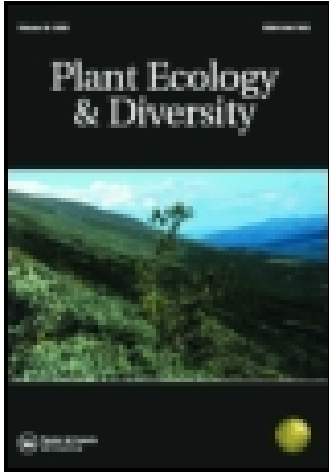


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### II. A Record of the Plants collected by Mr Pemberton Walcott and Mr Maitland Brown, in the year 1861, during Mr F. Gregory's Exploring Expedition into North-West Australia

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barren shoots pale purple, coated with a white glaucous bloom, not at all prickly, but with somewhat scattered, very slender, straight bristles, which are not bulbous at base; leaves pinnate on long petioles, the latter covered throughout with close-set setæ, which also extend along the midribs; leaflets five, broadly ovate, pointed, dark-green and veiny above, whitened beneath, coarsely but regularly doubly serrate, each serrature ending in a small mucro; terminal leaflet shortly petiolate, the others sessile, overlapping at base; distance between the lower and upper pair of leaflets more than twice the length of the petiole of the terminal leaflet.

The only other Frankville plants that need be noticed here are *Carex gynocrates*, *C. filiformis*, *C. stellulata*, *C. aquatilis*, *Eriophorum latifolium*, *Amelanchier canadensis*, with its young shoots, leaves and fruit covered with a parasitical fungus, *Struthiopteris germanica*, *Cystopteris bulbifera*, *Onoclea sensibilis*, common in the swamps, *Pteris aquilina*, *Sphagna*, *Bovista plumbea*.

In the village street of Frankville, *Echinosperrum Morisoni* and *Leonurus Cardiaca* were common, and the poisonous *Aconitum Napellus* luxuriated in flower plots in front of the houses as abundantly as it now does, or was wont to do, in the villa gardens of Newington, at Edinburgh.

On Saturday, 5th July, we returned to Brockville, in time for the afternoon train to Kingston.

II. *A Record of the Plants collected by Mr Pemberton Walcott and Mr Maitland Brown, in the year 1861, during Mr F. Gregory's Exploring Expedition into North-West Australia.* By FERDINAND MUELLER, M.D., Ph.D., F.R.S., Government Botanist for the Colony of Victoria.

The despatch of an exploring party to Nickol Bay, on the north-west coast of Australia, during the year 1861, under the command of F. Gregory, Esq., offered a favourable opportunity of extending our very scanty knowledge of the vegetation of this part of the Australian continent. By the arrangements of the leader, his companion Mr Maitland Brown was enabled to secure a series of botanical specimens in the

interior of the country explored, whilst Mr Pemberton Walcott, who had already distinguished himself by forming botanical collections at the Murchison River towards Shark's Bay, prepared collections of such plants as were found growing in the vicinity of the landing-place. These plants were obligingly placed at my disposal for examination, and I beg to submit the result of this task in the subsequent pages.

Of the botanical features of this part of the Australian continent, we gained our first knowledge during the second voyage of the talented and enterprising Captain William Dampier in 1699; some of the plants collected by him either at Shark's Bay, at Dampier's Archipelago, or at Dampier's Land, we find introduced by Dr Woodward into Dampier's work, "Voyage to New Holland" (of which the edition of 1729 was accessible to me through the favour of the sons of Admiral P. P. King). Of other species, Dr Woodward furnished an account in Plukenet's "Amaltheum Botanicum," vol. iv., 1705. Some of these interesting records, the first which botanical science gained from Australia, have received through R. Brown, and especially through Allan Cunningham, a modern scientific elucidation. But it seems that still several of the figures of Dampier's plants remain enigmatical; and although their absolute identification can only be effected by the inspection of Dampier's original specimens, of which, according to R. Brown (Prodr. Fl. Nov. Holl., 587), and Joseph Hooker (Introd. to the Flor. of Tasm., I. cxiii.), at least some are fortunately preserved in the Museum of Oxford, I have hazarded an opinion on these almost archæologic relics, since I had an opportunity of studying the characters of the vegetation from localities not distant from those visited by Dampier, in collections formed by Mr Aug. Oldfield and Mr Pemberton Walcott, near the Murchison River, or by personal observations in Arnhem's Land during Mr A. Gregory's North Australian expedition.

*Fucus, foliis capillaceis brevissimis, vesiculis minimis donatus*, tab. 2, fig. 2 = *Cystophyllum muricatum*, J. Agardh, spec. Algar., i. 231; Harv. Phycolog. Austr., vol. iii. t. 139.

*Ricinoides Novæ Hollandiæ anguloso crasso folio*, tab. 2, fig. 3 = seemingly *Adriana tomentosa*, Gaud.; *Solanum*

*spinosum Novæ Hollandiæ, Phylli foliis subrotundis*, tab. 2, fig. 4 = *Solanum orbiculatum*, Dun.; *Alcea Novæ Hollandiæ, foliis angustis utrinque villosis*, tab. 3, fig. 2 = *Sida petrophila*, F.M.; Tab. 3, fig. 3, not named by Woodward, is already by R. Brown referred to *Diplolæna Dampierii*, R. Br.; *Dammara Novæ Hollandiæ, Sanamundæ secundæ Clusii foliis*, is referred by Allan Cunningham to *Beaufortia Dampierii*, A. Cunn.; *Equisetum Novæ Hollandiæ frutescens, foliis longissimis*, tab. 4, fig. 1 = a *Casuarina*.

*Colutea Novæ Hollandiæ floribus amplis coccineis umbellatim dispositis macula purpurea notatis*, tab. 4, fig. 2 = *Clianthus Dampierii*, A. Cunn.; *Conyza Novæ Hollandiæ, angustis roris marini foliis* = *Eurybia Dampierii*, Cand. Prodr., v. 266, identified like the last by Allan Cunningham.

Fig. 1, in plate 3, cannot be recognised without reference to Dampier's specimens.

Fig. 1, in plate 2, represents evidently a *Lobelia*, closely allied to *L. Tupa*, L., and is most likely of American origin, several Brazilian plants being figured on the preceding plate.

Dryander (in Koenig and Sims, *Annals of Bot.*, ii. 531) quotes from Plukenet's "Amaltheum Botanicum" those plants figured from Dampier's collection, omitting only that described as *Chamæleæ Arabum folio, fructu ex alis foliorum pediculis brevibus glomerato ex Hollandia Nova*, which seems a phyllodineous *Acacia* in flower.

Tab. 450, fig. 10, illustrates an annual Composite not contained in our collections.

Tab. 451, fig. 4, represents a myrtaceous plant of the *Dæckeæ* series.

Tab. 452, fig. 4 = *Boronix* sp.

Tab. 454, fig. 6, seems a species of *Hydrocotyle*.

Tab. 453, fig. 2 = *Adriana tomentosa*, Gaud. Although this figure is by no means so expressive of the form of *Adriana tomentosa* as to remove all doubt of the identity, I know of no other north-west or west Australian plant to which it could be referred. Fig. 6 of the same plate, representing also a plant of Dampier's collection, although said to be of Brazilian origin, may perhaps also be referrible to the same plant.\*

\* From the examination of a great number of plants collected in the most

The next botanical collections brought from the north-west coast were those secured by the naturalists, especially Leschenault, who accompanied the French naval expedition under the command of Captain Baudin, in the beginning of this century. No special essay is devoted to the elucidation of the botanical treasures accumulated on the occasion, but scattered notices of these plants appear in various works, especially in De Candolle's "Prodromus."

The results of the botanical observations instituted by Gaudichaud on the vegetation of Shark's Bay, during Captain Freycinet's expedition in 1817, are partially incorporated in the phytological volume and atlas of this expedition published by Gaudichaud. Other plants of Gaudichaud's are scattered, like those of Baudin's Expedition, through various works.

But the most important botanical collections from the north-west coast of Australia were derived from Allan Cunningham, who, as a companion of Captain, afterwards Admiral P. P. King, in his four arduous and important survey voyages (from

widely separated parts of both tropical and extra-tropical Australia, it appears that the genus *Adriana* contains not more than two (if perhaps only one species) which are subject to great variations.

These may be distinguished as follows:—

*Adriana tomentosa*, Gaudich., Voy. de l'Uranie et la Physicienne, Bot., 487, pl. 116; *A. glabrata*, Gaud., l. c.

*A. acerifolia*, Hook., in Mitch. Trop. Austr., 371; *A. heterophylla*, Hook., l. c. 124; *Trachycaryon Cunninghamsi*, F. M. in Transact. Phil. Soc. Vict., i. 15.; *Trachycaryon Hookeri*, F. M., l. c. 16.

Leaves all alternate, usually long-petioled, rarely some opposite and on short petioles, often trilobed.

From Gippsland through a great part of East Australia to Moreton Bay, and to beyond the Darling in the Murray Desert; on the Murchison River; at Shark's Bay; in Arnhem's Land.

If the identity of Dampier's plant could be fully established, it might be desirable to collect the above synonyms under the name of *A. Dampieri*.

*Adriana Billardieri*, Baillon, Etude générale du Groupe des Euphorbiacées, 406; *Croton quadripartitum*, Lab. Nov. Holl. Plant. specim. ii. 73, tab. 223; *A. de Juss. de Euph. Gen. Tentam.*, 30; *Trachycaryon Billardieri*, Kl. in Lehm. Pl. Preiss, i. 175; *T. Klotzschii*, F. M. in Transact. Phil. Soc. Victoria, i. 15.

Leaves all opposite, nearly sessile, or on very short petioles, always lobeless.

Scattered along the coast, from Wilson's Promontory to Port Gregory, near Shark's Bay; occasionally inland; thus, for instance, at the Capunda between St Vincent's Gulf and the Murray River.

1818–1821), had an opportunity of examining the vegetation of very many coast points; of the extensive collections and observations of this celebrated botanical traveller we have only fragmentary records, and it appears that many of his plants still require to be examined, a task which will devolve on Mr Bentham, President of the Linnean Society, in the present elaboration of the universal flora of Australia, to whom, by the liberality of Robert Heward, Esq., these collections have become fully accessible.

Additions to our knowledge of the flora of this part of the globe are derived from the labours of the officers of the "Beagle," who visited the north-west Australian coast during the years 1838 and 1841.

The collections of Mr F. Gregory's expedition are interesting as bringing, for the first time, to our knowledge, some of the plants of the north-west interior, between the 20th and 24th parallel, although these are not so numerous, as would have been the case, had not unfortunately a considerable portion of those specimens collected on the ranges, and which would include the greatest share of novelty, been lost during the progress of the journey.

The issue of this memoir has afforded to me the opportunity of giving publicity to some (now posthumous) observations on a composite plant by my lamented friend the late Dr Joachim Steetz of Hamburg, in whom botanical science has lost one of its most able, correct, and philosophical promoters of this age. His valuable observations I have introduced into this essay unaltered and unabridged.

The total number of plants, as brought under notice by Mr Gregory's expedition, is not sufficient in extent to warrant an opinion on the phyto-geographical features of the country traversed; but in glancing over the appended enumeration, we cannot fail to recognise, that Malvaceæ, Amarantaceæ, Convolvulaceæ, and particularly Leguminosæ, are evidently numerous in the tracts explored; whilst Compositæ, as in other parts of tropical Australia, are comparatively of inconsiderable number. The scarcity of species of Eucalyptus seems remarkable. In some instances southern genera, or even identical species, are blended with those of Arnhem's Land, and

of other parts of tropical Australia, the tropical types being however by far the most preponderant. Endemic forms are not wanting, but new genera are, judging by our specimens, much less numerous, as might have been expected. It is further interesting to observe, that certain Indian and south-west Asiatic plants reappear on our north-west coast, in some instances not previously observed in any other part of Australia, whereby the list of Indo-Australian plants, published by Dr Hooker (Intro. to the Fl. of Tasm., 1842-49) and supplemented in my report on the plants of Lieut. Smith's expedition to the estuary of the Burdekin, received some additions. The following Asiatic plants have come since the issue of the publications above alluded to, from various parts of Australia, under my knowledge :—

*Nymphæa stellata*, W.; *Pericampylos incanus*, Miers (*vide* Benth.); *Harrisonia Brownii*, Adr. de Juss.; *Triumfetta procumbens*, Forst.; *Sida Abutilon*, L.; *Sida crista*, L.; *Tribulus alatus*, Delile; *Mollugo Cerviana*, Ser.; *Lumnitzera racemosa*, W.; *Bergia ammannioides*, Roth.; *Luffa graveolens*, Roxb. (*vide* Naudin); *Euphorbia Atoto*, Forst.; *Excæcaria Agallocha*, W.; *Crotalaria ramosissima*, Roxb.; *Cassia alata*, L.; *Cassia pumila*, Lam.; *Trichosanthes cucumerina*, L.; *Polyphragmon sericeum*, Desf.; *Lactaria calocarpa*, Hassk.; *Ficus stipulata*, Thunb.; *Peperomia reflexa*, Dietr.; *Dendrobium undulatum*, R. Br. (*vide* Lindley); *Lipocarpa microcephala*, Kunth, and *Carex pumila*, Thunb. (*vide* Benth.)

#### ENUMERATION OF THE SPECIES COLLECTED.

##### MENISPERMEÆ.

*Tinospora Walcottii*—F. M. Nickol Bay.

##### CAPPARIDÆ.

*Capparis nummularia*.—Cand. Prodr., i. 246; F. M., Fragn. Phytogr. Austr., i. 143.

Nickol Bay. Closely allied to the true Caper of commerce,

*Capparis spinosa*, L.

*Cleome flava*.—Banks in Cand. Prodr., i. 241. Nickol Bay.

##### CRUCIFERÆ.

*Lepidium pholidogynum*.—F. M. (sect. Monoploca).

Remarkable for its somewhat lepidote ovary. Only a small



fragment without leaves, and without note of the locality where it was found, occurs in the collection.

PITTSPOREÆ.

*Pittosporum phillyroides*.—Cand. Prodr., i. 347; F. M., Plants Indig. to Vict., i. 72.

Stream beds at Nickol Bay.

MALVACEÆ.

*Abutilon*.—Sp. undeterminable.

*Sida physocalyx*.—F. M., Fragm. Phytogr. Austr., iii. 3.

Hammersly Ranges, on rocky declivities. The *Sida petrophila*, F. M. in Linnæa, xxv. p. 381, does not occur in the collection, although found already on the subtropical or tropical west coast by Captain Dampier, and described by Woodward (Dampier's *Voyages*, edit. 1729, p. 110, as *Alcea Novæ Hollandiæ foliis angustis utrinque villosis*, tab. iii. fig. 2).

*Sida otoparpa*.—F. M. in Transact. Phil. Soc. Vict., i. 13.

Found in the interior during the expedition.

*Sida corrugata*.—Lindley in Mitch. Three Expeditions, ii. 12.

Rocky hills near Nickol Bay.

*Sida tubulosa*.—All. Cunn., ex. Hook. in Mitch. Tropic. Austr., p. 390.

Harding River.

*Gossypium australe*.—F. M., Fragm. Phytogr. Austr., i. 46; iii. 6.

Temporary dry stream beds of the Maitland River, attaining a height of eight feet.

*Hibiscus panduriformis*.—Burm. Flor. Indic., p. 151, t. 47, f. 2;

F. M., Fragm. Phytogr. Austr., ii. 115.

Beds and banks of the Maitland River, reaching a height of ten feet.

*Hibiscus brachychlænus*.—F. M., Fragm. Phytogr. Austr., iii. 5.

At Nickol Bay, and on the Fortescue River.

*Hibiscus Coatesii*.—F. M., Fragm. Phytogr. Austr., iii. 5.

Hammersly Range.

*Malva brachystachya*.—F. M., in Linnæa, xxv. 378 (sect. *Malvastrum*).

Hearson Island.

STERCULIACEÆ.

*Brachychiton platanoides*.—R. Br. in Horsf. Pl. Javan. Rar., 234.

On the granite hills near Nickol Bay.—A tree attaining a diameter of the trunk of thirty inches. The branchlets strong, with thick scars. Leaves glabrous, thin, coriaceous, crowded at the summit of the branchlets, deciduous, divided to about the middle into five lobes, five nerved, 5–9 inches long, thinly net-veined, above shining, beneath paler and

almost opaque; their lobes semilanceolate, divaricate, entire, gradually upwards attenuated. Petioles terete, 2-4 inches long. Panicles terminal and infra-terminal, many flowered, thinly velvet-downy. Pedicels shorter than the calyx. Calyx infundibular-campanulate, 4-5 lines long, outside as well as inside thinly grey- or fulvid-velutinous; its lobes five, semilanceolate, gradually upwards pointed, little shorter than the tube, at last reflexed; its tube obconical; the faux hardly turgid. Column of stamens enclosed, towards the summit glabrous, towards the base pulverulent-downy. The glomerule of the anthers measuring only about one line. Ovaries glabrous. Styles very short, also glabrous. Stigmas coherent into a hemispheric bluntly five-lobed cap. Follicles about three inches long, outside glabrous and nigrescent, contracted into a short and thick stipes, umbonate at the summit.

## TILIACEÆ.

- Corchorus Walcottii*.—F. M., *Fragm. Phytogr. Austr.*, iii. 9.  
Nickol Bay and Hearson Island.—With this occurs a variety remarkable for its oblong leaves.
- Corchorus sidoides*.—F. M., *Fragm. Phytogr. Austr.*, iii. 9.  
Imperfect specimens, seemingly referrible to this species, occur in the collection; adhering to it are some fragments of a *Cassya*.
- Triumfetta appendiculata*.—F. M., *Fragm. Phytogr. Austr.*, iii. 7.  
Rocky hills near Nickol Bay.

## MELIACEÆ.

- Owenia xerocarpa*.—F. M., *Fragm. Phytogr. Austr.*, iii. 14.  
At Nickol Bay and on the Yule River.

## SAPINDACEÆ.

- Diplopeltis Huegellii*.—Endl. *Plant.*; Hueg., p. 13; F. M., *Fragm. Phytogr. Austr.*, iii. 12.  
Sandy land, near Nickol Bay. A soft-hairy variety, with pin-natilobed leaves.
- Heterodendron oleifolium*.—Desfont., *Mémoires du Mus. d'Hist. Nat.*, iv. 9, t. 3.  
Stream beds of the Hammersly Range.
- Atalaya hemiglauca*.—F. M., *Fragm. Phytogr. Austr.*, i. 98.  
Hammersly Range.

## MOLLUGINEÆ.

- Mollugo trigastrotheca*.—F. M., *Plants Indigenous to the Colony of Victoria*, (note) i. 201.  
Rocky sandstone hills of Hearson Island.

CARYOPHYLLÆ.

*Polycarpœa longiflora*.—F. M., Report on Plants collected during Babbage's Expedition, p. 8.

On granite hills near Nickol Bay. The inflorescence less contracted than usual.

ZYGOPHYLLÆ.

*Tribulus alatus*.—Delile, Ill. p. 44.

East of Hammersly Range, growing in rocky land. Stems two to three feet long. The Australian specimens seem referrible to the African species, which, as far as can be judged from their description, are evidently apt to undergo great variations. Some specimens are hairy, others glabrous; in some, the wings of the fruit are more chartaceous, in others more membranous. It occurs rarely with four carpels. Of another *Tribulus* occur fruit specimens, gathered in the interior during the expedition; the carpels are glabrous and large, attaining rather more than half an inch in length, are slightly keeled but not crested at the back, almost alate-acute at the dorsal angles, and armed with two long thorns.

*Tribulus Hystrix*.—R. Br. in Sturt's Central Australia, vol. ii., Append. p. 69.

Sandy land in the interior of Nickol Bay.

LEGUMINOSÆ.

*Acacia coriacea*.—Cand., Memoir. Legum., 446.

The pedicels geminate, a little longer than the flower heads, as well as the younger Phyllodia, yellowish silky. Capitula globular, many-flowered. Bracteoles consisting of a minute rhomboid, densely ciliolate lamina, and a slender glabrous stipes. Calyx tubular, with five short and blunt lobes slightly fringed. Petals narrow, glabrous, nearly twice the length of the calyx.

*Acacia holosericea*.—A. Cunn. in G. Don. Gen. Syst. Dichl., Pl. ii. 407.

Alluvial flats near Nickol Bay; twelve feet high. Our specimens are imperfect, but belong apparently to this species.

*Acacia Maitlandi*.—F. M., Fragm. Phytogr. Austr., iii. 46.  
Hammersly Ranges.

*Acacia Gregorii*.—F. M., Fragm. Phytogr. Austr., iii. 47.  
Nickol Bay and Hearson Island.

*Acacia lycopodiifolia*.—All. Cunn. in Hook. Icones Plant., t. 172.  
On stony land of the Hammersly Ranges, six feet high.

*Acacia pyrifolia*.—Cand., Mem. sur la Fam. des Légumin., 447;  
F. M., Fragm. Phytogr. Austr., iii. 17.

At Cape Lambert and at Nickol Bay.

*Acacia bivenosa*.—Cand. Prodr., ii. 452 ; Benth. in Hook. Lond. Jour., i. 355. *A. binervosa*, Cand., Mem. sur la Famille Legum., 448.

On flats of good land near Nickol Bay ; eight to ten feet. Found like *A. coriacea* and *A. pyrifolia* originally in Baudin's Expedition, but most probably on the western coast and not on the eastern coast, as stated in DC. Prodromus. Our plant agrees sufficiently with DC.'s description, except in the unimportant particular that the Phyllodia are prominently binerved.

*Acacia elliptica*.—All. Cunn. in Hook. Lond. Jour., i. 347.

Sandy land of Hearson's Island ; four to eight feet.

*Acacia xylocarpa*.—All. Cunn. in Hook. Lond. Jour., i. 370.

Sandy land near the coast of Nickol Bay, and on the sides of rocky hills at Hearson's Island ; three to four feet high.

*Acacia Farnesiana*.—W. Sp., iv. 1083.

Nickol Bay.

*Neptunia gracilis*.—Benth. in Hook. Jour. of Bot., iv. 354.

Nickol Bay.

*Cassia pruinosa*.—F. M., Fragm. Phytogr. Austr., iii. 48.

Nickol Bay.

*Cassia oligophylla*.—F. M., Fragm. Phytogr. Austr., iii. 49.

Nickol Bay.

*Cassia venusta*.—F. M., Fragm. Phytogr. Austr., i. 165.

Nickol Bay and Hammersly Range.

*Petalogyne labicheoides*.—F. M. in Hook. Kew Miscell., viii. 325. *P. cassioides*, F. M. l. c.

Without note of the special locality.

*Bauhinia Leichardtii*.—F. M. in Transact. Phil. Inst., iii. 50.

Oakover River. The tree-bean of the travellers. In the collection occur only seeds and fragments of flowers.

*Erythrina* sp.—Of a species of this genus, only seeds occur in the collection. Very possibly it is the *E. biloba* (F. M. in Hook. Jour. of Bot., 1857, p. 21), which was found on Sturt's Creek, and subsequently in various parts of the interior during Mr J. M. Stuart's expeditions.

*Isotropis atropurpurea*.—F. M., Fragm. Phytogr. Austr., iii. 16. Hammersly Range.

*Agati formosum*.—F. M., Fragm. Phytogr. Austr., ii. 88.

Fortescue River. Confined to moist margins of stream beds ; attains a height of thirty feet.

*Sesbania australis*.—F. M. in Transact. Vict. Inst., i. 36.

Hearson Island and Nickol Bay.

*Rhynchosia minima*.—Cand. Prodr., ii. 385.

No locality noted.

*Canavallia obtusifolia*.—Cand. Prodr., ii. 404.

Nickol Bay.

*Cajanus confertiflorus*.—F. M., Report on the Plants of the Burdekin Exped., p. 9.

*Clinanthus Dampieri*.—All. Cunn. in Trans. Hort. Soc., 2d. ser., vol. i. 522.

Near the seabeach, at Nickol Bay, in sandy land.

*Dipholobium Walcottii*, F. M.

Nickol Bay.—In the seed collections of the expedition occurred the singular fruits of a leguminous plant of the astragaloid division, which seem to indicate a well-marked new genus, and to which the above name may be given. Small seedlings raised in the Botanic Garden of Melbourne produce a leaf, next to the primordial ones, long-petioled, and consisting of three leaflets, of which the lateral ones are obovate, the terminal one being larger, and verging more into an obcordate form. The following leaf is pinnate, conspicuously stalked, and consists of five obovate somewhat retuse leaflets of a few lines length, beneath beset with short, scattered, and appressed hairs. The petiolules are very short. Flowers purple, according to Mr Walcott. Their remnants, attached to the legumes, exhibit the following characters: The pedicels are at the apex minutely bibracteolate. The fruit-bearing calyx is bent inward at the base, about 2 lines long, of pale colour, outside glabrous; its tube is almost cup-shaped; the lower tooth is semilanceolate, and longer than the upper ones; all are ciliated, and inward bearded. The carina seems smooth, is rather long-unguiculate, bluntish, and (adding the claws) nearly half an inch long. The ten stamens seem all high-connate. Anthers not seen, nor style. The stipes of the pod is short, and somewhat hairy. Legumes grey-green, smooth, about one-third of an inch long, depressed, turgid, roundish-ovate, perfectly bilocular, easily separable by septicial division into two carpels, short-beaked, rugose-costate, in consistence thick and hard, somewhat between horny and crustaceous. Seeds one in each cell, rarely two, oblique-ellipsoid, brown, somewhat shining, nearly 2 lines long. Testa thin-coriaceous. Albumen none. Radicle accumbent to the cotyledons, and of about half their length.

A fuller record of this, at least in the flora of Australia, unique plant, will be furnished when our cultivated plant is fully developed.

*Tephrosia purpurea*.—Pers. Synops., ii. 329.

Hills near Nickol Bay.

*Indigofera enneaphylla*.—L. Mant., 272.

Sandy land of Hearson's Island and Nickol Bay.

*Indigofera monophylla*.—Cand. Prodr., ii. 222; F. M., Fragm. Phytogr. Austr., iii. 45.

Nickol Bay; Fortescue River.

*Crotalaria Mitchelli*.—Benth. in Mitch. Trop. Austr., 122; F. M.,  
Fragm. Phyt. Austr., iii. 50.

Nickol Bay.

*Crotalaria dissitiflora*.—Benth. in Mitch. Trop. Austr., 386.

Hammersly Range.

*Crotalaria Cunninghamsi*.—R. Br. in Sturt's Central Austr., ap-  
pend., p. 71; Hook. Icon., 829; F. M., Fragn. Phytogr.  
Austr., iii. 52.

Stony places in Hammersly Range.

*Psoralea leucantha*.—F. M., Transact. Philos. Inst. Vict., iii. 54.

Hammersly Range.—Attaining a height of ten feet.

*Psoralea pustulata*.—F. M., Transac. Philos. Inst., iii. 54.

The specimens collected during Mr Gregory's expedition on  
the summits of rocky hills at Nickol Bay differ slightly from  
the original plant, gathered in Arnhem's Land, in longer  
silky hair, in shorter petioles, in broader leaflets, bracts, and  
stipules. Blossoms purple.

*Psoralea lachnostachys*.—F. M., Fragn. Phytogr. Austr., iii. 105.

Special locality unrecorded.

*Swainsona occidentalis*.—F. M., Fragn. Phytogr. Austr., iii. 46.

Common at Nickol Bay.

#### EUPHORBIACEÆ.

*Euphorbia hypericifolia*.—L. Sp. Pl. 660.

Rocky hills near Nickol Bay.

*Flueggea melanthesoides*.—*Leptonema melanthesoides*, F. M. in  
Hook. Kew Miscell., ix. 17.

In deep ravines between rocky hills of Hearson Island.—Allied  
to the Javanian *Flueggea microcarpa*; the leaves larger,  
with beneath more prominently visible net-veins.

#### COMBRETACEÆ.

*Terminalia discolor*.—F. M., Fragn. Phytogr. Austr., iii. 92.

Hearson Island.

*Terminalia circumalata*.—F. M., Fragn. Phytogr. Austr., iii. 91.

Nickol Bay.

#### MYRTACEÆ.

*Melaleuca linifolia*.—F. M., Fragn. Phytogr. Austr., iii. 115.

Without indication of the locality.

*Eucalyptus polycarpa*.—F. M., in Proceed. Linn. Soc., iii. 88.

Growing in grassy valleys at Nickol Bay.—Mr Walcott remarks  
that this is the only *Eucalyptus* noticed at Nickol Bay.

#### LYTHRACEÆ.

*Ammannia indica*.—Lam. Ill. 1555.

Springy land at Nickol Bay.

CUCURBITACEÆ.

*Muckia scabrella*.—Arnott in Hook. Jour., iii. 276.

Rocky hills and grassy ravines at Nickol Bay.

*Cucumis jucunda*.—F. M. in Transac. Phil. Inst. Vict., iii. 45.

Oakover River, and Nickol Bay.

*Trichosanthes cucumerina*.—L. Sp. Pl. 1432.

Somewhat hispidulous; leaves round, or reniform-cordate, angular, 5-7-lobed, remotely and sharply toothed; their terminal lobe the longest; their basal sinus deep; tendrils bifid or trifid, towards the base hispidulous; lobes of the calyx lanceolate-linear; male flowers racemose, female flowers solitary; fringes of the petals elongated, and pinnatisected; berries ovate-fusiform, scarlet; seeds blunt at the margin.—On bare granite hills at Nickol Bay. (Found by the author of this list on the Victoria River.) It not being ascertained beyond doubt, whether the Australian plant is identical with the Indian *T. cucumerina*, I deemed it desirable to sketch out its diagnosis on this occasion. The plant is characterised by a remarkably strong and unpleasant scent, a circumstance which induced me to apply formerly to it the name *Trichosanthes olida*. Leaves, 1-4 inches long, 1½-5 inches broad. Fruit about 1½ inch long, glabrous, smooth, contracted into a long neck. Seeds grey, compressed-ovate, indistinctly tubercled, about 4 lines long.

UMBELLIFERÆ.

*Didiscus hemicarpus*.—*D. setulosus*, F. M. in papers of the Roy. Soc. of Tasm., iii. 238.

On elevated land at Cape Lambert.—The plant not being always setulose, it seems advisable to alter the original specific name of the plant.

COMPOSITÆ.

*Ixiochlamys cuneifolia*.—Sond. and Muell. in Linnæa, xxv., p. 466.

On sandy land near the coast at Nickol Bay.

*Flaveria Australasica*.—Hook. in Mitch. Trop. Austr., p. 118.

In stream beds near Nickol Bay.

*Pluchea Eyrea*.—F. M., Report on the Plants of Babbage's Expedition, p. 11.

Without remarks on the locality.

*Streptoglossa Steetzii*, F. M.—Of the following genus the description is given by that careful observer, the lamented Dr Joachim Steetz. I regarded it as a subgenus of *Pluchea*, to which I had assigned (in the Report on the Plants of Babbage's Expedition, p. 12) the name *Rhodanthemum*. The *Pluchea basiflora* characterised on that occasion I have now excluded from

Pluchea or Streptoglossa, Dr Steetz having pointed out its near relationship to Thespis; and although in other genera, for instance in *Laiolæna*, similar discrepancies in the form of the pappus exist, we may assume it as generically different, and I have consequently distinguished it as *Thespidium*, (in a list of plants, known from the vicinity of the Gulf of Carpentaria, and recently published as an appendix to the journal of Mr W. Landsborough's Expedition,) the character of which would mainly consist in not compressed achenia, in fringed paleæ of the pappus, and in hermaphrodite central flowers; otherwise it would be referrible to Thespis, with which it accords well in habit. Dr Steetz's remarks on Streptoglossa are as follow:—

“Was nun ihre Pflanze ist? Diese Frage ist schon von ihnen richtig vorausgesagt, es ist eine neue Gattung, für die ich den Namen *Streptoglossa* vorschlagen moegte, ohne jedoch einer anderen von ihnen beschossenen und vielleicht passenderen Benennung vorzuziehen zu wollen. Die zweite Frage ist nicht so leicht zu beantworten, d. h. wohin sie gehoert, oder mit anderen Worten ihre Stellung im System. So meisterhaft naemlich auch de Candolle's Gruppierung der Gattungen in den verschiedenen Tribus der Compositæ im Allgemeinen ist, so stossen wir doch hier und da auf Pflanzen, die uns zwingen die diagnosen der Hauptgruppen etwas zu modificiren, Untergruppen mitunter einzuschalten, oder wenn wir dazu uns nicht berechtigt halten, der Pflanze eine unnatuerliche Stelle anzuweisen. Ein solcher Fall tritt aber gerade bei ihrer Pflanze ein. Dieselbe gehoert ohne allen Zweifel zu der Subtribus der Baccharideae, und zu der Divisio der Conyzeae, darf aber nicht dahin gebracht werden, wenn de Candolle's Diagnose darueber entscheiden soll, in der er sagt; *Capitula* heterogama aut dioica *nunquam radiata*. *Corollæ* omnes tubulosæ, fœmineæ sæpius in ambitu multiseriales. *Antheræ ecaudatæ*. *Receptaculum* epaleaceum. *Folia* alterna. DC. Prodr., t. 5, p. 212. Die beiden unterstrichenen Charactere passen nun nicht auf ihre Pflanze, deren weibliche Bluethen wirklich eine Ligula haben, wenn auch eine sehr kurze, und deren Antheren in der That brevier caudatæ sind. Der Character: *capitula nunquam radiata* hat aber auch in der That un so weniger wissenschaftlichen Werth, als die flores fœminei tubulosi in manchen Arten in eine wirkliche kurze Ligula uebergehen, und als de Candolle selbst mehrere Arten von Conyza aufgezaehlt hat, die wirklich flores marginales brevier ligulatos haben. Dasselbe ist mit dem Character: *antheræ ecaudatæ* der Fall. De Candolle rechnet naemlich Berthelotia (Prodr. 5, p. 375) zu den Conyzeen, nennt auch deren Antheren *ecaudatæ*. In der Wirklichkeit dagegen sind sie *brevier caudatæ*, wie die treffliche Abbildung in Delessert's Icones Selectæ Plantarum, tom. iv.



tab. 21, fig. 4, deutlich zeigt. Ausserdem ist es unrichtig wenn de Candolle den Character der Conyzeæ l. c. als Capitula heterogama *monoica* bezeichnet. Waere dem so, dann muessten alle *flores centrales masculi* sein, d. h. einen *ungetheilten* Griffel haben. Aber sowohl Conyza als Blumea und andere haben wuerkliche *flores centrales hermaphroditos*, d. h. einen *vollstaendigen getheilten* Griffel. Ob die Achæniæ derselben fruchtbar oder steril sind, laesst sich an der getrockneten Pflanze nicht immer mit Sicherheit bestimmen; wenn naemlich die Achæniæ nicht saemmtlich zur Reife gelangt sind. Sterile central Bluethen mit gespaltenen, vollstaendigen Griffel sind aber nicht *flores masculi*, sondern *flores steriles*. Diess moege genuegen, um mich zu rechtfertigen, wenn ich ihre Pflanze zu den Conyzeen zaehle, und sie dicht neben Berthelotia setze, mit der sie die groesste Verwandtschaft hat. Dazu berechtigt mich nicht allein, das fast ganz gleich construirte capitulum, das ebenfalls gleiche Involucrum, sondern auch die ganz gleiche Structur des Griffels und der Antheren, welche letzteren in beiden Gattungen mit dem nur selten so stumpfen freien Anhaengsel oberhalb des Connectives versehen und in beiden an der Basis kurz geschwaenzet sind; dazu kommt der Pappus paleaceus in der Central Bluethen von Berthelotia, der bei ihrer Pflanze in den Achæniis beiderlei Bluethen paleaceus ist, und sich dadurch von der Subdivisio Euconyzeæ unterscheidet, die durch einen Pappus pilosus gekennzeichnet ist.

“Wenn de Candolle dessen ungeachtet Berthelotia zu den Euconyzeen zaeht, so geschah das ohne allen Zweifel deshalb, weil er keine andere Gattung mit solchen Pappus kannte. Jetzt aber, nachdem ihre neue Gattung, und eine andere neue, welche Dr Peters in Mosambique sammelte, hinzu kommen, wuerde eine vierte Subdivisio unter den Namen: Berthelotiæ aufzustellen sein, welche sich von den Euconyzeen durch ein Pappus paleaceus saltem *achæniorum florum centralium* unterscheiden wuerde.

“Ich gebe Ihnen nun in folgenden die detaillirte Beschreibung des Capitulum de rmir guetigst uebersandten Pflanze, die dann den Gattungscharacter der neuen Gattung bilden wuerde, wenn derselbe nicht durch die uebrigen Arten, von denen Sie scharieben, modificirt werden muesste, was ihre genaue Untersuchung derselben sehr leicht ergeben wuerde.

*Streptoglossa*, nov. gen. *Character generis*.—*Capitulum* pluriflorum (15–20—florum in specie nostra), heterogamum; *floribus* omnibus fertilibus (sic in nostra specie videtur), *marginalibus* fœmineis, circiter 2–3—serialibus (10–14 in nostra) brevissime ligulatis; *centralibus* hermaphroditis, tubulosis, paucis (4–6). *Involucrum* turbinatum, disco florum subaequale imbricatum, bracteis paucis foliaceis linearibus inæquilongis suffultum; *squamis* 4–5—serialibus, siccis, coriaceis; *intimis* et *penintimis* majori-

bus, subæquilongis, acuminatis, glaberrimis, margine scariosis et plus minusve purpurascensibus, *intimis* anguste-linearibus, *penintimis* conformibus sed latoribus; *exterioribus* gradatim brevioribus, ovatis, acutis, margine angustius scariosis; *extimis* satis fere immarginatis, dorso puberulis. *Receptaculum* epaleaceum, planum, alveolato-favosum (*alveolis* membranaceis, elevatis, minute fimbriiferis). *Corollæ* *florum* *femineorum* tenues, basi tubulosæ, apice brevissime ligulatæ, floribus hermaphroditis æquilongæ sed tenuiores; *tubo* virescente, basi dilatato, callosa; sensim in *ligulam* tubo suo 4-5-plo breviorum, angustissimam, semiconvolutam, apice acute 2-3-dentatam, laete purpuream, expanso. *Stylus* sæpissime inclusus, basi in bulbum conicum cartilagineum desinens, totus glaber, apice profunde bifidus; *ramis stigmaticis* æqualibus, tenuibus, semiteretibus, apice vix angustatis, obtusis, dorso convexis lævibus, pagina interiore planis et margine parce papillosis. *Corollæ* *florum* *hermaphroditorum* *femineis* duplo validiores, totæ tubulosæ, basi paullo ampliata, cæterum ubique aequitata, virescentes, apice *limbo* regulari breviter 5-dentato purpurascente terminatæ; limbi dentibus linearibus, erectis, conniventibus, leviter marginatis, obtusiusculis. *Filamenta* 5, plana, longiuscula, ima basi corollæ nervis enata, latiuscula, infra basin antherarum connectivo articulata. *Antheræ* albidæ, basi breviter caudatæ, apice in appendiculam liberam linearem continuam obtusissimam productæ, connectivo crasso brunneo percursæ. *Pollinis* *granula* majuscula, globosa, undique longiuscule echinulata. *Stylus* plerumque inclusus, basi in bulbum crassum cartilagineum obtuse-conicum desinens, medio tenuis glaber apice breviter bifidus, et a medio (jam infra ramificationem) papillis latiusculis obtusis undique obsitus; *ramis stigmaticis* apice paullisper attenuatis, obtusiusculis, dorso papillosis. *Achænia* conformia, teretia, obconica, *callo basitari* parvo albido glabro perforato aucta, pilis longis cinereis apice plerumque bidentatis sursum spectantibus, apice pappum anteriorem brevissimum mentientibus dense sericea, *nectario* punctiformi, annulo circulari, vix elevato cincto in disco epigyno majusculo superata, pappigera. *Pappus* uniserialis, paleaceus; *paleis* angustis, inæqualibus, corollam æquantibus vel subsuperantibus, albidis, nitidis, basi angustissime concretis, cartilagineis, glabris, versus medium denticulis longiusculis sursum spectantibus, distichis, utrinque dense fimbriatis, supra medium sensim angustatis, acuminatis, denticulis magis remotis.

(“ Den uebrigen Theil des Gattungs characters, den Stengel, die Blaetter, die Inflorescenz, den Habitus u. s. w. characterisierend, werden Sie durch Vergleichung der uebrigen Arten leicht selbst entwerfen.)

“ Genus nostrum proxime accedit ad *Berthelotice* DC. genus,

propter fabricam analogam *capituli*, præsertim propter *involu-  
crum* simillimum, propter *antheras* breviter caudatas, apice in  
appendiculam liberam *continuum obtusissimam* productas; dis-  
tinguitur vero facillime, floribus fœmineis revera ligulatis,  
achæniis sericeis (nec glabris), pappo conformi in omnibus  
achæniis (nec alio in centralibus, alio in marginalibus). Hab-  
itum præterea *Conyza*, Less. *Blumea*, DC. et *Pluchea*, Cass.  
generum præ se fert, egregie vero differt *pappo paleaceo* (nec  
piloso).

“Nomen composui e vocibus *στρεπτός*, convolutus, et *γλῶσσα*,  
ligula, alludens ad ligulam semiconvolutam, quasi et cochleari-  
formen florum fœmineorum.”

In a letter, dated Hamburg, 27th July 1860, Dr Steetz adds  
the following observations:—“Die Unterschiede nun, welche die  
mir guetigst uebersandte Gattung, fuer welche ich den Namen  
*Streptoglossa* vorgeschlagen habe, von *Pluchea*, Cassini (der aber  
nur Americanische Arten damit bezeichnete, also § 3 der Gattung  
in de Candolle’s *Prodromus*) trennen, sind im Ganzen folgende;

“STREPTOGLOSSA.

PLUCHEA, *Cassini*.

- |                                                                                                                                                                                                                                                         |                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| 1. <i>Antheræ sagittatæ</i> ; (die kur-<br>zen Anhängsel Pollen fuh-<br>rend, wie bei vielen Vernoni-<br>aceen. De Candolle und Les-<br>sing nannten sie <i>ecaudatæ</i> ,<br>obgleich der letztere schon<br>ihre Verschiedenheit davon<br>beobachtete. | <i>Antheræ caudatæ</i> .<br>(mit langen Anhängseln die kei-<br>nen Pollen tragen).              |
| 2. <i>Flores fœminei ligulati. Li-<br/>gula erecta, brevissima, sub-<br/>involuta.</i>                                                                                                                                                                  | <i>Flores fœminei breves, tubulosi,<br/>subtruncati.</i>                                        |
| 3. <i>Pappus paleaceus.</i>                                                                                                                                                                                                                             | <i>Pappus pilosus.</i>                                                                          |
| 4. <i>Capitula pluriflora.</i>                                                                                                                                                                                                                          | <i>Capitula multiflora, i.e. floribus<br/>multo magis numerosis, quam<br/>in Streptoglossa.</i> |

“Die indischen und afrikanischen Arten von *Pluchea* in de  
Candolle’s Sinne, naemlich eine seiner Arten (N. 4) in § 1 und  
§ 2 duerften eine neue Gattung bilden, da ein entschieden ver-  
schiedener habitus sie von Cassini’s *Pleuchea* trennt und unter  
einander verbindet. *Achænia* und *Pappus* scheinen constant  
verschiedene Charactere zu bilden; ich sage: scheinen, denn leider  
kenne ich nicht alle Arten und nur wenige von den mir bekannten  
haben reife *Achænia*.”

*Monenteles sphaeranthoides*.—Cand. Prodr., v. 456.

Granite hills near Nickol Bay.—A strongly scented shrub of  
the height of 3 feet. The pappus in the specimens from

Nickol Bay is quite similar to that of all congeners, and not wanting. It remains, therefore, meanwhile doubtful, until Cunningham's specimens are re-examined, whether his plant is rightly recognised in the specimens from Mr Gregory's Expedition, or whether these constitute a new species.

*Monenteles sphacelatus*.—Labill. Sert. Austro-Caledon., 43, t. 44.

At Nickol Bay. *M. intermedius* and *M. globifer* seem mere varieties of this species, which is widely distributed over tropical and subtropical Australia, descending to the Lower Darling River, and varying exceedingly according to the localities which it inhabits.

*Pentalepis*, nov. gen.—Capitulum pluriflorum, heterogamum.

*Involucrum e foliis quinque biseriatis constans*. Receptaculum planiusculum, paleatum. Flores marginales fertiles, feminei, ligulati; discales masculi, tubulosi. Antheræ ecaudatæ. *Stylus florum discalium indivisus*. *Achenia fertilia compressa, margine introflexa, aristulis duabus terminata*; sterilia tenuissima, corollam cilioso-dentatam gerentia. Herbæ striguloso-asperæ Australiæ boreali-occidentalis, *foliis oppositis integerrimis v. serratis saltem superioribus sessilibus, capitulis fere cymosodispositis, paleis canaliculato-linearibus, corollis antherisque luteis*. Genus a *Wedelia* (*Wollastoniam* includente), cui habitu simillimum, divergit involucro pentaphyllo, floribus discalibus ob stylum simplicem sterilibus et achæniorum radii complanatione. Pluribus etiam characteribus ad *Verbesineas* accedit et huic subtribui referendum erit.

*Pentalepis trichodesmoides*, nov. sp.—*Foliis superioribus integerrimis* et involucri squamis angusto-lanceolatis.

In vallibus rupestribus sinus Nickol Bay. Walcott. Planta (adnotante inventore) 4', incipiente anthesi *Trichodesma zeylanicum* simulans, cujus tantum partes superiores vidi, quorum folia 1–2" longa, per paria dissita, trinervia; rami glabrati, parce asperati. Involucri squamæ 4–6" longæ, sursum longe acutatæ, paleis paulo longiores. Ligulæ florum radialium circ. 2½" longæ, cuspidulatæ v. breviter bidentatæ; unguis parum puberulus. Corollæ disci superne paulo asperulæ; harum stylus sursum papillosus; achenium scabrum, vix sesquilinea longius, nonnunquam arista solitaria scabra ad 1" longa præditum. *Achenia marginalia obovata, puberula, in aristulas 2 per breves hispidulas producta, statu maturo nondum visa*.

A second species, from Arnhem's Land, may be characterised as follows:—

*Pentalepis ecliptoides*, nov. sp.—*Foliis superioribus irregulariter serratis lanceolatis v. ovato-lanceolatis, involucri squamis ovato-v. lanceolatis*.

In planitiibus originem fluvii Victoriæ versus (28th March 1856.)

Herba aspectu generali quasi Ecliptam referens. Folia superiora  $1\frac{1}{2}$ –3" longa, summa ad basin pedunculorum bracteas pauci-lineares lineari-v. angusto-lanceolatas formantia. Capitula longiuscule pedunculata; squamæ acutiusculæ, paleis subæquilongæ,  $2\frac{1}{2}$ –3" longæ. Antheræ apice in laminam acutam productæ. Achenia sterilia sesquilinea paulo breviora; fertilia in quoque capitulo pauca, circ. 2" longa, obscure fusca, orbiculari-obovata, tenuiter puberula, margine incurvata, intus ad marginem prominentem paulo tuberculata, apice aristulis 2 brevibus hispidulis terminata.

GOODENIACEÆ.

*Scævola Maitlandi*, nov. sp.—Downy or glabrous; upper leaves linear; *inferior peduncles rather long, three-flowered; upper flowers arranged in spicate racemes*; bracteoles shorter than the flowers; teeth of the calyx short, deltoid; corolla outside glabrous or silky, inside bearded and penicillar, papillose; anthers blunt, unbearded; style downy; cilia of the indusium short; drupe small, dry, globular, two-celled.

At Nickol Bay.—This species seems identical with one collected at the Murchison River by Mr Aug. Oldfield. I named it in honour of Mr Maitland Brown, who, during the expedition, gathered all the inland species recorded in this list.

*Goodenia microptera*.—F. M., *Fragm. Phytogr. Austr.*, iii. 34. Nickol Bay.

CONVOLVULACEÆ.

*Evolvulus linifolius*.—L. *Sp. Pl.*, 392.

Nickol Bay on sand plains.

*Ipomæa maritima*.—R. Br., *Prodr.*, 486.

Sandy land near the coast of Nickol Bay and of Hearson Island.

A runner, attaining a length of 80–100 feet. Of several other

*Ipomææ* only the seed-vessels are existent in the collection.

*Breweria rosea*.—F. M., *Fragm. Phytogr. Austr.*, i. 233. Hammersly Range.

SCROPHULARINEÆ.

*Morgania floribunda*.—Benth. in *Mitch. Trop. Austr.*, 384; var. *latifolia*; leaves nearly ovate, as well as the flowers, large.

In moist springy land at Nickol Bay. This is one of the many extreme forms which *M. floribunda* (including *M. glabra* and *M. pubescens*) is forming in its almost universal range over the Australian continent.

ASCLEPIADEÆ.

*Cynoctonum pedunculatum*.—Decaisne in *Cand. Prodr.*, viii. 529. Nickol Bay.

ASPERIFOLIÆ.

*Heliotropium asperrimum*.—R. Br., Prodr., i. 493.

Rocky ridges of Hammersly Range.—About 1 foot high. Flowers white. The leaves are narrowed into a distinct petiole, comparatively broader and shorter than in the plants from South Australia and South-West Australia; they are, further, more remarkably deep-crenated and more crisp; the spikes become finally elongated; the tube of the corolla is only about as long as the limb, and the style is shorter. Should these distinctions prove permanent, then the species may be separated under the name of *H. crispatum*.

*Heliotropium paniculatum*.—R. Br., Prodr., 494.

At Nickol Bay.

*Trichodesma zeylanicum*.—R. Br., Prodr., 496.

Nickol Bay.

VERBENACEÆ.

*Clerodendron ovatum*.—R. Br., Prodr., 511.

Rocky hills at Nickol Bay. Height about 15 feet. This and the following species cannot with certainty be identified except by collation of the Brownian specimens.

*Clerodendron floribundum*.—R. Br., Prodr., 511.

On high inland ranges. Attaining a height of 10 feet.

*Eremophila maculata*.—F. M. in papers of the Royal Society of Tasmania, iii. 297.

Elevated table land at Hammersly Range.

SOLANACEÆ.

*Nicotiana suaveolens*.—Lehm. Nicot., p. 43.

No indication of locality given.

*Datura alba*.—Nees in Transact. Linn. Soc., xvii. 73.

Flats on the Ashburton River. 3 feet high.

*Solanum lithophilum*.—F. M. in Linnæa, 1852, 434.

Table-land of the Hammersly Range; also at Nickol Bay. The plant is in all its parts larger than the legitimate one from Lake Torrens, yet appears not to be specifically distinct.

JASMINEÆ.

*Jasminum lineare*.—R. Br., Prodr., 521.

Rocky coast hills at Nickol Bay.

PLUMBAGINEÆ.

*Plumbago zeylanica*.—L. Sp. Plant., 215.

Nickol Bay.

LAURINEÆ.

*Cassyta*.—sp.

Nickol Bay.

PROTEACEÆ.

- Hakea lorea*.—R. Br., suppl. Prodr. Fl. Nov. Hol., p. 25.  
Nickol Bay.—Capsules rather longer than an inch, nearly ovate towards the middle, gradually tapering into the base and apex, spurless.
- Grevillea Wickhami*.—Meisn. in Hook. Jour., 1852, p. 187.  
On the Maitland River, and in river beds of the Hammersly Range.—Seemingly a variable species, attaining a height of 12 feet. Flowers scarlet.

THYMELEÆ.

- Pimelea ammocharis*.—F. M. in Hook. Jour., 1857, p. 24.  
Twenty miles south of Nickol Bay, on sandy plains at the Maitland River. A shrub about 3 feet high. Flowers more numerous in the capitula, and larger than those of the original specimens gathered in Central Australia; the leaves also larger, but otherwise this plant seems by no means specifically distinct.

AMARANTACEÆ.

- Gomphrena canescens*.—R. Br., Prodr. 416. Moq. in Cand. Prodr., xiii., ii., 398.  
Frequent at Nickol Bay.—The staminodia exceed sometimes the length of the anthers. This species extends to Sturt's Creek, to the Victoria River, and to the Gulf of Carpentaria. The capitula are generally more or less pale or dark or purplish-red, but occasionally also whitish. The peduncles exceed sometimes half a foot in length.
- Gomphrena Maitlandi*.—F. M., Fragm. Phytogr. Austr., iii. 124, tab. xxiii.  
Pyramid Hill.
- Ptilotus villosiflorus*.—F. M., Fragm. Phytogr. Austr., iii. 125.  
No special note of habitat.
- Trichinium incanum*.—R. Br., Prodr., 415.  
Top of Granite hills near Nickol Bay.
- Trichinium rotundifolium*.—F. M., Fragm. Phytogr. Austr., iii. 122. Hammersly Range.
- Trichinium helipteroides*.—F. M., Fragm. Phytogr. Austr., iii. 122. Nickol Bay.
- Trichinium æroides*.—F. M., Fragm. Phytogr. Austr., iii. 123.  
No special note on locality.
- Trichinium nobile*.—Lindl. in Mitch. Three Exped., ii. 22. *T. semilanatum*, Lindl. in Mitch. Trop. Austr., 45.  
Nickol Bay.—This variable species occurs all over Australia, from Arnhem's Land to the Lachlan River, and from the Gulf of Carpentaria to the Phillips River.

*Hemisteirus psilotrichoides*.—F. M. in Linnæa, 1852, 435.

Hammersly Range.

*Arthrotrichum calostachyum*.

Nickol Bay.—This plant, which seems to constitute a new genus, is here provisionally named. In the collections formed during Mr F. Gregory's expedition, only fragments without leaves occur. More perfect specimens, collected by myself in the interior of Arnhem's Land, were destroyed in their shipment from the N.W. coast to Sydney.

The spikes are 1–2 inches long, leafless, and borne on a smooth slender peduncle, and resemble those of some small flowered *Trichinia*; but from this genus our plant differs in one-celled anthers, and in the extreme shortness of filaments and style. But the villi of the calyx are those of a *Trichinium*. The capitate stigma removes the plant from *Gomphrena* and *Iresine*, and brings it near *Telanthera*. I have also observed the ligulate staminodia of that genus. The leaves are at present wanting for examination. Should they prove alternate, the genus would be well established.

CYPERACEÆ.

*Cyperus vaginatus*.—R. Br., Prodr., 213.

Nickol Bay.

GRAMINEÆ.

*Spinifex longifolius*.—R. Br., Prodr., 198.

Sea-beach about Nickol Bay and Hearson Island.

*Pappophorum commune*.—F. M., Enum. of Plants collect. by A.

C. Gregory at Cooper's Creek, p. 10.

Nickol Bay.

*Andropogon exalatus*.—R. Br., Prodr., 202.

On rocky hills at Nickol Bay.—A tall scented grass.

*Panicum decompositum*.—R. Br. Prodr., 191.

Nickol Bay.—From the seeds, according to Mr Walcott's observations, the natives prepare cakes; the grain was used formerly by the aborigines on the Murray River for the same purpose.

III. *Extracts from Indian Letters from Dr CLEGHORN.* Communicated by Professor BALFOUR.

In one of the letters, dated Punjab, 18th October 1862, Dr Cleghorn said:—"In fulfilment of Lord Canning's instructions, I have just completed one of the most extensive and adventurous journeys ever made on the Himalaya, and from the rapid nature of the movements, often very fatiguing. It has been my duty to follow the flexures of four of the great Punjab rivers (Sutlej, Beas, Ravi, and Chenab) from the plains up to the highest points where timber of value is found to grow. In some places I diverged to examine the main tributaries, or to test the amount of breakage in many of the timber slides."