr Cheyne's people, produced him the *Mealytus Preissiana*, the *Eucalyptus Pleurocarpa*, the *E. Cornuta*, and several other interesting species. One of the greatest ornaments of Cape Riche is *Kennedea Nigricans*; this beautiful climber is abundant, and it is as useful as ornamental: it answers for basket making, for tying, and all similar purposes for which willows are useful.

After experiencing the greatest kindness and hospitality from Mr. and Mrs. Cheyne for ten days, and having our supplies of several sorts recruited, which had been exhausted by so long a journey, we set out for Doubtful Island Bay. About a mile to the east of Mr. Cheyne's residence I gathered *Banksia Caleyii* for the first time, and along with it a most distinct and curious species of *Eucalyptus*, with foliage resembling *Eucalyptus Preissii*, but with square buds and seedvessels. At the time of flowering, the buds are about an inch and a half long, with sides 3/4 of an inch wide; at this time the whole is a beautiful crimson, like a ripe pomegranate; the flowers are rose colour; after flowering, the seedvessel regains its green colour, and ultimately turns brown when ripe. I send specimens and seeds of this very curious plant, which clearly shows that but little dependence can be placed on the opposite or alternate character of the leaves as a sectional division of the great genus *Eucalyptus*, as they are seen to be truly opposite or widely alternate on the same branch. It is true all the species enumerated by Schaur [*sic*] in the "Plantae Preissiana", and several others not described as opposite leaved, are always of that character, but the very same spot, namely, the *Collium Conkoberup* (Cape Riche promontory), so often quoted by Mr. Preiss, produces 3 other species that, when they grow luxuriantly, are always opposite leaved and flowered, although in old and weak specimens they are alternate; one little species has the leaves not only opposite, but stem-clasping, and in that state it bears opposite clusters of flowers. The same thing, as to foliage, may often be seen in the young shoots of the common red-gum.

In our first day's journey to the east of Cape Riche, I found a little prickly furze, like *Comesperma,* with bright blue flowers, but on my return to Cape Riche missed the spot where it grew. We slept on the right bank of the estuary of the Salt River [Pallinup River] by some springs of fresh water among the tea-trees, close to the salt water, which any traveller may easily find about a mile and a half back from the sea-beach. The next day, continuing our journey to the east, we found but few interesting plants; and we slept on the bank of a large fresh-water lake, about 2 miles in diameter. We found grass near the east end among some gum-trees. A little to the north of this sleeping-place I observed the buff and crimson nodding flowered *Banksia* in great luxuriance; the plants were only about 6 feet high, but I measured several which were full 30 feet in circumference, and crowded with old flowers and loaded with their ponderous seedvessels. The next day, travelling to the east, I found in the bed of some fresh-water lakes, which were only recently dried up, a species of *Polygonum*, very distinct from the species which grows near Mr. Brockman's, but perhaps not distinct from some European species. We slept by a lake of fine fresh water, full of the jointed rush, but with bad grass for our horses. Next day I found but a few interesting plants. We slept by the side of a small lake of fresh water about a mile to the west of the estuary, which falls into Bremmer [*sic*] Bay. Here we had abundance of grass for our horses. There is also good grass and water on the right bank of the estuary, which falls into Bremmer Bay about a mile back from the sea beach. After passing along the beach of this bay for about 2 miles, we crossed over some sand-hills to the banks of a deep lake of fresh water about a mile long; there was abundance of grass in several places on its banks. In about 10 miles to the west we came to an estuary of very salt water [?Gordon Inlet], with good grass on its banks, and a small well of fresh water, which barely supplied ourselves and our horses with this necessary of life. This was our furthest bivouac to the east: **West Mount Barren was distant about 4** [Hooker says 10 in his version] **miles. Just before I reached this sleeping place, and afterwards in greater abundance between it and Mount Barren, I found a most extraordinary plant, a species of *Hakea* growing 12 or 14 feet high; the true leaves of the plant are 7 or 8 inches long, jagged and sinuated as in *Hakea undulata*; but by far the most conspicuous part of the foliage of this superb plant are its bracts; these make their appearance with the flower buds. when the plant is 3 or 4 years old, they are borne in regular whorls, each circle or whorl being from 7 to 9 inches in height, [and] formed of 5 rows, which have each 5 bracts; the lowest bracts of the whorl are the broadest; they vary from 4 to 5 inches; the whole breadth across in full-grown middle-sized specimens being about 10 inches, and they regularly decrease in size to the uppermost bracts, which are only about 4 inches across from outside to outside; each whirl is a year's growth of the plant after it bears the first flowers. The variegation of these bracts is so extraordinary, that I almost fear to attempt a description. The first year they are yellowish white in all the centre of the bracts, and the same colour appears in the veins and in the teeth, which grow on the margin; the second year, what was white the first year has changed to a rich golden yellow; the third year what was yellow the second changes to a rich orange; and the fourth year the colour of the centre of the same bracts, their veins and marginal teeth, is changed to a blood red. The green, which has a remarkably light and luminous appearance the first year, varies annually to deeper and darker shades, and the fourth year, when the centre of the bracts has acquired a blood-red colour, the green of the same series is of the richest hue; the whirls below change to darker and duller shades, until they ultimately fade into the dull and withered leaves of other climes. The flowers I have not seen; the stem**

and buds of the upper series, which are the only ones unopened, are white and velvetty [*sic*]; the other series contain seedvessels mostly with perfect seeds. To this most splendid vegetable production which I have ever seen, in a wild or cultivated state, I have given the name of our gracious Queen, *Hakea Victoria*. It will soon be in cultivation in every garden of note in Europe, and in many other countries.

I found another *Hakea,* with acicular leaves and large pear-shaped seedvessels, between the before-mentioned estuary and Mount Barren. On Mount Barren I found a fine *Adenanthos*, with eliptic [*sic*] leaves - a remarkable nodding yellow-flowered *Banksia,* with leaves and a habit so like *B. Caleyii,* that it can only be distinguished by the cones and flowers [*Banksia lemanniana,* pers.comm. A. George], which are widely different. I found on this mountain two very distinct *Dryandras,* allied to *Armata*, which were quite new to me. *Dryandra armata* of Brown, as I understand the species, occurs here in three very distinct forms; the common form I sent home in my first collection: it is common on the outer series of the Darling Range in the Swan District, and it grows about King George's Sound. The variety I call *D. Armata* Gracilis (*D. armata* var. *ignicida*, pers.comm. A.George] I first met with near York, and I saw it in several places among the Toolbrunup hills; but the form of *D. Armata,* which is by far the most common from the Toolbrunup hills to the Cape Riche, and from Cape Riche to Doubtful Island Bay, is a strong upright-growing plant with a single stem at the root; this I call the *D. Armata Stricta.* It is possible that these three forms may pass into each other by intermediate plants, but both the Mount Barren species, which I call *D. Macrocarpa* and *D. Ferox*, are very distinct species. The *Dryandra gracilis* of Brown [*D. tenuifolia*?, pers. comm. A.George], common about Mount Barren, is very different from the Beaufort River plant [*D. tenuifolia* var. *reptans,* pers.comm A.George], referred to it by Meisner in the "Plantae Preissiana". *Dryandra Preissii* of the same writer, long ago noticed in the Journal of Botany, is closely allied to *Dryandra Nivea* of Brown, and is no more a *Diplophragma* than several other species placed in a different section of the genus in the "Plantae Preissiana". Mount Barren produces a curious *Aphyllus (Jacksonia)* in large upright bushes; a remarkable larch-like *Calothamnus,* but the flowers were past; a verticillate-leaved *Acacia* [*A. cedroides* pers.comm. A.George] and several other curious plants which I had not before seen. The principal rocks composing this hill are what I call lamellar quartz - that is, quartz which breaks up in a slate-like form, but the pieces are usually much thicker than slate; it occurs in the Toodyay district, and is the same rock which Captain Whitfield has used for flooring his house. There is also a good deal of a flint-like form of quartz, which breaks with a conchoidal fracture. The strata on Mount Barren are but a few degrees from the perpendicular, and their inclination is towards the north-west. **I thought it incumbent of me to send *Hakea Victoria* in some form to my subscribers, and in this plant pressure is altogether out of the question, as the bracts break before they will bend in any direction. I tied up 16 of the bract-bearing tops in two bundles, tying them together with the creeping shoots of the black creeper *Kennedea Nigricans,* and slung them one at each side of my old grey pony Cabbine; the load, although not very heavy, was a most awkward one to get through the bushes, and he never since I got him carried anything so unwillingly. One specimen, 14 feet high, I carried in my hand all the way to Cape Riche, but notwithstanding all the care I took, the brilliant colours in the bracts of this extraordinary plant were much faded before I could get them to King George's Sound.**

We returned from Doubtful Island Bay to Cape Riche nearly by the same route we went. Near the outlet of the Salt River estuary I found the calcarious [*sic*] sand-hills covered in many places with a prostrate *Petrophila*, which must be a showy plant when in flower, as the ground appeared as if paved with its seedvessels. On our return to Mr. Cheyne's we packed up all our collections, and through his kindness in forwarding them by his schooner, we found them in K. G.'s Sound almost as soon as we got there ourselves. On the way, I examined Mount Many-peak, the native "Gilberup"; I found on it several plants which I had not seen before: the most interesting of them to cultivators is a *Stylidium,* with leaves more resembling *Saxifraga Cotyledon* than any species I before saw of its own genus; the flower-stalks are thick, but short (from 7 to 9 inches in height), and a third part of the height is covered with a dense thyrse of large rose-coloured flowers. The plant has a single whirl of bracts near the flowers. This one of the most beautiful species of this interesting genus grows abundantly on the mass of granite rocks which forms the highest point of Mount Many-peak; the rocks which form Mount Many-peak are coarse-grained granite.

Printed and Published by Edmund Stirling, at the office of *The Inquirer*, in St. George's Terrace, Perth.

Acknowledgements

Dr Philip Short of the National Herbarium of Victoria is thanked for initially drawing my attention to the publication of *Hakea victoria* in *The Inquirer*. The Battye Library in Perth provided copies of all of the relevant articles as well as advice concerning copyright and their generosity in doing so is much appreciated.

References

Barker, R.M. & Barker, W.R. (1990). Botanical contributions overlooked: the role and recognition of collectors, horticulturists, explorers and others in the early documentation of the Australian flora. In P. Short (ed.) History of Systematic Botany in Australasia. (Australian Systematic Botany Society.)

Beard, J.S. (1965). "Descriptive Catologue of West Australian Plants." (Kings Park Board: Perth.)

Bentham, G. (1870). *Hakea Victoriae*. "Flora Australiensis." Vol. 5. p. 522.

Drummond, J. (1848). Notice of Mr Drummond's discovery of three remarkable plants in south-west Australia. Bot. Mag. 74, Companion pp. 1-3.

Erickson, R. (1969). "The Drummonds of Hawthornden." (Lamb Paterson Pty. Ltd.: Perth.)

Meisner, C.F. (1852). A List of the Proteaceae collected in South-western Australia by Mr. James Drummond. Hooker's J. Bot. 4: 208.

Meisner, C.F. (1856). *Hakea Victoriae. In:* Candolle, A. de (ed.) Prodromus Systematis Naturalis regni vegetabilis. Vol. 14. p. 409.

Gardner, C.A. (1930). "Enumeratio Plantarum Australiae Occidentalis." (Govt. Printer: Perth.)

Greuter, W. *et al.* (1994). "International Code of Botanical Nomenclature." (Koeltz: Germany.)