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The Wendlands of Herrenhausen Gardens (Hanover, Germany): a study of their Australian plant specimens in the herbarium of the University of Goettingen (GOET)

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Abstract. Between 1778 and 1903, three successive generations of the Wendland family were Court Gardeners at the Royal Gardens of Herrenhausen, Hanover, Germany. In addition to their horticultural responsibilities, they published several important taxonomic accounts, some involving Australian plants. Johann Christoph Wendland (1755–1828) (J.C.Wendl.) established the endemic Australian genera Angianthus J.C.Wendl. (Asteraceae), Hakea Schrad. & J.C.Wendl. (Proteaceae) and Waitzia J.C.Wendl. (Asteraceae), and provided novel work on Melaleuca L. (Myrtaceae) and Acacia Mill. (as Mimosa L; Fabaceae); Heinrich Ludolph Wendland (1792–1869) (H. L.Wendl.) provided novel and revisionary work on Acacia and Leptospermum J.R.Forst. & G.Forst. (Myrtaceae); and Hermann Wendland (1825-1903) (H. Wendl.) specialised in the palms (Arecaceae) and wrote Palmae Australasicae with Oscar Drude, the foundational work on Australian palms. A search of all the databases and other references accessible to us has resulted in the identification of \sim 148 names of Australian plants in which the author citation includes any of the three Wendlands. Of these, \sim 30 are the currently accepted names. Lectotypes are here proposed for the names Acacia amoena H.L.Wendl., A. crassiuscula H.L.Wendl., A. dolabriformis H.L.Wendl., A. emarginata H.L.Wendl., A. homomalla H.L.Wendl., Aster tomentosus J.C.Wendl., Leptospermum buxifolium H.L.Wendl., L. emarginatum H.L.Wendl. ex Link, L. glomeratum H.L.Wendl., Melaleuca linearis Schrad. & J.C.Wendl., M. thea Schrad. & J.C.Wendl., Passiflora glabra J.C.Wendl., Protea nectarina J.C.Wendl., P. pulchella Schrad. & J.C.Wendl., Pultenaea daphnoides J.C.Wendl., P. linophylla Schrad. & J.C.Wendl., P. retorta J.C.Wendl. and Tristania subverticillata H.L.Wendl. Figures are provided of all the proposed lectotypes housed in GOET.

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Introduction

The Wendland 'botanical dynasty' at the Royal Gardens of Herrenhausen, Hanover, namely, Johann Christoph Wendland (1755–1828), Heinrich Ludolph Wendland (1792–1869) and Hermann Wendland (1825–1903) (herein as JCW, HLW and HW respectively), is little known in Australia and the significance of their body of work on Australian vascular plants is largely unacknowledged. A progressive digitisation of specimens from the Wendland's former Herrenhausen herbarium, now in the herbarium of the University of Goettingen (GOET), has prompted a critical examination of Australian taxa associated with the Wendlands. The present research aims to identify all the names of Australian taxa described by the Wendlands, and to provide notes on nomenclature and typification.

The complete output of taxonomic work by the Wendlands involved many plant families from varied locations. Almost

980 novel names can be attributed to them (The International Plant Name Index, see www.ipni.org/ipni, accessed March 2018). They described only vascular plants, and the majority of those described by JCW and HLW were from cultivated plants in Herrenhausen Gardens. Approximately 195 novel taxa are associated with JCW, predominantly in Ericaceae (Erica L.) and less so in Geraniaceae (Pelargonium L'Hér.) and Rutaceae (Diosmeae). His earliest taxonomic work was in 1796, in which he, coincidentally, described an Australian species, Protea pulchella Schrad. & J.C.Wendl. [=Petrophile pulchella (Schrad. & J.C.Wendl.) R.Br.] (Schrader and Wendland 1796). All JCW's Australian taxa (~41 names) were either described or illustrated by him from plants cultivated at Herrenhausen Gardens. Approximately 150 novel taxa are associated with HLW, mostly in the Cactaceae, Rutaceae (Diosmeae) and Fabaceae (Acacia Mill.). Australian taxa were included among his earliest botanical works, including a summary of the Dryandra R.Br. species cultivated at Kew (Wendland 1819a), followed by the description of several Acacia species, the first being Acacia pugioniformis H.L.Wendl. [=A. brownii (Poir.) Steud.]. HLW's subsequent work on Australian taxa was to focus primarily on Acacia and with some minor work on Leptospermum J.R.Forst. & G.Forst. Apart from a few exceptions, HLW's Australian taxa (~22 names) were described and illustrated from living plants cultivated at Herrenhausen Gardens. In contrast to his grandfather and father, HW is associated with ~710 novel taxa, predominantly in Arecaceae (~640 taxa: ~25 for Australia), and less so in Bromeliaceae, Cyclanthaceae (Carludovica Ruiz & Pav.). Gesneriaceae (Saintpaulia H.Wendl.) and Pandanaceae (Pandanus Parkinson). HW's earliest nomenclatural work was in 1851, describing an American orchid, Trichopilia albida H.Wendl. [=Trichopilia fragrans (Lindl.) Rchb.f.] (Wendland 1851). The professional and private lives of the Wendlands and their work at Herrenhausen Gardens are well researched and the most useful publications include von König (2006), Peters (2013), von Schwerin (2013) and Rettich (2016).

Australian plants in Europe

Following colonisation in 1788, Australian plants were regularly sent to England to satisfy a fashionable interest in the unusual flora and the Royal Garden at Kew became the centre of their early cultivation and dissemination (Cavanagh 1990; Nelson 1990). The French had also sent exploration voyages to Australia and they returned with seeds and plants, which were then grown in French gardens including Malmaison and the Jardin des Plantes in Paris (Hamilton and Bruce 1998; Hamilton 1999). The Australian flora was considered 'novel' and 'outlandish' and many gardens and institutions attempted to grow them with varying success (Knight 1809). Seed merchants, such as Lee and Kennedy of Hammersmith near London, and commercial horticultural firms such as Loddiges, were also active in the acquisition and distribution of Australian plants (Lee 1810; Willson 1961; Morley and Toelken 1988). An interest in horticulture for its own sake soon developed and this, coupled with taxonomic activities, initiated the description of new species on the basis of cultivated specimens in European gardens.

Aiton (1810, 1811*a*, 1811*b*, 1812, 1813) recorded all the species growing at Kew up to 1813, which included ~230 names of Australian plants. In France, in 1803–1804, at least 65 Australian species were reported as growing in Malmaison (Ventenat 1803, 1804) and, in Germany, over 50 species were listed in the Berlin Botanic Garden in 1808 (Willdenow 1809). Schrader (1795) noted that Australian species were among the most rapidly increasing accessions at Herrenhausen Gardens compared with other countries of origin. Approximately 120 Australian species were being grown at Herrenhausen in 1826 (Anonymous 1826).

Among the first Australian plants to be grown and flowered at Herrenhausen was *Sophora juncea* Schrad. [=*Viminaria juncea* (Schrad.) Hoffmanns.]. This was subsequently described on the cultivated specimens with the origin noted as 'Habitat in Novae Hollandiae sinu Botany-Bay' (Schrader 1795). Schrader's description was accompanied by an illustration by JCW. It is not known how the plants were acquired by Herrenhausen. There appears to be no direct connection between German collectors and the acquisition of materials for cultivation of Australian plants in Germany until at least the 1840s, when Ludwig Preiss visited Western Australia and returned with herbarium specimens as well as propagation materials, which were subsequently distributed in Germany (Wendland 1842). Australian plants at Herrenhausen would have been acquired through donations and exchanges with Kew Gardens, from commercial seed merchants and nurseries based in England, and from several French and German gardens.

The Wendland herbarium at Herrenhausen Gardens

Of the estimated 15 000 specimens in the Herrenhausen herbarium (now held in GOET), most were collected or acquired by the Wendlands. Of these, ~10 000 are arranged in 125 fascicles, sorted in the Linnean system and mounted on small sheets of $\sim 21 \times 34$ cm. This larger portion has mainly been attributed to HLW, but also contains specimens of JCW (Wagenitz 1972). The labels of most specimens have no collection date, but those with a date have been collected between 1780 and 1835. Although the majority of specimens were collected from cultivated plants in Herrenhausen Gardens, some were collected from other botanic gardens such as Berlin, Göttingen and Vienna. Not all specimens were collected by JCW and HLW. Other collectors, especially of wild-collected material, include Friedrich Gottlieb Bartling (1798-1875), Samuel Brunner (1790–1844), Jakob Friedrich Ehrhart (1742–1795; from 1780, a botanist at Herrenhausen Gardens), Christian Heinrich Friedrich Hesse (1772-1832), Martin Hinrich Carl Lichtenstein (1780-1857), Karel Bořiwoj Presl (1794-1852), Friedrich Adolph Roemer (1809-1869), Aloys Traunfellner (1782-1840) and Carl Ernst August Weihe (1779–1834). These specimens document the connections to other researchers and illustrate the active role played by the Wendlands in the exchange and acquisition of herbarium specimens (Wagenitz 1972, 1982). In contrast to JCW and HLW, HW did not extend the herbarium created by them, but built up his own herbarium that consisted of two parts. One part contains 1069 palm specimens mounted on large format sheets of $\sim 40 \times 70$ cm, and the other part, of ~ 1500 specimens, was collected during his journey to Central America in 1856-1857. The Herrenhausen herbarium remained under the control of Herrenhausen Gardens until the House of Hanover sold the gardens to the city of Hanover in 1936. The greenhouse at Herrenhausen Gardens with the living collection was destroyed during World War II and not restored. The herbaria were preserved and later donated to the University of Goettingen in 1969, so as to make them accessible to scientists (Wagenitz 1972). The Herrenhausen specimens are differentiated from the general GOET collections by a unique label stating that origin was the 'herbarium of the Royal Gardens of Herrenhausen near Hannover donated by Prince Ernst August in December 1969'.

In addition to the Herrenhausen herbarium at GOET, materials collected by the Wendlands can be found in several

other herbaria. Searches on the JSTOR database (see http:// plants.jstor.org, accessed October 2018) showed specimens collected under the name 'Wendland' in the following herbaria: AMES (8 specimens), B (8), BM (12), BR (12), C (3), F (5), G (14). GOET (25, although not connected to the abovementioned Herrenhausen collection), K (51), L (32), M (1), MPU (1), NY (4), P (3), S (3), SI (1) and US (2). Finally, not all parts of the former Herrenhausen herbarium were donated to the University of Goettingen. Approximately 650 specimens are stored at the Gottfried Wilhelm Leibniz Bibliothek in Hanover. These specimens have been digitised (Gottfried Wilhelm Leibniz Bibliothek, see https://www.gwlb.de, accessed March 2018) and consist mainly of plants collected in Germany and Switzerland or cultivated plants from Herrenhausen Gardens. Among the cultivated plants are some Australian taxa, but the only species in this collection relevant to our present study is Billardiera scandens Sm. The specimen of B. scandens was collected in 1843, which was 44 years after JCW published the species under the name B. canariensis J.C.Wendl. (now a synonym of B. scandens), so it cannot be regarded as original material. Other specimens from the Herrenhausen Gardens are to be found in the herbarium of Hanover University (HAN). This herbarium was transferred to HBG in 2000 and, unfortunately, has not been made accessible since then. It is likely that some Wendland material is located in HAN. For example, the entry for Carludovica serpens H.Wendl. in Tropicos.org (accessed 17 July 2018) includes the information that the type of that name is housed at HAN.

Both JCW and HLW were accomplished illustrators (Sawyer 1971; Sitwell and Blunt 1989; Peters 2013; Fischer 2016), and they displayed a clear understanding of the intricacies of diagnostic characters and the value of their illustrations for identification purposes. Of considerable interest are the illustrations from the Herrenhausen Gardens archives that are now conserved in the Gottfried Wilhelm Leibniz Bibliothek. These include almost 400 illustrations by JCW 1788-1791 of plants growing in Herrenhausen Gardens (Peters 2013). The only illustrations of Australian species that we have located in this collection are of the widespread taxa Capparis spinosa L., Hibiscus heterophyllus Vent. and Lobelia longiflora L., but no origin or accession details were included. The works of HLW in the same collection include ~25 landscapes of European gardens, from c. 1820, ~80 plant illustrations including palms in the Herrenhausen Gardens collection from c. 1850 and 43 Stapeliads faithfully copied, in 1814, from Francis Masson's 1796 monograph on the Stapeliae (Apocynaceae). In addition to these, there are several minor sketches and working drawings of palms, mainly flowers and fruits, by HW held in the Arecaceae collections at GOET.

Materials and methods

This work is based primarily on a survey that sought to identify original material of the Wendland's taxonomic novelties for Australia. Although the Wendland collections at GOET have been housed there since 1969 (Wagenitz 1972), it has been possible to investigate the specimens more thoroughly only because of the current, and partly completed, digitisation project, which goes under the project title of 'Forschungsprojekte Kulturelles Erbe – Sammlungen und Objekte', Förderprogramm PRO*Niedersachsen. Data will be made available online through the Global Biodiversity Information System (GBIF) upon completion of the project.

In addition to the specimens from the Herrenhausen herbarium incorporated into GOET, we searched for original Wendland material in the general and type herbarium at GOET and in other herbaria that were suspected of housing relevant specimens, such as B, G, H, HAL, LD and MEL. Herbarium codes follow Index Herbariorum (see http://sweetgum.nybg.org/science/ih/, accessed March 2018).

Data on collectors of specimens housed in GOET and location of their herbaria are based mainly on Index Collectorum (Wagenitz 1982), and information on type and original material collections were searched online in JSTOR (see http://plants.jstor.org). Information on nomenclature was obtained from Tropicos.org (Missouri Botanical Garden, accessed 17 March 2018), The Plant List (ver. 1.1, see http:// www.theplantlist.org, accessed March 2018), The International Plant Names Index (see www.ipni.org/ipni), the Australian Plant Name Index (see https://www.anbg.gov.au/apni, accessed March 2018) and the International Code of Nomenclature for algae, fungi, and plants (ICN: Melbourne Code; McNeill et al. 2012; Turland et al. 2018). Digitised literature was examined online primarily at Biodiversity Heritage Library (see https:// www.biodiversitylibrary.org, accessed March 2018), Biblioteca Digital Real Jardín Botánico Madrid (see http://bibdigital.rjb. csic.es/ing/index.php, accessed March 2018), Gottfried Wilhelm Leibniz Bibliothek (see https://www.gwlb.de), Hathi Trust (see https://www.hathitrust.org, accessed March 2018) and Niedersächsische Staats- und Universitätsbibliothek Göttingen (see https://www.sub.uni-goettingen.de/sub-aktuell, accessed October 2018).

A brief note is here necessary to address the publication dates of JCW's *Collectio Plantarum*, in which several novel Australian taxa were published. There are several versions of this publication bearing various dates and arrangements of the illustrations. For consistency, and in deference to inherent discrepancies, we follow the issue numbers and dates used by the Australian Plant Name Index (see https://www.anbg.gov.au/apni).

Taxonomy and nomenclature

Both JCW and HLW worked in a taxonomic environment in which the direct reference to individual specimens in the taxon protologue and typification of names were concepts that were only beginning to be developed. This has lent itself to inconsistencies and uncertainty with typifying their names. In contrast, the later work of HW was distinctly 'modern'. Although the very early work of HW did not include direct reference to individual specimens (for example, see Wendland 1851, 1854), from 1856 onward, he consistently referenced specimens in association with his new names (for example, see Wendland 1856).

A re-examination of typification of all the Wendlands' novel names for Australian taxa has been undertaken here on the basis of the relevant Articles and Notes as proposed in the ICN: Melbourne Code (McNeill *et al.* 2012). We have paid particular attention to the summary published by McNeill (2014) and his suggestions for best practice are followed here. Considerable inconsistencies were uncovered in previous work on the Wendland names and these are discussed below in reference to individual taxa.

The identification of 'original material' was a primary factor in our designation of typification status (McNeill et al. 2012, see Article 9.3, Notes 2-4, for a definition of original material). It appears that original material, related to the many names proposed by JCW and HLW, was, in most cases, specimens taken from cultivated plants in Herrenhausen Gardens and kept in the Herrenhausen herbarium. To unambiguously determine whether an individual herbarium specimen is original material is challenging in our case, because very little labelling or other documentation were provided by either JCW or HLW, but the individual collector can otherwise be identified by their handwriting most often consisting only of the name of the taxon in question and a few minor notes. This situation then excludes any specimens, associated with the names established of JCW and HLW, to be designated as holotypes because it cannot be shown that a single specimen (or illustration) was the only element on which the validating description or diagnosis was based. In consequence, names are lectotypified by specimens that can be deemed to be original material (see ICN Art. 9, Melbourne Code (McNeill et al. 2012; McNeill 2014).

Where typification has been previously proposed, we provide a critical examination and amendments if necessary. Because neither JCW nor HLW ever cited individual herbarium specimens, the most reasonable action is to choose specimens that are known to have been cultivated in Herrenhausen Gardens. Many of their taxonomic publications included a general statement, either in the title or in the introduction, that the descriptions were based on cultivated specimens. However, individual taxon treatments did not include such detail; however, if the specimens could be reasonably identified as having been taken from the plant used as the basis of the protologue, then they are here used in typification and designated as lectotypes.

Results

The plants described by the Wendlands are listed in an alphabetical order based on family, then genus and species. Publication details are provided, but only names with a taxonomic relationship to the Wendlands are included. Heterotypic synonyms are not listed, except in the cases of replacement names or if otherwise taxonomically relevant (e.g. basionyms of new combinations). An assessment of typification is provided for Wendland names only (but not of basionyms of other authors where new combinations are provided) and, where necessary, the relevant explanations and justifications are presented. Notes provide a history of the name, if an explanation is required, and any related taxonomic work. Currently used names are in bold, and if different to the entry head name, follow in brackets.

Arecaceae

The taxa in Arecaceae presented here were all described by or are associated with HW. The elder Wendlands produced no novel work on this family. HW is recognised as one of the most active and productive palm taxonomists with the establishment of more palm genera than any other taxonomist (Tomlinson 1989; Dowe 2018). For Australia (including Lord Howe Island and Norfolk Island) HW (mostly in collaboration with Drude) established six new genera and described 17 species and three varieties (Wendland 1858; Wendland and Drude 1875). The present work recognises ~60 names (subgenera, genera, species and subspecies) of Australian palms associated with HW.

Archontophoenix H.Wendl. & Drude, Linnaea 39: 182, 211 (1875)

Saguaster sect. Archontophoenix (H.Wendl. & Drude) Kuntze, Lex. Gen. Phan. 495 (1903).

Type: Archontophoenix alexandrae (F.Muell.) H.Wendl. & Drude.

Notes

A genus of six species endemic to eastern Australia (Dowe and Hodel 1994).

Archontophoenix alexandrae (F.Muell.) H.Wendl. & Drude, Linnaea 39: 212 (1875)

Ptychosperma alexandrae F.Muell., Fragm. 5: 47, 213, tab. 43, 44 (1865).

Type citation: 'In virgultis densis silvarum quam maxime umbrosarum ad flumen Fitzroy's River Australiae capricornicae orientalis. Bowman.' *Type*: Queensland. Port Curtis District: Fitzroy R., scrub near upper flats, Jul 1866, *Bowman s.n.* (holo: MEL 516571–516577! (seven sheets)).

Archontophoenix alexandrae var. schizanthera H.Wendl. & Drude, Linnaea 39: 212, tab. 3, fig. 6, numbers 1–5 (1875)

[=Archontophoenix alexandrae (F.Muell.) H.Wendl. & Drude, Linnaea 39: 212 (1875)].

Type citation: 'Varietas ad sinum 'Rockingham Bay' lecta Julii mens. 1866.' *Type*: Australia, Queensland, Rockingham Bay, July 1866, *J. Dallachy s.n.* (holo: MEL 2148280-81!, *fide* J.L.Dowe & D.R.Hodel, *Austrobaileya* 4(2): 231 (1994)).

Notes

The protologue included detailed descriptions of the flowers and fruit. The specimen MEL 2148280-81 consists only of flowers and fruit and is treated as the holotype. Dowe and Hodel (1994) incorrectly cited the collector as E. Bowman, but that is here amended to J. Dallachy on the basis of an examination of handwriting on the specimen labels.

Archontophoenix veitchii H.Wendl. & Drude, Linnaea 39: 213, tab. 2, fig. 8 (1875)

[=Ptychosperma elegans (R.Br.) Blume, Rumphia 2: 118 (1843)].

Type citation: 'Australasiae ora orientalis subtropica: 'Rockhampton'! (ubi locis humidis et inter saxa umbrosa leg. O'Shanesy Aug. mens. 1868) et in insula sinus Rockinghamensis 'Goold Isl'! (ex qua earn introduxit Veitch).' *Type*: Australia, Queensland, Goold [Gould] Island, Rockingham Bay, Aug.

1868, P.O'Shanesy 12 (holo: MEL 2137830!; iso: MEL 2148411!, fide J.L.Dowe, Austral. Palms 217 (2010)).

Ptychosperma veitchii H.Wendl., Linnaea 39: 213 (1875), nom. inval., pro. syn.

Notes

Partly described from a palm cultivated at Herrenhausen. 'Folium in Australasiâ lectum exquisite cum specie adhuc indescriptâ Horti Herrenhusani (ex insulâ 'Goold Island' introductâ) congruit, ita ut plantas vivas compare liceret' [translates as 'A careful comparison of the leaf from Australia with those from live plants in Herrenhausen Gardens (introduced from 'Gould Island') showed that there was a good similarity]'. No specimens of the 'live plants in Herrenhausen Gardens' have been located in the Herrenhausen herbarium at GOET. HW cited *P. veitchii* as a synonym of *A. veitchii* (= *P. elegans*). Named for John Gould Veitch (1839–1870), English nurseryman.

Calamus muelleri H.Wendl., Linnaea 39: 193, tab. 2, fig. 1, numbers 1–11 (1875)

Palmijuncus muelleri (H.Wendl.) Kuntze, Revis. Gen. Pl. 2: 733 (1891).

Type citation: 'Australasiae ora orientalis extratropical; scil. ad 'Clarence River'! (leg. Dr Beckler), 'Brisbane River', 'Richmond River'! (leg. Henderson), 'Archers Station' et 'Creek', 'Moreton Bay'.' *Type*: Australia, New South Wales, Clarence River, *s. dat.*, *Dr Beckler s.n.* (lecto: MEL 2132933-34!; isolecto: GOET 025104! (mounted on two sheets), *fide* J.L.Dowe, *Austral. Palms* 68 (2010)).

Notes

Named for Baron Sir Ferdinand Jacob Heinrich von Mueller (1825–1896), German-born Australian botanist.

Calamus muelleri var. macrospermus H.Wendl., Linnaea 39: 194, tab. 2, fig. 1, numbers 9–11 (1875)

[=Calamus muelleri H.Wendl., Linnaea 39: 193 (1875)].

Type citation: "Richmond River'! (leg. Henderson)'. *Type*: Australia, New South Wales, Richmond River, Jan. 1868, *J.A. Henderson 155* (holo: MEL 2132931!, *fide* J.L.Dowe, *Austral. Palms* 68 (2010)).

Calamus radicalis H.Wendl. & Drude, Linnaea 39: 195 (1875)

Palmijuncus radicalis (H.Wendl. & Drude) Kuntze, Revis. Gen. Pl. 2: 733 (1891).

Type citation: 'Australasiae ora septentrionalis: ''Port Mackey'! (leg. Nernst.).' *Type*: Australia, Queensland, 35 miles north of Port Mackay (= Tully River), *s. dat., J. Nernst* 7 (holo: MEL 534956-57!, *fide* J.L.Dowe, *Austral. Palms* 70 (2010)).

Caryota albertii F.Muell. ex H.Wendl., Linnaea 39: 221 (1875)

Caryota rumphiana var. albertii (F.Muell. ex H.Wendl.) F.M.Bailey, Queensl. Agric. J. 1: 233 (1897).

Type citation: 'Australasiae ora septentrionalis ad Caput York'! leg. Dalmel.' *Type*: Australia, Queensland, Cape York, Somerset, *s. dat., E. Daemel s.n.* (holo: MEL 0067693!; iso: BO *n.v*, GOET 025244!, *fide* J.L.Dowe, *Austral. Palms* 143 (2010)).

Notes

Named for Prince Albert, Prince of Saxe-Coburg and Gotha (1819–1861), who married Queen Victoria in 1840 and received the title of Prince Consort.

Clinostigma mooreanum (F.Muell.) H.Wendl. & Drude, Linnaea 39: 218 (1875)

[=Lepidorrhachis mooreana (F.Muell.) O.F.Cook, J. Heredity 18: 408 (1927)]. Kentia mooreana F.Muell., Fragm. 7: 101 (1870).

Type citation: 'In cacumine montis Gower insulae Lord Howe's Island, altitudine 2500 pedum.' *Type*: not seen.

Notes

Named for Charles Moore (1820–1905), Director of Sydney Botanic Gardens 1848–1896.

Clinostigma section Lepidorrhachis H.Wendl. & Drude, Linnaea 39: 218 (1875)

[=Lepidorrhachis (H.Wendl. & Drude) O.F.Cook, J. Heredity 18: 408 (1927)].

Type: Clinostigma mooreanum (F.Muell.) H.Wendl. & Drude.

Notes

A monotypic genus endemic to Lord Howe Island (Dowe 2010).

Grisebachia Drude & H.Wendl., Nachr. Königl. Ges. Wiss. Georg-Augusts-Univ. 1875 (2): 55 (1875), nom. illeg., non Klotzsch (1838) [Ericaceae]

[=Howea Becc., Malesia 1: 41 (1877)].

Type: Grisebachia belmoreana (C.Moore & F.Muell.) Drude & H.Wendl.

Notes

Drude and Wendland's use of the name *Grisebachia* was illegitimate, the name had been previously used by Klotzsch for a genus in Ericaceae.

Grisebachia belmoreana (C.Moore & F.Muell.) Drude & H.Wendl., *Nachr. Königl. Ges. Wiss. Georg-Augusts-Univ. 1875* (2): 58 (1875)

[=Howea belmoreana (C.Moore & F.Muell.) Becc., Malesia 1: 66 (1877)]. Kentia belmoreana C.Moore & F.Muell., Fragm. 7: 99 (1870).

Type citation: 'In insula Lord Howe's Island frequens, sid vix ultra altitudinem 1000' reperienda; Moore & Carron.' *Type*: not seen.

Named for Sir Somerset Richard Lowry-Corry (1835–1913), 4th Earl of Belmore, Governor of New South Wales 1868–1872.

Grisebachia forsteriana (C.Moore & F.Muell.) Drude & H.Wendl., Nachr. Königl. Ges. Wiss.Georg-Augustus-Univ. 1875 (2): 58 (1875)

[=Howea forsteriana (C.Moore & F.Muell.) Becc., Malesia 1: 66 (1877)]. Kentia forsteriana C.Moore & F.Muell., Fragm. 7: 100 (1870). Type: not cited.

Notes

Illustrated in *Linnaea* 39: tab. 4, fig. 2, numbers 1–6 (1875), based on plants growing in Herrenhausen Gardens. Named for William Forster (1818–1882), active in New South Wales politics 1856–1876.

Hedyscepe H.Wendl. & Drude, Linnaea 39: 178, 203 (1875)

Kentia subg. Hedyscepe (H.Wendl. & Drude) Becc., Malesia 1: 39 (1877).

Type: Kentia canterburyana C.Moore & F.Muell.

Hedyscepe Drude & H.Wendl., Nachr. Königl. Ges. Wiss. Georg-Augusts-Univ. 1875: 55 (1875), nom. inval., nom. nud.

Notes

A monotypic genus endemic to Lord Howe Island (Dowe 2010).

Hedyscepe canterburyana (C.Moore & F.Muell.) H.Wendl. & Drude, Linnaea 39: 204, tab. 1, fig. 4 (1875)

Kentia canterburyana C.Moore & F.Muell., Fragm. 7: 101 (1870).

Type citation: 'In regionibus altioribus insulae Lord Howe's Island, nempe altitudine 1000–2000'. Moore et Fitzgerald.' *Type*: not seen.

Notes

HW provided the new combination based on *Kentia canterburyana* C.Moore & F.Muell., with a much expanded description and illustrations. Named for Sir John Henry Thomas Manners-Sutton (1814–1877), 3rd Viscount Canterbury, Governor of Victoria 1866–1873.

Hydriastele H.Wendl. & Drude, Linnaea 39: 180, 208 (1875)

Kentia subg. Hydriastele (H.Wendl. & Drude) Becc., Malesia 1: 39 (1877); Hydriastele H.Wendl. & Drude sect. Hydriastele Kuntze, Lex. Gen. Phan. 289 (1903).

Type: Hydriastele wendlandiana (F.Muell.) H.Wendl. & Drude.

Notes

A genus of \sim 50 species, with three species in northern Australia (Baker and Loo 2004).

Hydriastele wendlandiana (F.Muell.) H.Wendl. & Drude, *Linnaea* 39: 209 (1875)

Kentia wendlandiana F.Muell., Fragm. 7: 102 (1870).

Type citation: 'Ad flumen Liverpool's River; B. Gulliver.' *Type*: Australia, Northern Territory, Liverpool River, 25 May 1867, *B.Gulliver s.n.* (holo: MEL 67687!, MEL 67688!, MEL 67689! [3 sheets]'; iso: BRI AQ 0024190!, GOET 026008!).

Notes

The specimen GOET 026008 is here added as an additional isotype. It consists of flowers and fruit only. The label includes 'Kentia Liverpool's River' in the hand of Ferdinand Mueller and appears to be a fragment of the holotype. Named for Hermann Wendland (1825–1903), German horticulturist and botanist.

Hydriastele wendlandiana var. microcarpa H.Wendl. & Drude, Linnaea 39: 210, tab. 2, fig. 6, numbers 1–5, fig. 7 (1875).

[=Hydriastele wendlandiana (F.Muell.) H.Wendl. & Drude, Linnaea 39: 209 (1875)].

Type citation: 'Flumen 'O'Connel River.' *Type*: Australia. Queensland. O'Connell River, *s. dat.*, *J. Nernst s.n.* (holo: MEL 2148446!, *fide* J.L.Dowe, *Austral. Palms* 245, 249 (2010)).

Kentia acuminata H.Wendl. & Drude, *Linnaea* 39: 207, tab. 2, fig. 4, numbers 1–5 (1875).

[=Carpentaria acuminata (H.Wendl. & Drude) Becc., Ann. Jard. Bot. Buitenzorg 2: 128 (1885)].

Type citation: 'Australasiae ora septentrionalis ad sinum Carpentaria in terra Arnhemica, loco 'Escape Cliffs' dicto! (leg C. Hulls.).' *Type*: Australia, Northern Territory, Escape Cliffs, *s. dat., C. Hulls s.n.* (holo: MEL 2274016!, *fide* J.L.Dowe, *Austral. Palms* 224 (2010)).

Notes

This is the type for the genus *Carpentaria* Becc. *C.Hulls s.n.* (MEL 2274016) is here regarded as the holotype, supported by the fact that Ferdinand Mueller sent many MEL specimens to Herrenhausen on loan. These were examined by Wendland, cited by him in the protologues and later returned to Mueller. This process is relevant for most of the MEL specimens that represent types for Arecaceae. History of the exchange of specimens between MEL and Herrenhausen was investigated by Dowe (2018).

Laccospadix H.Wendl. & Drude, *Linnaea* 39: 178, 205 (1875)

Calyptrocalyx subg. Laccospadix (H.Wendl. & Drude) Drude, Nat. Pflanzenfam. 2(3): 69 (1887); Saguaster sect. Laccospadix (H.Wendl. & Drude) Kuntze, Lex. Gen. Phan. 495 (1903).

Type: Laccospadix australasicus H.Wendl. & Drude.

Laccospadix Drude & H.Wendl., Nachr. Königl. Ges.Wiss. Georg-Augusts-Univ. 1875 (2): 59 (1875), nom. inval., nom. nud.

Notes

A monotypic genus endemic to north-eastern Queensland (Dowe 2010).

The Wendlands' Australian plant specimens in GOET

Laccospadix australasicus H.Wendl. & Drude, *Linnaea* 39: 206, tab. 2, fig. 3, numbers 1–4 (1875)

Calyptrocalyx australasicus (H.Wendl. & Drude) Hook.f., Gen. Pl. 3: 903 (1883).

Type citation: 'Australasiae ora tropica orientalis, ubi ad sinum 'Rockingham Bay'! haec Palma lecta est 8. Febr. 1866 in tractibus montium litus comitantibus.' *Type*: Australia, Queensland, Rockingham Bay, 8 Feb. 1866, *J.Dallachy 27* (holo: MEL 2148240!, MEL 2148245! (mounted on two sheets); iso: BO *n.v.*, K 000321306!, K 000321307!, *fide* J.L. Dowe, *Austral. Palms* 207 (2010)).

Licuala australasica H.Wendl., Palmiers 249 (1878), nom. inval., nom. nud.

Notes

Dowe (2010) attributed this name to HW who provided a taxonomic list of all known palm names in *Les Palmiers* (de Kerchove de Denterghem 1878), under the subtitle *Index général des noms et synonymes des espècies connues*. Although novel names in the *Index général* have been attributed to Kerchove by some researchers, the names were provided by Wendland, as indicated in a footnote on the first page of the *Index*. However, the application and identity of this name is uncertain. (See also below, *Livistona filifera*, *Livistona mülleri* and *Seaforthia robusta*.)

Licuala muelleri H.Wendl. & Drude, *Linnaea* 39: 223 (1875)

[=Licuala ramsayi (F.Muell.) Domin var. ramsayi, Biblioth. Bot. 85: 500 (1915)].

Type citation: 'Australasiae septentrionalis, ad 'Dalrymplis Cape' (Januario mensi 1866 lecta).' *Type*: Australia, Queensland, Dalrymple's Gap, Jan. 1866, *J.Dallachy s.n.* (holo: MEL 67694-96!; iso: BO *n.v., fide* A.S.Barfod & J.L. Dowe, *Palms* 49(1): 19 (2005)).

Pericycla muelleri Salomon, nom. inval., pro. syn., Palmen 138 (1887).

Notes

Named for Baron Sir Ferdinand Jacob Heinrich von Mueller (1825–1896), German-born Australian botanist.

Linospadix H.Wendl., *Linnaea* 39: 177, 198 (1875)

Bacularia sect. Linospadix (H.Wendl.) Kuntze, Lex. Gen. Phan. 57 (1903).

Type: Linospadix monostachyos (Mart.) H.Wendl.

Notes

A genus of seven species in Australia (5 spp.) and New Guinea (2 spp.; Dowe 2010).

Linospadix monostachyos (Mart.) H.Wendl., Linnaea 39: 199 (1875)

Areca monostachya Mart., Hist. Nat. Palm. 3: 178 (1838).

Type citation: 'Crescit in udis sylvarum, secundum fluvium Hastings, in portu Macquarie, in Nova Wallisia australi, latitudine australi 31° 30': Allan Cunningham.' *Type*: not seen.

Livistona filifera H.Wendl., Palmiers 250 (1878), nom. inval., nom. nud.

Notes

This name was applied in horticulture to *Livistona inermis auct. non* R.Br., a name incorrectly used for *L. decora* (W.Bull) Dowe in the late 1800s (Dowe 2010). However, without a description or specimen, it cannot be placed.

Livistona mülleri H.Wendl., Palmiers 68, 250 (1878), nom. inval., nom. nud.

Notes

The lack of description and specimens makes it impossible to place this taxon. This taxon is not associated with *Licuala muelleri* F.M.Bailey, *Queensl. Fl.* 5: 1683 (1902), but was a name included in a list of supposedly Australian palm species (de Kerchove de Denterghem 1878, p. 68; Dowe 2010).

Ptychosperma capitis-yorkii H.Wendl. & Drude, Linnaea 39: 217 (1875)

[=Ptychosperma elegans (R.Br.) Blume, Rumphia 2: 118 (1843)]. Saguaster capitis-yorkii (H.Wendl. & Drude) Kuntze, Revis. Gen. Pl. 2: 735 (1891); Actinophloeus capitis-yorkii (H.Wendl. & Drude) Burret, Repert. Spec. Nov. Regni Veg. 24: 266 (1928).

Type citation: 'In Australasiae septentrionalis silvis umbrosis ad Caput 'York' (Somerset)! leg. Veitch; Herb. Wendland.' *Type*: Australia, Queensland, Somerset, *s dat.*, (*J.G.*) *Veitch s.n.* (holo: GOET, *fide* F.B.Essig, *Allertonia* 1: 433 (1978) (presumed lost or destroyed, *fide* J.L.Dowe, *Austral. Palms* 217 (2010)).

Notes

Essig (1978, p. 433) noted that 'A type for *Ptychosperma capitisyorkii* has not been found, although the authors of the species cited a specimen in Wendland's herbarium collected by one of the Veitches. In the absence of that specimen, the description by Wendland and Drude may serve as the type'. No specimens related to this taxon, in either GOET or MEL, have been located.

Ptychosperma cunninghamiana H.Wendl., *Bot. Zeitung* 16: 346 (1858)

[=Archontophoenix cunninghamiana (H.Wendl.) H.Wendl. & Drude, Linnaea 39: 214 (1875)].

Loroma cunninghamiana (H.Wendl.) O.F.Cook, J. Wash. Acad. Sci.: 5: 118 (1915).

Type citation: 'fand jetzt meine frühere Muthmassung entschieden bestätigt, dass nämlich die *Seaforthiana elegans* hort. und des Bot. Mag. tab. 4961 eine von der *S. elegans* R. Brown's, Bauer's und v. Martius ganz verschiedene Art sei' [translates as 'my earlier speculation that *Seaforthia elegans* that is in cultivation and pictured in *Bot. Mag.* tab. 4961 is an entirely different species than *S. elegans* of R.Brown, Bauer and v. Martius is clearly confirmed']. *Type*: fig. 1–6 of tab. 4961 in W.J. Hooker, *Bot. Mag.* 83 (1857) (lecto, *fide* J.L.Dowe, *Austral. Palms* 176 (2010)).

Seaforthia cunninghamii F.M. Bailey, Compr. Cat. Queensland Pl. 573 (1913), nom. inval., pro. syn.

Notes

The specimen GOET 025015! (mounted on eight sheets) was collected from a palm cultivated at Herrenhausen but there is no evidence to relate it to typification. Named for Allan Cunningham (1791–1839), English-born Australian botanist and explorer.

Ptychosperma drudei H.Wendl. ex Hook.f., Gen. Pl. 3(2): 892 (1883).

Saguaster drudei (H.Wendl. ex Hook.f.) Kuntze, Revis. Gen. Pl. 2: 735 (1891).

Notes

These are unresolved names. Martelli (1935), Essig (1978) and Govaerts and Dransfield (2005) placed them as synonyms of *Archontophoenix alexandrae* but without explanation. The original description was given as '*fructum 2-spermum*', which seemingly excludes *A. alexandrae* because it is only one-seeded. The lack of specimens or a detailed description prevents these names from being conclusively placed. Named for Oscar Drude (1852–1933), German botanist and phytogeographer, Director of Dresden Botanic Garden 1879–1920.

Ptychosperma macarthurii (H.Wendl. ex H.J.Veitch) H.Wendl. ex Hook.f., *Rep. Progr. Condition Roy. Bot. Gard. Kew 1882*: 55 (1884)

Kentia macarthurii H.Wendl. ex H.J.Veitch, Cat. Pl. 26: 15 (1879); Saguaster macarthurii (H.Wendl. ex H.J.Veitch) Kuntze, Revis. Gen. Pl. 2: 735 (1891); Actinophloeus macarthurii (H.Wendl. ex H.J.Veitch) Becc. ex Wigman, Bull. Dép. Agric. Indes Néerl. 31: 12 (1909).

Type citation: 'A very elegant palm with sub-erect leaves and graceful semi-pendulous leaflets, from the neighbourhood of the Katau River in New Guinea.' *Type*: James Veitch & Sons' *Cat. Pl. 1879*, p. 15 (1879) (lecto, *fide* J.L.Dowe, *Palms* 51(2): 94 (2007)).

Notes

Veitch (1879, p. 26) provided no reference to specimens but included an illustration with the protologue. Dowe (2007, p. 94) proposed typification as 'Type: lectotype here designated. Figure of *Kentia macarthurii*, p. 15, James Veitch & Sons' *Cat. Pl.* 1879. 1879.'. This superseded the proposed neotype by Essig (1978, p. 454) which was '*Brass 6376*' and that 'it was collected relatively near the supposed original locality'. The location of where the specimen was housed was not given. Named for Sir William Macarthur (1800–1882), Australian horticulturist, amateur botanist, viticulturist and plant breeder.

Rhopalostylis H.Wendl. & Drude, *Linnaea* 39: 180 (1875) *Type: Rhopalostylis baueri* (Seem.) H.Wendl. & Drude.

Notes

A genus of two species on Norfolk Island and New Zealand (including Kermadec Islands and Chatham Islands) (Dowe 2010).

Rhopalostylis baueri (Seem.) H.Wendl. & Drude, Linnaea 39: 234, tab. 1, fig. 2, numbers 1–3 (1875).

Kentia baueri Seem., Fl. Vit. 8: 269 (1876). Type citation: 'Norfolk Island.' Type: not seen. Areca baueri Hook.f., Fl. Novae-zel. 2: 262 (1853), nom. inval., nom. prov.

Notes

The illustrations in *Linnaea* 39: tab. 1, fig. 2, numbers 1–3 (1875) were based on plants growing in Herrenhausen Gardens. Named for Ferdinand Bauer (1760–1826), Austrian natural history artist.

Saguerus australasicus H.Wendl. & Drude, Linnaea 39:219, tab. 3, fig. 1, numbers 1–3 (1875)

[=Arenga australasica (H.Wendl. & Drude) S.T.Blake ex H.E.Moore, Gentes Herb. 9: 268 (1963)]. Normanbya australasicus (H.Wendl. & Drude) Baill., Hist. Pl. 13: 364, adnot (1895) (as 'australis'), nom. superfl.

Type citation: 'Australasiae ora orientalis tropica, ubi in sinus Rockinghamensis insulis 'Goold Isl.' [Gould] et 'Garden Isl.'! Palmam leg. Dallachy Aug. mens. 1865, neque flores neque fructus observans.'. *Type*: Australia. Queensland. Rockingham Bay, Garden Island, August 1865, *J. Dallachy s.n.* (holo: FI 014205!; iso: BO *n.v.*; GOET 025037!; K 000697814-15!, *fide* J.L.Dowe, *Austral. Palms* 148 (2010)).

Notes

The specimen GOET 025037, here recognised as an additional isotype, lacks the original label but has a label that reads 'Copie der Etiquette des Sammler Dallachy' (copy of the label of the collector Dallachy) and it contains the collection information 'Garden Island, 2nd August 1865'.

Seaforthia robusta H.L.Wendl., Allg. Gartenzeitung 18: 143 (1850), nom. inval., nom. nud.

Notes

Without a description or specimens, the name cannot be placed. HW cited 'Seaforthia robusta Hort. vide Rhopalostylis Baueri Wendl.et Dr.' in the Index Général (p. 257) in Les Palmiers Histoire Iconographique, and the name is possibly referable to that species (i.e. Rhopalostylis baueri (Seem.) H.Wendl. & Drude). Previously, Seaforthia robusta H.L.Wendl. was included in a list of palms cultivated at Herrenhausen Gardens (Wendland 1850).

Asteraceae

Angianthus J.C.Wendl., Coll. Pl. 2: 31 (1808), nom. cons.

Styloncerus sect. Angianthus (J.C.Wendl.) Kuntze, Lex. Gen. Phan. 542 (1903).

Type: Angianthus tomentosus J.C.Wendl.

Angianthus J.C.Wendl. is a conserved name over Siloxerus Labill., Nov. holl. pl. 2: 57 (1806) (McNeill et al. 2006). A genus of ~16 species, endemic to Australia (Bayer et al. 2007).

Angianthus tomentosus J.C.Wendl., *Coll. Pl.* 2: 32, tab. 48 (1808)

Styloncerus tomentosus (J.C.Wendl.) Kuntze, Revis. Gen. Pl. 1: 367 (1891); Siloxerus tomentosus (J.C.Wendl.) Ostenf., Biol. Meddel. Danske Vidensk. Selsk. 3(2): 137 (1921).

Type citation: 'Das Vaterland: Botanybay.' *Type*: Cultivated, Herrenhausen Gardens, 'ex Botany Bay', *s. dat., J.C.Wendland s.n.* (lecto: GOET 001005!; isolecto: GOET 001006!, MEL 543905!, *fide* P.S.Short, *Muelleria* 5(2): 164–166 (1983)).

Notes

Locality information as presented in the protologue by Wendland is erroneous, and the correct locality is probably Petrel Cove (see Short (1983, p. 165, note 2)). The name 'Angianthus tomentosus Wendl.' (on GOET 001005 and GOET 001006) is in the handwriting of HLW and 'Angianthus tomentosus mihi' (on GOET 001006) in the handwriting of JCW.

Aster tomentosus J.C.Wendl., Sert. Hannov. 1(4): 8, tab. 24 (1798)

[=Olearia tomentosa (J.C.Wendl.) DC., Prodr. 5: 252 (1836)].

Type citation: 'Patria: Caput bonae spei.' *Type:* cultivated, Herrenhausen Gardens, *s. dat.*, *J.C.Wendland s.n.* (lecto, here designated: B-W 15822!).

Aster dentatus Andrews, Bot. repos. 1: tab. 61 (1797). Aster ferrugineus H.L.Wendl., Flora 2: 676 (1819), nom. illeg.

Type citation: 'Man kann beide Arten, deren Vaterland Neuholland ist, ausser den angegebenen Kennzeichen noch durch folgendes unterscheiden' [translates as 'Both species, whose native country is New Holland, can be distinguished by the following, apart from the indicated characteristics']. *Type*: cultivated, Herrenhausen Gardens, 'Ex horto Herrenhus', *s. dat., Herb. D. Hahn, s.n.* (syn: GOET 019981!); cultivated, Herrenhausen Gardens, '*Aster ferrugineus* mihi' (in Wendland's handwriting), *s. dat., H.L.Wendland* 1833 (syn: GOET 019980!); cultivated, Herrenhausen Gardens, '*Aster ferrugineus* mihi H.H.' (in JCW's handwriting), *s. dat., H.L.Wendl. s.n.* (syn: GOET 027629!, plants left and bottom).

Notes

Olearia tomentosa is endemic to south-eastern Australia (Atlas of Living Australia 2018), and the geographic origin given in the type citation (Cape of Good Hope, South Africa), is erroneous (see also Jones and Hiepko 1981, p. 344). The specimen (B-W 15822) is considered here as original material because it was provided by JCW to Willdenow (Jones and Hiepko 1981, p. 344). No original material has been found at GOET. The following specimens at GOET (under *Aster tomentosus*) are not considered original material. Cultivated, Herrenhausen Gardens, *s. dat., Herb. D. Hahn s.n.* (GOET 019982!); 'Nova Hollandia orient pr. Port Jackson, *Anderson*

s.n., missit 1834' (GOET 019984!); Locality unknown, *Herb. G.F.W.Meyer* (acquired in 1856) (GOET 019983!).

Willdenow (1803, pp. 2015–2016) included Aster dentatus Andrews in the synonymy of A. tomentosus J.C.Wendl. However, HLW (Wendland 1819b, p. 676) considered that both species, A. tomentosus and A. dentatus, were different taxa and not synonyms as proposed by Willdenow (1803, p. 2015). Therefore, and because he considered that the name A. dentatus Andrews could not be used because of the homonym A. dentatus Thunb., the new name A. ferrugineus H.L.Wendl. (for A. dentatus Andrews) was proposed by HLW. However, A. dentatus Thunb. (from 1800) is 'younger' than A. dentatus Andrews (from 1798) and, therefore, a nom. illeg. (see ICN Art. 53, Melbourne Code (McNeill et al. 2012), for implications of later homonyms). Aster dentatus Thunb. is a synonym of Felicia australis (Alston) E.Phillips (The Plant List, see http:// www.theplantlist.org). Consequently, A. ferrugineus H.L. Wendl. is a nom. illeg.

Waitzia J.C.Wendl., Coll. Pl. 2: 13 (1808)

Helichrysum sect. Waitzia (J.C.Wendl.) Baill., Hist. Pl. 8: 174 (1882), adnot.

Type: Waitzia corymbosa J.C.Wendl.

Notes

A genus of approximately five species, endemic to Australia (Wilson 1992). Named for Karl Friedrich Waitz (1774–1848), amateur botanist and privy councillor of the Duchy of Saxe-Altenburg. Waitz (1805) published works that referenced much of JCW's work on Ericaceae. However, note that Karl Friedrich Waitz is not to be confused with Friedrich August Carl Waitz (1798–1882) whom Black (1929, p. 637) incorrectly reported as the person honoured in the genus name.

Waitzia corymbosa J.C.Wendl., Coll. Pl. 2: 13, tab. 42, fig. a-m (1808)

Type citation: 'Das Vaterland: Neu-Holland ? J.' Type: Illustration in J.C.Wendland, Coll. Pl. 2: tab. 42, fig. a-m (1808) (lecto, fide P.G.Wilson, Nuytsia 8(3): 471 (1992).

Notes

Only one specimen (GOET 027601; ex herb. Wendland Herrenhausen) was found within a folder named '*Waitzia corymbosa* Wendl. H.H.' (H.H. = Hortus Herrenhusanus). It has a printed label 'Dr Steetz, Hamburg' with the following handwritten text: '*Waitzia corymbosa* Wendland var. *benthamiana* nobis cf. Plantae Preissianae, *Leptorhynchos suaveolens* Benth. in Hügel (*Enumeratio* pag.) 64 N. 208. In virgultis inter (nana calcarea) prope oppidulum Freemantle (Swan-River) (in) Nova Hollandia australi-occidentali. (cie) 18 (Decembr) 1832 leg. cl. Dr Preiss Herbar. Preiss No. 12'. Based on this label, the specimen is an isolectotype of *Waitzia corymbosa*. var. *benthamiana* Steetz (= *Waitzia suaveolens* (Benth.) Druce var. *suaveolens*; see also MEL 1585185, Wilson 1992, pp. 472, 473).

Fabaceae

The works on Fabaceae by JCW and more so by HLW can be placed among the Wendlands' most productive taxonomic endeavours. On the basis of sheer numbers, members of the family were among the most frequently grown Australian plants in the early 19th century in European gardens and glasshouses. The opportunities to encounter undescribed taxa enabled novel taxonomy and nomenclature to be attempted. However, a plethora of names and designations from that time has created a complex and sometimes daunting web of taxonomic perplexity. The work of JCW dealt mainly with species that he placed in Mimosa L. and less so in Pultenaea Sm., whereas the work of HLW was based on Acacia, which, by that time, had superseded Mimosa as the correct placement for most taxa. JCW's work was mainly included in his Botanische Beobachtungen (Wendland 1798), whereas that of HLW was included in his Commentatio de Acaciis aphyllis in which he treated 38 taxa, of which 13 were Australian and of which 10 were described as new (Wendland 1820). He also illustrated seven Australian taxa in that publication. The present work recognises ~47 names of Australian species in Fabaceae associated with the Wendlands.

Acacia amoena H.L.Wendl., Comm. Acac. aphyll. 4, 16, tab. 4, fig. a–e (1820)

(Fig. 1.)

Racosperma amoenum (H.L.Wendl.) Pedley, *Austrobaileya* 6(3): 449 (2003).

Type citation: 'Habitat in Novae Hollandia.' *Type*: cultivated, Herrenhausen Gardens, *s. dat.*, *H.L.Wendland s.n.* (lecto, here designated: GOET 004586!).

Notes

Maslin (2001a, p. 262) designated the type as: 'T: 'Habitat in Nova Hollandia (Australia): holo: GOET - without details except specimen folder is annotated by H.L.Wendland 'Acacia amoena Wendl. fil.'. This specimen is GOET 004586. The specimen was annotated as a 'holotype' by Tindale, 6 September 1974. However, because no specimens were cited in the protologue, and it cannot be shown 'that a single specimen (or illustration) was the only element upon which the validating description or diagnosis was based' (ICN Art. 9.3, Melbourne Code, McNeill et al. 2012), no holotype exists, and the name is here lectotypified. Maslin's citation of the GOET specimen as the holotype cannot be treated as effective lecotypification under ICN Art. 9.9 (Melbourne Code, McNeill et al. 2012), because the lectotypification statement does not include the phrase 'designated here' (hic designatus) or an equivalent, as required under Art. 7.10 (Melbourne Code, McNeill et al. 2012).

Acacia angustifolia (Jacq.) H.L.Wendl., Comm. Acac. aphyll. 5, 34 (1820)

[=Acacia suaveolens (Sm.) Willd., Sp. Pl., 4th edn, 4: 1050 (1806)]. Mimosa angustifolius Jacq., Pl. Hort. Schoenbr. 3: 74, tab. 391 (1798). Type citation: 'Crescit ad Port Jackson in New Southwales.' Type: not seen.

Notes

HLW provided the combination based on *Mimosa angustifolia* Jacq., and his description followed Jacquin's original description almost verbatim. The name '*Acacia angustifolia*' was published earlier by Wimmer (1819, p. LI) for a plant cultivated in 'Schloss bei Fulda'; however, Wimmer's name is an invalid *nomen nudum*. Loddiges (1823*a*, no. 763) noted that *A. angustifolia* was 'a native of New Holland, whence it was early introduced'. Seemann (1852) placed this name as a synonym of *A. suaveolens* (Sm.) Willd., and suggested that all plants in cultivation under the name *A. angustifolia* were referrable to it.

Acacia browniana H.L.Wendl., Flora 2: 139 (1819)

Racosperma brownianum (H.L.Wendl.) Pedley, Austrobaileya 6(3): 454 (2003).

Type citation: 'Hab. In Novae Hollandiae ora occidentali.' *Type*: Australia. Iter Australiense, 1802–1805, *R.Brown (Bennett* 4321; lower left-hand specimen on sheet; neo: BM000574741!, *fide* B.R.Maslin, *Nuytsia* 1(5): 425 (1975)).

Notes

HLW published A. browniana as a nomenclaturally legitimate replacement name for the illegitimate A. ciliata R.Br. (in Aiton, Hort. Kew. 5: 465 (1813)), predated by the South American Acacia ciliata Humb. & Bonpl. ex Willd. (Enum. Pl. 2: 1055 (1809)). HLW explained thus: 'Acacia acicularis pag. 1056 und Acacia ciliata pag. 1055 beschrieben, welche von Humboldt und Bonpland in Südamerika entdeckt wurden, und durchaus, nicht mit den neuhollandischen unter jenen Namen im. Hort. Kew. genannten verwandt sind' [translates as 'Acacia acicularis p. 1056 and Acacia ciliata p. 1055, were discovered by Humboldt and Bonpland in South America, and certainly are not related to the New Holland taxa as used in Hort. Kew']. HLW was nomenclaturally correct in providing a new name. For a later taxonomic listing in which A. ciliata is alternatively placed as a synonym of A. browniana, see Wendland (1833). Named for Robert Brown (1773-1858), Scottish botanist.

Specimens in GOET

Cultivated, Herrenhausen Gardens, s. dat., leg. ign. (GOET 027619!).

Acacia cochlearis (Labill.) H.L.Wendl., Comm. Acac. aphyll. 3, 15 (1820)

Mimosa cochlearis Labill., Nov. Holl. Pl. 2(24): 85, tab. 234 (1807). Type citation: 'Habitat in terrâ Van-Leuwin.' Type: not seen.

Notes

HLW provided the new combination based on *Mimosa cochlearis* Labill., and his description followed Labillardière's original description verbatim.

Acacia crassiuscula H.L.Wendl., Comm. Acac. aphyll 5, 31, tab. 8, fig. a–e (1820)

(Fig. 2.)

Racosperma crassiusculum (H.L.Wendl.) Pedley, Austrobaileya 6(3): 459 (2003).

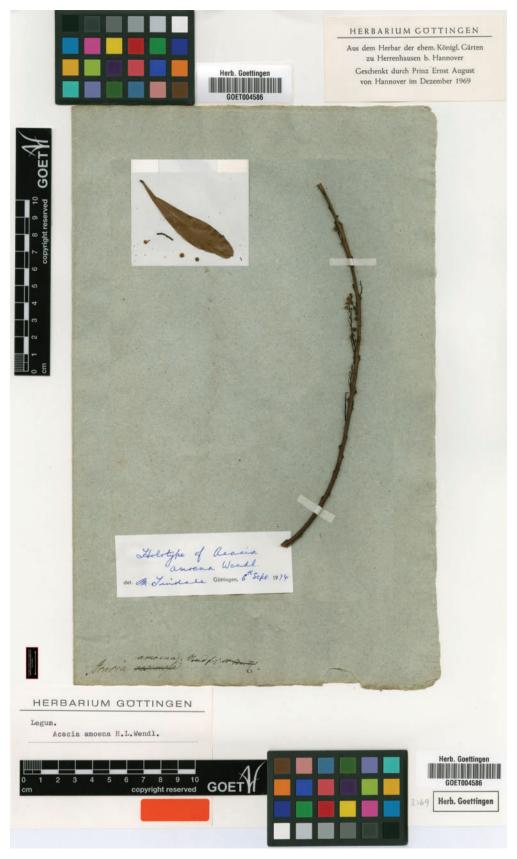


Fig. 1. Lectotype of Acacia amoena – GOET 004586.



Fig. 2. Lectotype of Acacia crassiuscula – GOET 013800.

Type citation: 'Habitat in Nova Hollandia.' *Type*: cultivated, Herrenhausen Gardens, *s. dat.*, *H.L.Wendland s.n.* (lecto, here designated: GOET 013800!; isolecto: MEL 2080379!).

Notes

Maslin (2001b, p. 415) stated: 'T: 'Habitat in Nova Hollandia'; holo: GOET - folder annotated by H.L.Wendland 'Acacia crassiuscula Wend. Fil': iso: MEL'. However, as no specimens were cited in the protologue, and it cannot be shown 'that a single specimen (or illustration) was the only element upon which the validating description or diagnosis was based' (ICN Art. 9.3, Melbourne Code, McNeill et al. 2012), no holotype exists, and the name is here lectotypified. Maslin's citation of the GOET specimen as the holotype cannot be treated as effective lectotypification under ICN Art. 9.9 (Melbourne Code, McNeill et al. 2012), because the typification statement does not include the phrase 'designated here' (hic designatus) or an equivalent, as required under Art. 7.10 (Melbourne Code, McNeill et al. 2012). The date on the MEL specimen of 1882 may well be the year that it was received in MEL, rather than the collection date.

Acacia dolabriformis H.L.Wendl., Comm. Acac. aphyll. 6, 55 (1820)

(Fig. 3.)

[=Daviesia incrassata Sm. in A.Rees (ed.), Cycl. 11(21): sp. no. 2 (1808)].

Type citation: 'Habitat in Nova Hollandia.' *Type*: cultivated, Herrenhausen Gardens, '*Mimosa* sp. P.Good, 1803', *s. dat.*, *H.L.Wendland s.n.*, (lecto, here designated: GOET 004971!).

Notes

Crisp et al. (2017, p. 241) provided type information as 'Type: 'Nec flores nec fructus vidi, sed tantum unicum specimen in Nova Hollandia lectum...' Holotype: GOET'. However, because no specimens were cited in the protologue, and it cannot be shown 'that a single specimen (or illustration) was the only element upon which the validating description or diagnosis was based' (ICN Art. 9.3, Melbourne Code, McNeill et al. 2012), no holotype exists, and the name is here lectotypified. Crisp et al.'s (2017) citation of the GOET specimen as the holotype cannot be treated as effective lectotypification under ICN Art. 9.9 (Melbourne Code, McNeill et al. 2012), because the typification statement does not include the phrase 'designated here' (hic designatus) or an equivalent, as required under Art. 7.10 (Melbourne Code, McNeill et al. 2012). HLW placed this taxon under 'Dubia' and noted that 'sed tantum unicum specimen in Nova Hollandia lectum, quod vero satis superque formam petiolorum singularem monstrat atque me edoquit, hanc speciem' [translates as 'it is only a single specimen in the New Holland bed, but it is distinctive enough by the characters of the phyllode to suggest it is a separate species']. HLW described the petioles as constricting towards the base ('basi vix attenuata'), which may be interpreted as the derivation of the name. Unfortunately, there was no illustration provided by Wendland. Seemann (1852) placed it as a synonym of Daviesia physodes A.Cunn. ex G.Don, which he confirmed by examination of specimens in the Wendland's herbarium at Herrenhausen. Bentham (1864, p. 82) placed *A. dolabriformis* as a synonym of *D. incrassata*.

Acacia emarginata H.L.Wendl., Comm. Acac. aphyll. 4, 27 (1820)

(Fig. 4.)

[=Acacia stricta (Andrews) Willd., Sp. Pl., 4th edn, 4(2): 1052 (1806)].

Type citation: 'Habitat in Nova Hollandia.' *Type*: cultivated, Herrenhausen Gardens, *s. dat.*, *H.L.Wendland s.n.* (lecto, here designated: GOET 027616!).

Notes

Typification was given by Maslin (2001c, p. 604) as 'T: cultivated at Herrenhausen botanic garden (near Hanover); holo: GOET'. This is GOET 027616. However, because no specimens were cited in the protologue, and it cannot be shown 'that a single specimen (or illustration) was the only element upon which the validating description or diagnosis was based' (ICN Art. 9.3, Melbourne Code, McNeill et al. 2012), no holotype exists, and the name is here lectotypified. Maslin's citation of the GOET specimen as the holotype cannot be treated as effective lectotypification under ICN Art. 9.9 (Melbourne Code, McNeill et al. 2012), because the typification statement does not include the phrase 'designated here' (hic designatus) or an equivalent, as required under Art. 7.10 (Melbourne Code). The specimen was annotated by M. Tindale as 'Acacia stricta, 6th Sept. 1974'. HLW noted the similarity of this taxon to Acacia stricta: 'Forsan varietas sequenetis a strictae, abs qua verum-tamen pluribus notis differ. in futurum accuratius in plantis vivis vel speciminibus magis perfectis observandi' [translates as 'This may be a variety of A. stricta, and although there are many differences, continuing observation is required of living plants and specimens to confirm this'].

Acacia geniculata Anon., Allg. Deutsche Gart.-Zeitung 4(40): 336 (1826), nom. inval., nom. nud.

Acacia geniculata Seem., Eur. Acac. 66 (1852), nom. inval., pro. syn.

Notes

This name was attributed to HLW and included in a list of species cultivated in Herrenhausen Gardens and offered for sale in 1826. Apart from the name, '*Acacia geniculata* Wendl. fol.', no additional information was provided. Seemann (1852, p. 66) included the name '*A. geniculata*, Wendl.' in a list of 'Auszuschließende Arten' (Excluded species) and suggested it was a synonym of *Calliandra scutellifera* Benth.; however, on what evidence he did this, is not known. Without a description or specimen, it cannot be placed. A name of uncertain application and may not even be an Australian taxon.

Acacia homomalla H.L.Wendl., Comm. Acac. aphyll. 6, 49, tab. 13, fig. a–e (1820)

(Fig. 5.)

[=Acacia binervia (J.C.Wendl.) J.F.Macbr., Contr. Gray Herb. 59: 7 (1919)].

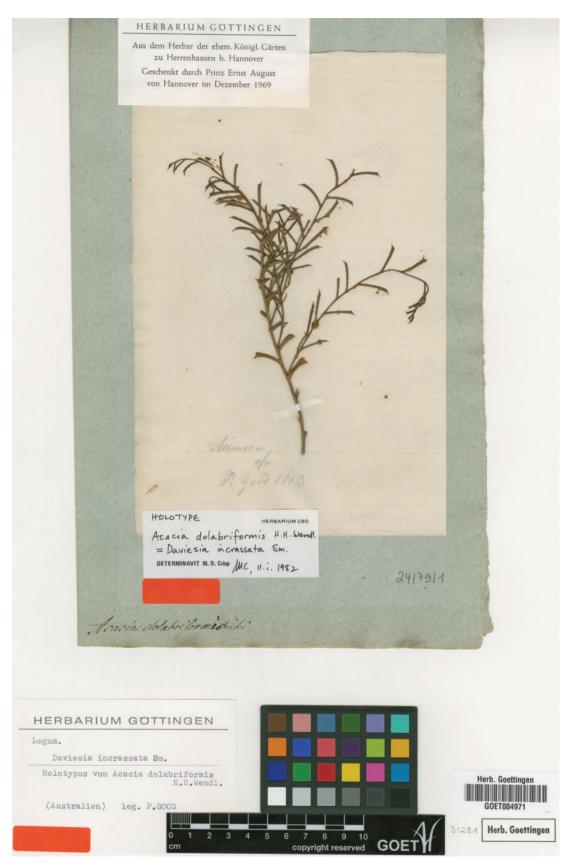


Fig. 3. Lectotype of Acacia dolabriformis – GOET 004971.

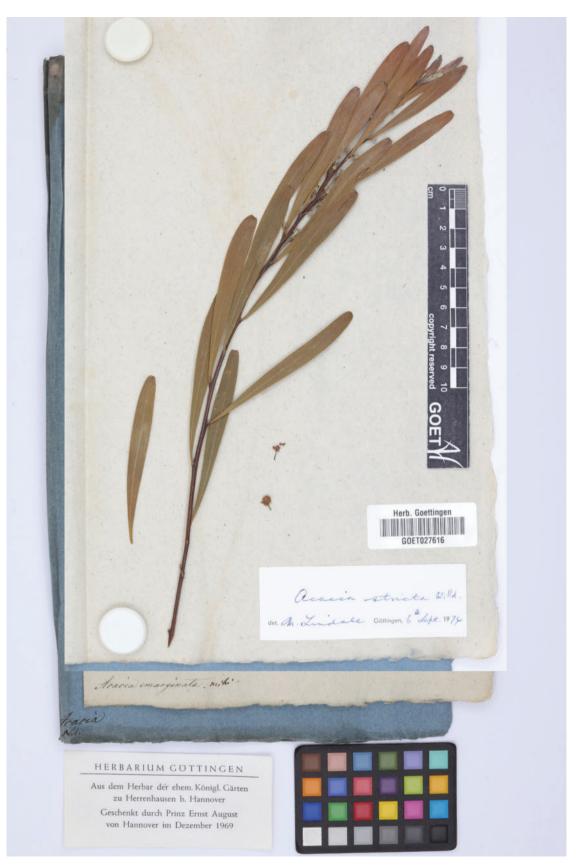


Fig. 4. Lectotype of Acacia emarginata – GOET 027616.



Fig. 5. Lectotype of Acacia homomalla – GOET 014097.

Type citation: 'Habitat in Nova Hollandia.' *Type*: cultivated, Herrenhausen Gardens, *s. dat.*, *H.L.Wendland s.n.* (lecto, here designated: GOET 014097!).

Notes

Typification was given by Tindale and Kodela (2001*a*, p. 259) as 'T: 'Nova Hollandia'; holo: *n.v.*'. However, because no specimens were cited in the protologue, and it cannot be shown 'that a single specimen (or illustration) was the only element upon which the validating description or diagnosis was based' (ICN Art. 9.3, Melbourne Code, McNeill *et al.* 2012), no holotype exists, and the name is here lectotypified. Tindale and Kodela's (2001*a*) citation of the GOET specimen cannot be treated as effective lectotypification under ICN Art. 9.9 (Melbourne Code, McNeill *et al.* 2012), because the typification statement does not include the phrase 'designated here' (*hic designatus*) or an equivalent, as is required under Art. 7.10. The lectotype specimen was annotated by M.Tindale as 'the type specimen' on 6 September 1974.

Acacia longissima H.L.Wendl., Comm. Acac. aphyll. 5, 45, tab. 11, fig. a–f (1820)

Acacia linearis var. longissima (H.L.Wendl.) DC., Prodr. 2: 454 (1825); Acacia linearis f. longissima (H.L.Wendl.) Siebert & Voss, Vilm. Blumengärtn. 3rd edn, 1(1): 228 (1894). Racosperma longissima (H.L.Wendl.) Pedley, Austrobaileya 2(4): 352 (1987).

Type citation: 'Habitat in Nova Hollandia.' *Type*: cultivated, Herrenhausen Gardens ex Lee's Nursery, London, *s. dat., H.L. Wendland s.n.* (lecto: GOET 027613!; isolecto: CBG 9100981! (fragment), *fide* A.B.Court in A.E.Orchard & A.J.G.Wilson (eds), *Fl. Australia* 11B: 492 (2001)).

Notes

Court (2001*a*, p. 492) gave typification as: 'T: ?cultivated in London, without date, Lee? *s.n.*; lecto (here chosen): GOET *n.v.*; isolecto/syn: CANB'. Three GOET specimens, including the lectotype (GOET 027613) are recognised here as original material. HLW reported that the taxon was known in cultivation in England under the informal name *A. longissima* before the publication of the name (Wendland 1820).

The following names are included in the Australian Plant Census (Council of Heads of Australasian Herbaria, CHAH, see https:/biodiversity.org.au/nsl/services/APC, accessed 6 September 2018) as synonyms of *A. longissima* H.L.Wendl. There is no evidence that these names were previously applied to *A. longissima* by any authors and their taxonomic placement is uncertain: *Acacia linearis* (J.C.Wendl.) Sims, *Bot. Mag.* 47: tab. 2156 (1820); *Acacia linearis* (J.C.Wendl.) Sims *f. linearis*, Voss, *Vilm. Blumengärtn.* 3rd edn, 1(1): 228 (1894); *Acacia linearis* (J.C.Wendl.) Sims var. *linearis* in Candolle, *Prodr.* 2: 454 (1825).

Specimens in GOET

Cultivated, Herrenhausen Gardens, 'ex *longissima* H. Angl.', *s. dat.*, *H.L.Wendland s.n.* (GOET 027614!); cultivated, Herrenhausen Gardens, 'ex *angustissima* Otto Berl', *s. dat.*, *H.L.Wendland s.n.* (GOET 027615!).

Acacia mucronata Willd. ex H.L.Wendl., Comm. Acac. aphyll. 6, 46, tab. 12, fig. a–f (1820)

Acacia longifolia var. mucronata (Willd. ex H.L.Wendl.) Benth., Fl. Austral. 2: 398 (1864); Racosperma mucronatum (Willd. ex H.L.Wendl.) Pedley, Austrobaileya 6(3): 477 (2003).

Type citation: 'Habitat in Nova Hollandia.' *Type*: cultivated, Herrenhausen Gardens, *s. dat.*, *H.L.Wendland s.n.* (lecto: GOET 027609!; isolecto: CANB 9100980.1!) *fide* A.B.Court in A.E.Orchard & A.J.G.Wilson (eds), *Fl. Australia* 11B: 491 (2001)).

Acacia mucronata Willd., Enum. Pl., Suppl. 68 (1813), nom. inval., nom. nud. Acacia taxifolia H.L.Wendl., Comm. Acac. aphyll. 6, 46 (1820), nom. inval., pro. syn.

Notes

Court (2001*b*, p. 491) gave typification as 'T: based on a specimen in herbarium H.L.Wendland; locality, date, and coll. unknown; lecto (here chosen): GOET *n.v.*; isolecto: CANB'. These are specimens GOET 027609-12 and CANB 9100980.1. HLW reported that this taxon was known under the name '*Acacia taxifolia*' in cultivation in England. He attributed the original use of the name '*mucronata*' to Willdenow (1813, p. 68), where it was published without a description as a name in a list.

Specimens in GOET

Cultivated, Herrenhausen Gardens 'taxifolia H. Angl.', s. dat., H.L.Wendland s.n (GOET 027610!); cultivated, Berlin Botanic Gardens, 'mucronata Otto Berl', s. dat., H.L. Wendland s.n. (GOET 027611!); cultivated, Herrenhausen Gardens 'mucronulata Dum. Cours.', s. dat., H.L.Wendland s.n. (GOET 027612!).

Acacia pugioniformis H.L.Wendl., Flora 2:139 (1819), nom. illeg., nom. superfl.

[=Acacia brownii (Poir.) Steud., Nomencl. Bot. 2 (1821)].

Type citation: 'Hab. in Nova Hollandia.' *Type*: cultivated, Herrenhausen Gardens, *s. dat.*, *H.L.Wendland s.n.* (holo: GOET 004596!).

Acacia acicularis R.Br., in W.T.Aiton, Hort. Kew, 2nd edn. 5: 460 (1813), nom. illeg. non Humb. & Bonpl. ex Willd. (1809); Mimosa brownii Poir., Encyl, suppl. 5(2): 530 (1817), nom. nov., as 'brownei'. Type citation: 'Nat. of New South Wales. Colonel William Paterson.' Type: not seen.

Notes

The complex nomenclature of *A. acicularis, A. brownii, A. pugioniformis* and *A. ulicifolia* has been dealt with on several occasions (Pedley 1979; Maslin and Cowan 1995; Maslin 2001*d*). GOET 004596 was annotated as a 'holotype' by M. Tindale, 6 September 1974. HLW published *A. pugioniformis* as a replacement name for the illegitimate *A. acicularis* R.Br. and explained thus: '*Acacia acicularis* pag. 1056 und, *Acacia ciliata* pag. 1055 beschrieben, welche von Humboldt und Bonpland in Südamerika entdeckt wurden, und durchaus, nicht mit den neuhollandischen unter jenen Namen im. Hort. Kew. genannten verwandt sind' [translates as 'Acacia acicularis p. 1056 and Acacia ciliata p. 1055, were discovered by Humboldt and Bonpland in South America, and certainly are not related to the New Holland taxa as used in Kew Gardens']. When HLW published A. pugioniformis as a replacement name for A. acicularis he cited the exact description as used by Aiton as well as referencing the original name. HLW's Acacia pugioniformis is illegitimate and superfluous, because the epithet 'brownii' was available for Acacia and, thus, ought to have been adopted by Wendland. Court (1956) provided discussion on nomenclature but no typification. For an illustration of A. pugioniformis, see H.L. Wendland, Comm. Acac. aphyll. tab. 9, fig. a–e (1820).

Acacia saligna (Labill.) H.L.Wendl., Comm. Acac. aphyll. 4, 26 (1820)

Mimosa saligna Labill., Nov. Holl. Pl. 2(24): 86, tab. 235 (1807); Racosperma salignum (Labill.) Pedley, Austrobaileya 2(4): 355 (1987).

Type citation: 'Habitat in capite Van-Diemen'. *Type*: not seen.

Acacia undulata Willd. ex H.L.Wendl., Comm. Acac. aphyll. 3, 11: tab. 3, fig. a-g (1820), nom. illeg., non Spin (1818)

[=Acacia paradoxa DC., Cat. Pl. Horti Monsp. 74 (1813)].

Type citation: 'Habitat in Nova Hollandia.' *Type*: cultivated, Herrenhausen Gardens, *s. dat.*, '*Acacia undulata* Willd., *undulata* Otto Berl.' *H.L.Wendland s.n.* (GOET 027608!). *Acacia undulata Willd.*, *Enum. Pl.*, suppl. 68 (1814), *nom. inval.*, *nom. nud.*

Notes

Maslin (2001e, p. 593) gave typification as 'T: cultivated at Berlin botanic garden, Germany, C.F. Otto: syn: GOET'. This is GOET 027608. This specimen consists of three stem sections, of which one is labelled 'undulata Otto Berl.'. It is proposed that these were all gathered by HLW (on the basis of the single annotation at the bottom of the sheet in his hand) and that the specimen labelled as 'Otto Berl' may have been a live plant obtained from Berlin but probably grown at Herrenhausen. Wendland (1820, p. 68) attributed the name A. undulata to Willdenow (1813, p. 68), where it was included in a list of names without a description or reference to specimens. The name A. undulata was previously used by Marquis de Spin (1818) as a replacement name for A. paradoxa DC. HLW placed the name A. paradoxa as a synonym of A. undulata and noted that the name had been used by several authors ('Acacia paradoxa nonnullorum') and gave one example by Bonpland (1813, p. 135), where it was cited in observation under A. armata. Acacia paradoxa is the oldest validly published name for the taxon, and HLW's use of A. undulata as a replacement name was nomenclaturally illegitimate. The name was otherwise adopted for cultivated specimens. For example, Loddiges (1823b, no. 753) noted that it was 'A native of New Holland: it was first raised in France, whence it received it several years since'.

Acacia viscosa Schrad. ex H.L.Wendl., Comm. Acac. aphyll. 4, 30, tab. 7, fig. a–f (1820)

[=Acacia dodonaeifolia (Pers.) Balb., Cat. stirp. hort. acad. taur. 18137 (1813), adnot.

Type citation: 'Habitat in Nova Hollandia.' *Type*: Cultivated, Herrenhausen Gardens, '*Acacia viscosa*', *s. dat.*, *H.L.Wendland s.n.* (holo, GOET 027617!) (*fide* B.R. Maslin in A.E.Orchard & A.J.G.Wilson (eds), *Fl. Australia* 11A: 601 (2001)).

Notes

The specimen GOET 027617 has two annotations: 1) 'Holotype of Acacia viscosa Schrad. ex Wendl. = Acacia dodonaeifolia Willd. Det M.D.Tindale Goettingen, 6th Sept. 1974'; and 2) 'Anmerkung: Acacia viscosa Schrad. ex Wendl. ist illegitim, ein überflüssiger neuer Name für A. dodonaeifolia Willd. Typus ist damit automatisch der von A. dodonaeifolia Willd. und nicht diese Pflanze (vgl. ICBN 7.11!) 8.1.82 G.Wagenitz' [translates as 'Note: Acacia viscosa Schrad. ex Wendl. is illegitimate, a redundant new name for A. dodonaeifolia Willd. Type is thus automatically that of A. dodonaeifolia Willd. and not this plant (vgl. ICBN 7.11!) 8.1.82 G.Wagenitz']. This specimen was cited by Maslin (2001f, p. 601) as 'Acacia viscosa ... T: cultivated at Herrenhausen botanic garden, near Hannover; holo: GOET'. HLW noted that the name A. viscosa was being used in horticulture. HLW's description is an expanded description of that provided by Persoon (1806) for Mimosa dodonaeifolia.

Specimens in GOET

Cultivated, Herrenhausen Gardens, 'Acacia dodonaeifolia W. viscosa Schrad. ex Hort. Herrenh.'; 'dodonaeifol: metrosiderifol: Hortulanus' (GOET 027618!).

Acacia willdenowiana H.L.Wendl., Verz. Treib-Glashaus-Bosquet-Pflanzen, Stauden-Gewächsen und Georginen ... zu Herrenhaus. Hannover [5] adnot. (1845)

Acacia diptera Lindl., Sketch veg. Swan R.: 15 (1839), nom. illeg., non Humb. & Bonpl. ex Willd. (1809). Racosperma willdenowianum (H.L.Wendl.) Pedley, Austrobaileya 6(3): 493 (2003).

Type citation: 'Swan River.' *Type*: Western Australia. Swan R., *Drummond s.n.*, CGE (lecto, *fide* B.R.Maslin, *Nuytsia* 10(2): 166 (1995).

Notes

The name Acacia willdenowiana was included in a list of plants that were available for purchase from Herrenhausen Gardens. HLW wrote: 'Diese Acacia diptera Humb. et Bonpl. in Willdenow's Enumeratio Plantarum horti botanici Berolinensis 1809 Pars II. pag. 1501, deren Vaterland in America meridionali angegeben ist und zur Abtheilung Foliis conjugatopinnatis gehört, darf nicht verwechselt werden mit der Acacia diptera Lindl. Bot. Reg. 1839, welche am Swan River wächst und nach Meissner in Plantae Preissianae pag. 4. zur Abtheilung II. Alatae gehört. Ich erlaube mir daher diese letztere als Acacia Willdenowiana H. Wendl. zu bezeichnen' [translates as 'Acacia diptera Hum. et Bonpl. in Willdenow's Enumeratio Plantarum horti botanica Berolinensis 1809 Part. II. p. 1501, whose native country is indicated as Central America and belongs to the division Foliis conjugato-pinnatis, must not be confused with Acacia diptera Lindl. Bot. Reg. 1839, which grows on the Swan River and belongs to Meissner in Plantae Preissianae p. 4. to division II. Alatae. I therefore allow myself to name

the latter as *Acacia willdenowiana* H. Wendl.']. Named for Carl Ludwig Willdenow (1765–1812), German botanist.

Specimens in GOET

GOET 027623! ['Acacia diptera α latior Meisner, Herb. Preiss N° 995' (paralectotype of Acacia diptera var. latior Meisn., fide B.R.Maslin & R.S.Cowan, Nuytsia 9(3): 405 (1994)]; GOET 027624! ['Acacia diptera α latior Meisner, Herb. Preiss no. 996' (isolectotype of Acacia diptera var. latior Meisn., fide B.R. Maslin & R.S.Cowan, Nuytsia 9(3): 405 (1994): 405)]; GOET 027622! ['Acacia diptera β angustior Meisner, Herb. Preiss no. 9930 (isolectotype of Acacia diptera var. angustior Meisn., fide B.R.Maslin & R.S.Cowan, Nuytsia 9(3): 405 (1994)].

Achyronia villosa J.C.Wendl., Bot. Beob. 40 (1798)

Type citation: 'Vaterland: die Südsee-Inseln.' *Type*: not seen. See 'Notes' below.

Notes

Although given by JCW as possibly Australian ('Vaterland: die Südsee-Inseln'), this taxon has been identified as the South African endemic *Liparia angustifolia* (Eckl. & Zeyh.) A.L. Schutte. Bentham (1864) was among the first to note the inconsistency, and suggested that it was a species of *Priestleya* DC. [=*Liparia* L.]. Schutte and van Wyk (1994) stated that they could not locate any original material, but that the identity was confirmed by JCW's illustration in *Hortus Herrenhusanus* (Wendland 1799). Typification is not provided here as it is not an Australian taxon. Probable original material is the specimen B-W 13120-010, which was sent by JCW to Willdenow. JCW later provided an expanded description and illustration in *Hort. Herrenhus.* 2: 16, tab. 12 (1799).

Glycine clandestina J.C.Wendl., Bot. Beob. 54 (1798)

Teramnus clandestinus (J.C.Wendl.) Spreng, *Syst. Veg.*, 16th edn, 3: 235 (1826); *Leptolobium clandestinum* (J.C.Wendl.) Benth., *Comm. Legum. Gen.* 61 (1837); *Kennedynella clandestina* (J.C.Wendl.) Steud, *Nomencl. Bot.*, 2nd edn, 1(7): 845 (1840); *Leptocyamus clandestinus* (J.C.Wendl.) Benth., in J.D.Hooker, *Fl. Tasman.*1(2): 102 (1856).

Type citation: 'Vaterland: Südsee-Inseln.' *Type*: Australia, New South Wales, Kurnell, Captain Cook's landing place historic site, 34°00'S, 151°13'E, twining on *Acacia longifolia*, in sandy soil at edge of swamp, 25 March 1986, *M.Tindale* 7400, *R.Coveny & P.Kater* (neo: NSW575335!; isoneo: B 10 0277875!; BM *n.v.*; CANB 366145.1!; K *n.v.*; L 1959176!; UC *n.v.*; US 3113956!; Z *n.v.*, *fide* M.D.Tindale, *Brunonia* 9: 179 (1986)).

Mimosa binervia J.C.Wendl., Bot. Beob. 56 (1798)

[=Acacia binervia (J.C.Wendl.) J.F.Macbr., Contr. Gray Herb. 59: 7 (1919)]. Racosperma binervium (J.C.Wendl.) Pedley, Austrobaileya 6(3): 453 (2003).

Type citation: 'Vaterland: die Südsee-Inseln.' Type: not seen.

Acacia homomalla H.L.Wendl., Comm. Acac. aphyll. 6, 49, tab. 13, fig. a-e (1820). (See separate entry above for typification and discussion.)

Notes

No specimens labelled as *M. binervia* or *A. binervia* have been located at GOET. Tindale and Kodela (2001*a*) did not see any type material and stated 'T. South Sea Islands (= Botany Bay, N.S.W., Australia)' holo: n.v.'.

Mimosa decurrens J.C.Wendl., Bot. Beob. 57 (1798)

Type citation: 'Vaterland: die Südsee-Inseln.' Type: not seen.

Notes

The status and identity of *Mimosa decurrens* J.C.Wendl. is unresolved. No specimens labelled *M. decurrens* J.C.Wendl. have been found at GOET (as at 29 March 2018). Tindale and Kodela (2001*b*, p. 240) and the Australian Plant Census (CHAH, see https://biodiversity.org.au/nsl/services/APC) include *Mimosa decurrens* J.C.Wendl in the synonymy of *Acacia decurrens* Willd., although in the absence of any type material, the taxonomic placement of this name remains uncertain. Two specimens labelled '*Acacia decurrens* Willd.' are held in GOET (GOET 027620! and GOET 027621!). These represent *Acacia parramattensis* Tindale and *Acacia decurrens* Willd. respectively (det. M.Tindale 5 September1974), and are not related to the name *Mimosa decurrens* J.C.Wendl.

Mimosa linearis J.C.Wendl., Bot. Beob. 56 (1798)

[=Acacia linifolia (Vent.) Willd. Sp. Pl., 4th edn, 4(2): 1051 (1806)]. Acacia linearis (J.C.Wendl.) J.F. Macbr., Contr. Gray Herb. 59: 8. (1919); Acacia linearis (J.C.Wendl.) Hochr., Candollea 2: 375 (1925).

Type citation: 'Vaterland: Südsee-Inseln. (wie oben).' *Type:* not seen.

Notes

Maslin (2001g, p. 335) cited the type as 'T: Vaterland: Südsee-Inseln. (wie oben); holo: GOET (sheet labelled *Mimosa pinifolia*, also annotated '*linearis*' by J.C.Wendland'. This specimen could not be found at GOET (as at 22 March 2018).

Mimosa obliqua J.C.Wendl., Bot. Beob. 57 (1798), nom. illeg., non Lamarck (1792)

[=Acacia falcata Willd., Sp. Pl., 4th edn, 4(2): 1053 (1806)].

Illustrations: H.L.Wendland, Comm. Acac. aphyll. tab. 14 (1820) (as Acacia falcata Willd.).

Type citation: 'Vaterland: die Südsee-Inseln.' *Type*: not seen (specimen without locality, ex J.C.Wendland; iso: B.' *fide* B.R.Maslin in A.E.Orchard & A.J.G.Wilson, *Flora of Australia* 11A: 258 (2001)).

Notes

No specimens have been found in GOET.

Mimosa paniculata J.C.Wendl., Bot. Beob. 57 (1798)

[=Acacia terminalis (Salisb.) J.F.Macbr.), Contr. Gray. Herb. 59: 7 (1919)]. Acacia paniculata (J.C.Wendl.) J.F.Macbr., Contr. Gray Herb. 59: 7 (1919), nom. illeg., non Willdenow (1806).

Type citation: 'Die Südsee-Inseln.' Type: not seen.

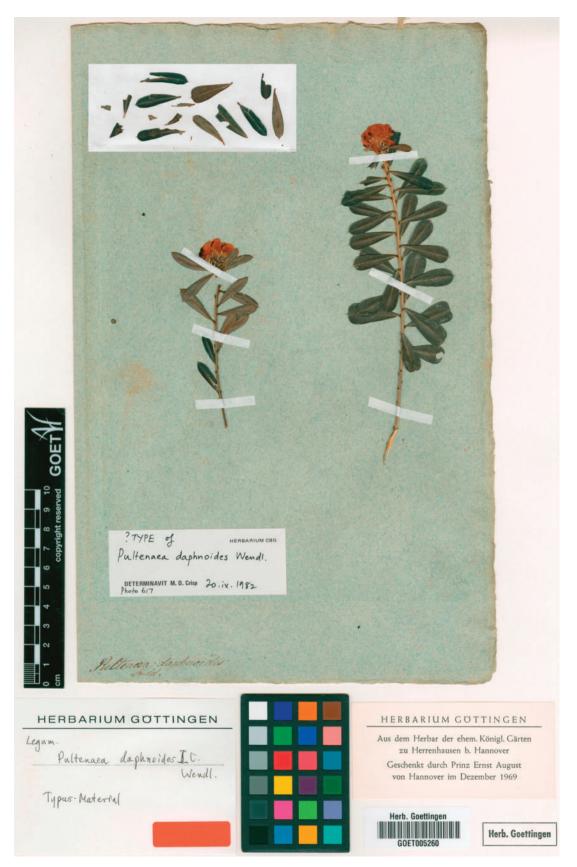


Fig. 6. Lectotype of Pultenaea daphnoides - GOET 005260.

No specimens under the names *M. paniculata* or *A. paniculata* have been found at GOET (as at 22 March 2018).

Mimosa ulicifolia J.C.Wendl., Coll. Pl. 1: 25, tab. 6 (1805), nom. illeg., non Salisb. (1796)

[=Acacia ulicifolia (Salisb.) Court, Victorian Naturalist 73(10): 173 (1957)]. Mimosa ulicina Benth., orth. var., Fl. Austral. 2: 332 (1864).

Type citation: 'Das Vaterland: Neuholland.' Type: not seen.

Notes

No specimens labelled as *Mimosa ulicifolia* were found in GOET (as at 22 March 2018). Court (1956) discussed nomenclature but did not provide typification. Subsequently, Pedley (1979) provided no typification and Maslin (2001h, p. 467) cited the type as 'T: Australia; *n.v.*'.

Pultenaea daphnoides J.C.Wendl., Bot. Beob. 49 (1798)

(Fig. 6.)

Type citation: 'Vaterland: Botany-Bay.' *Type*: cultivated, Herrenhausen Gardens, '*Pultenaea daphnoides* (Lodd.), ex. Herb. Wendland Herrenhausen', *s. dat.*, *J.C.Wendland s.n.* (lecto, here designated: GOET 005260!; isolecto: B-W 07877-010!).

Notes

The lectotype was annotated as '?Type of *Pultenaea daphnoides* Wendl. det. M.D.Crisp 20.ix.1982' and '*Pultenaea daphnoides* J.C.Wendl. Typus-Material det. Wagenitz'. [This det was not signed but the handwriting is that of Wagenitz.] The isolectotype was annotated as 'isotype of *Pultenaea daphnoides* Wendl. det. M.D.Crisp 17.ix.1982'. JCW's original label was '*Pultenaea daphnoides* Lodd.'. Lodd. refers to the horticultural firm of Conrad Loddiges & Sons, Hackney, near London, and appears to indicate that the plant was cultivated in Herrenhausen from materials originally received from them and possibly with the species name informally given by them.

de Kok and West (2004) gave typification as 'Typus: Botany Bay (holo-, GOET (photo seen)'. However, because no specimens were cited in the protologue, and because it cannot be demonstrated 'that a single specimen (or illustration) was the only element upon which the validating description or diagnosis was based' (ICN Art. 9.3, Melbourne Code, McNeill *et al.* 2012); see also McNeill 2014, p. 1113) no holotype exists, and the name is here lectotypified. de Kok and West's (2004) citation of the GOET specimen as the holotype cannot be treated as effective lectotypification under ICN Art. 9.9 (Melbourne Code, McNeill *et al.* 2012), as the typification statement does not include the phrase 'designated here' (*hic designatus*) or an equivalent, as required under Art. 7.10.

Specimens in GOET

Cultivated, Herrenhausen Gardens, *s. dat., leg. ign.* (GOET 005259!). This specimen is annotated as '*Pultenaea daphnoides* Smith Cult. in hort. Herrenhus. dt. Rühlmann *Herb. G.F.W. Meyer* 1856, authentic specimen of *Pultenaea daphnoides* Wendl., det. M.D.Crisp 20.IX.1982'.

Pultenaea linophylla Schrad. & J.C.Wendl., Sert. Hannov.

1(3): 28, tab. 18 (1797) (captioned in tab. 18 as *Pultenaea bracteata* in error: see 'Notes' below)

(**-**)

(Fig. 7.)

Pultenaea retusa var. linophylla (Schrad. & J.C.Wendl.) Benth., Fl. Austral. 2: 113 (1864).

Type citation: 'Habit. in iisdem cum priori locis.' i.e. 'Habit. in Novae Hollandiae sinu Botany-bay.' *Type*: Cultivated, Herrenhausen Gardens, '*Pultenaea linophylla*, ex. Herb. Wendland Herrenhausen', *s. dat.*, *J.C Wendland s.n.* (lecto, here designated: GOET 005262!).

Pultenaea bracteata Schrad. & J.C.Wendl., Sert. Hannov. 1(3): 28, tab. 18 (1797), nom. inval., pro. syn.

Notes

The lectotype was annotated as '?Type of *Pultenaea linophylla* Schrad. et Wendl. Det. M.D.Crisp 20.IX.1982'. In the absence of a specimen, de Kok and West (2004, p. 296), recognised tab. 18 in Schrader and Wendland (1798) as the 'holo-typus'. We have chosen GOET 005262 as the lectotype because it represents original material.

In a footnote under *P. linophylla*, JCW gave 'bracteata' as a name used for plants in cultivation at Herrenhausen Gardens that could not be distinguished from *P. linophylla* and were referable to the latter name. He also noted that he had given the caption name *P. bracteata* to the accompanying illustration, but that name should be corrected to *P. linophylla*. 'Nomine triv. Bracteata tabulae iam inciso, nonnullas alias huius generis species novas examinare mihi contigit, quarum flores aeque ac nostra Pultenaea bracteis inclusi sunt. Quapropter eam nunc linophyllam nominaui' [translates as 'The common name bracteata had already been printed on my plate, a problem that can occur when new plants are seen, however the flowers are enclosed in bracts as in our *Pultenaea*, and should be correctly named *linophyllum*']. The status of *P. bracteata* was given as 'nom. in synon.' by de Kok and West (2004, p. 296).

Specimens in GOET

Cultivated, Herrenhausen Gardens, '(d) Wendland Hb. Bg. (= Herbar Bartling) 1841' (accredit to GOET in 1841), *H.L. Wendland s.n.* (GOET 005261!). The specimen was annotated as 'Authentic specimen of *Pultenaea linophylla* Schrad. et Wendl. Det. M.D.Crisp 20.ix.1982'.

Pultenaea retorta J.C.Wendl., Hort. Herrenhus 2: 13, tab. 9 (1799)

[Dillwynia retorta (J.C.Wendl.) Druce, Bot. Exch. Club Brit. Isles Rep. 1916, Suppl. 2: 619 (1917)].

Type citation: 'Patria: Nova Hollandia.' *Type*: cultivated, Herrenhausen Gardens, *s. dat.*, *J.C.Wendland s.n.* (lecto, here designated: B-W 07868-010!). This specimen is annotated as: '*P. retorta*, Wendland W, isotype of *Pultenaea retorta* Wendl., det. M.D.Crisp 17.ix.1982'.

Specimens in GOET

Cultivated, Herrenhausen Gardens, s. dat., J.C.Wendland s.n. (GOET 004984!). This specimen is annotated as: "?Type of

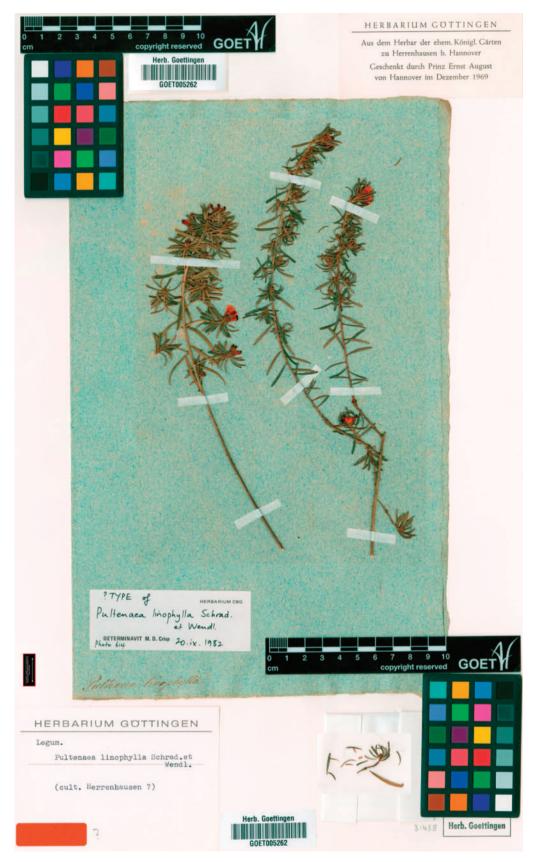


Fig. 7. Lectotype of *Pultenaea linophylla* – GOET 005262.

Pultenaea retorta Wendl. det. M.D.Crisp 20.ix.1982'. It is not clear whether this specimen is a duplicate of B-W07868-010.

Myrtaceae

The contribution of JCW and HLW to taxonomy of Myrtaceae, although not as productive as their work on Fabaceae, was not insignificant. They were active at a time when generic designation in Myrtaceae was in a state of flux, particularly in the Leptospermoideae. This work recognises ~22 names in Myrtaceae associated with the Wendlands.

Eugenia australis J.C.Wendl. ex Link, *Enum. Hort. Berol. Alt.* 2: 28 (1822)

[=Syzygium australe (J.C.Wendl. ex Link) B.Hyland. Austral. J. Bot. Suppl. 9: 55 (1983)]. Myrtus australis (J.C.Wendl. ex Link) Spreng., Syst. Veg., 17th edn, 1: 482 (1825); Jambosa australis (J.C.Wendl. ex Link) DC., Prodr. 3: 287 (1828); Eugenia paniculata var. australis (J.C.Wendl. ex Link) L.H.Bailey, Man. Cult. Pl., ed. 2: 730 (1949).

Type citation: 'E. australis. Wendland. Fol. 1'8" lg. 5" lt. inferiora ramorum minora. Pedunculi ad apicem ramorum plures aggregati [translates as 'Fol. 1'8" long. 5" wide' in the lower part the branches are smaller. Peduncle with several branches aggregated at the apex']. *Type*: cultivated, Herrenhausen Gardens, 1822, *leg. ign.* (lecto: GOET 008218!, *fide* B.P.M.Hyland, *Austral. J. Bot. Suppl.* 9: 55 (1983)).

Eugenia australis Anon., nom. inval. nom. nud., Forsetz Allg. Teutsch. Gart.-Mag. 5(3): 100 (1821). Eugenia australis G.F.Seidel, nom. inval., nom. nud., Forsetz Allg. Teutsch. Gart.-Mag. 5(4). Intelligenz-Blatt 4: 37 (1821).

Notes

Link (1822) provided a list of plants cultivated in Berlin Botanic Gardens. For many of the names, he did not provide a description, but mostly a reference to the origin of the name. For Eugenia australe, Link provided no reference to specimens or to an illustration, but cited the origin of the name as 'Wendland' (that being JCW) and also a brief validating description (see type citation above). Link's attribution appears to be based on JCW's earlier use of the name in a catalogue of plants at Herrenhausen Gardens in 1817 (not located), but cited by HLW in Beiträge zur Botanik (Wendland 1825). In this, HLW cited two synonyms, as follows: 'Eugenia myrtifolius Ker. . . Loddig. Hort. Cab.; Myrtus australis Spreng Syst. II. p. 482'. The name E. australis was informally used earlier in horticulture, for example, by Anonymous (1821) as 'Eugenia australis, südlicher Jambusenbaum, Australien', and later in a list of rare plants cultivated at Dresden (Seidel 1821).

Chapman (1991, p. 1294) listed the names 'Eugenia australis Wendell (sic), H. ex Link, J.H.F., Enumeratio Plantarum Horti Regii Berolinensis 2 (Jan.–Jun. 1822) 28' and 'Eugenia australis Wendland, H.L. ex Colla, A., Hortus Ripulensis 1 (Jun.–Jul. 1824) 54, App. 1 (Dec. 1824)', the latter as 'nom. illeg. non Link (1822)'. Colla (1827) cited Wendland as the author of the name and provided an expanded description and an illustration. However, Colla's description and illustration relate to S. paniculatum and Colla's use of the name E. australis is a misapplication to that taxon, rather than an attempt to publish a new name. Colla's *Hortus ripulensis* was based on plants cultivated in the garden of his Villa Rivoli near Turin, Italy. 'Luxuriosam fructificationem obtinui julioaugusto fructusque maturos septembri-octobri proxime elapsis, et vidi reapse ad Eugeniae genus pertinere, eamque sub nomine E. australis a Cl. Wendlandio imposito retinendam duxi; indiget attamen majori illustratione ae icone quas praebeo' [translates as 'A heavy fruiting occurred in July–August–September and the last ripe fruit had gone by October, and therefore I was able to gain a good understanding of this Eugenia, and to which I can place the name as E. australis, in keeping with the name given by Wendland. However, I have been able to expand the description and also provide an illustration.').

Leptospermum acuminatum Steud., Nomencl. Bot. 1: 473 (1821), nom. inval., nom. nud.

Notes

Steudel (1821), in what he described as a historical listing of all known phanerogams, attributed this name to JCW, *'Leptospermum acuminatum*. Wendl.', but gave no details. The name was not included in Thompson (1989) but was noted as 'possibly referable' to *Leptospermum polygalifolium* Salisb. by the Australian Plant Census (CHAH, see https:/ biodiversity.org.au/nsl/services/APC).

Leptospermum buxifolium H.L.Wendl., Allg. Gartenzeitung 1: 186 (1833)

(Fig. 8.)

[=Leptospermum polygalifolium Salisb., Prodr. Stirp. Chap. Allerton 350 (1796)].

Type citation: 'Das Vaterland, Neuholland.' *Type*: cultivated, Herrenhausen Gardens, 1832, *H.L.Wendland s.n.* (lecto, here designated: GOET 027604!).

Notes

Thompson (1989) gave authorship incorrectly as 'Leptospermum buxifolium Otto & A.Dietr.', and noted as follows: 'There are probably no extant specimens of species described in this series of papers. They were based on living material and any specimens would have been in B'. However, there are several specimens at GOET that are original material, and it is from those that the lectotype has been chosen (see above). Otto and Dietrich (1841, p. 243) listed the following names used in horticulture for L. buxifolium: 'L. retusum, L. obovatum, L. aquaticum, L. roseum Hort.'. In the protologue, HLW wrote as follows: 'Im Jahre 1828 habe ich den Samen ohne Namen durch die Güte des Herrn Aiton zu Kew in England erhalten, mit der Weisung, dass selbiger aus Neuholland sei'. [translates as 'In the year 1828, I obtained unnamed seeds by the kindness of Mr Aiton of Kew in England, saying that it was from New Holland'.

Specimens in GOET

Cultivated, Herrenhausen Gardens, 'Leptospermum obovatum mihi', 1832, H.L.Wendland s.n. (GOET 027602!); cultivated,



Fig. 8. Lectotype of *Leptospermum buxifolium* – GOET 027604.

Herrenhausen Gardens, 'obovata mihi, Leptospermum obovatum mihi', 1832, H.L.Wendland s.n. (GOET 027603!).

Leptospermum canescens Steud., Nomencl. Bot., 1: 473 (1821), nom. inval., nom. nud.

Leptospermum canescens Heynh., Alph. Aufz. Gew. 353 (1846), nom. inval., pro. syn.

Notes

Steudel (1821), in what he described as a historical listing of all known phanerogams, attributed this name to JCW, '*Leptospermum canescens*, Wendl.', but gave no details. The name was not included in Thompson's (1989) revision of *Leptospermum*. Without a description or specimens, this name is of uncertain application. Heynhold (1846, p. 353) placed '*Leptospermum canescens* Wendl.' as a synonym of '*Leptospermum pubescens* Poir.'.

Leptospermum emarginatum H.L.Wendl. ex Link, Enum. Hort. Berol. Alt. 2: 25 (1822)

(Fig. 9.)

Type citation: 'Hab. In Australia.' *Type*: cultivated, Herrenhausen Gardens, *s. dat.*, *H.L.Wendland s.n.* (lecto, here designated: GOET 027605!).

Notes

Thompson (1989, p. 388) gave typification as 'Holotype: Hab. Australia (? B, n.v.), isotype: NSW'. However, because no specimens were cited in the protologue, and because it cannot be demonstrated 'that a single specimen (or illustration) was the only element upon which the validating description or diagnosis was based' (ICN Art. 9.3, Melbourne Code, McNeill *et al.* 2012); see also McNeill 2014, p. 1113), no holotype exists, and the name is here lectotypified. The lectotype here designated bears the label in HLW's hand, '*Leptospermum baccatum emarginatum mihi*'. There is no evidence of an extant isolectotype at NSW (P. Wilson, pers. comm.).

There are two specimens at GOET in a folder labelled '*Leptospermum baccatum emarginatum* mihi'. GOET 027605 (here designated as the lectotype, see above) appears to be the earliest collected and HLW possibly sent a duplicate of this collection to Link in Berlin, who published the species. No associated specimens have been located in B, and Link's herbarium was destroyed during World War II. The second specimen, GOET 027606, has an additional annotation 'e. H.Herrenh. 25', which indicates that this specimen was collected from a plant in Herrenhausen Gardens in 1825.

Reichenbach (1828, p. III) provided some historical notes on the species, as follows: 'Diese neue Art aus einer beliebten Gattung der schönen Familie der Myrteen kam aus dem Jardin de Cels unter dem Namen von *Melaleuca nervosa* nach Deutschland. Herr Wendland legte ihr einen richtigeren Namen bei, unter welchem sie auch Herr Prof. Link in die neue Aufzählung der Gewächse des königl. bot. Gartens bei Berlin aufnahm, bevor sie noch Herr Wendland in seinen und Herrn D. Bartlings Beiträgen ausführlicher beschrieb' [translates as 'This new species, from a popular genus of the beautiful Myrtaceae, came to Germany from the Jardin de Cels under the name of *Melaleuca nervosa*. Mr Wendland provided the correct name, which Prof. Link also included in the new enumeration of the plants at the Royal Botanic Gardens in Berlin, before Mr Wendland described them in more detail in his own and Mr D. Bartling's publications.').

Leptospermum glomeratum H.L.Wendl., Flora 2:678 (1819)

(Fig. 10.)

[=Agonis flexuosa (Willd.) Sweet, Hort. Brit. 2nd edn. 209 (1830)].

Type citation: 'Habitat in Nova Hollandia.' *Type*: cultivated, Herrenhausen Gardens, *s. dat.*, *H.L.Wendland s.n.* (lecto, here designated: GOET 027607!).

Notes

Wendland (1819b, p. 678) noted that 'Ich habe sie als solches nirgends bechrieben finden können, und wir geben ihr deshalb den Namen L. glomeratum, weil in den Achseln der Blätter immer mehrere Blüthen beisammen sitzen' [translates as 'I have never found it described as such [as a *Leptospermum*: the species had informally been assigned to Eucalyptus and Melaleuca before], and I therefore give it the name L. glomeratum, because there are always several flowers in the axils of the leaves']. This was also a preliminary description because HLW noted that 'Eine ausführliche Beschreibung und Abbildung wird entweder von meinem Vater, oder von mir selbst nachfolgen' [translates as 'A detailed description and illustration will follow either from my father or from myself'). An expanded description was indeed later provided by HLW (Wendland 1825), in which he placed it as a synonym of L. flexuosum Link (= Agonis flexuosa), as well as Metrosideros flexuosa Willd. The label on the lectotype specimen is also annotated in this way. The original label is 'Leptospermum glomeratum mihi' and 'flexuosum Link' was later added and both annotations are in HLW's hand. In the expanded description, he reiterated the derivation of the name: 'Flores 6-8 congesti in glomerulos globosos' [flowers 6-8 congested into globose glomerules]. This name is listed under 'Excluded taxa' in Thompson (1989), but has otherwise been treated as a synonym of Agonis flexuosa. Further discussion about the species was provided by Wendland (1833) and Heynhold (1846).

Melaleuca hispida DC., Prodr. 3: 215 (1828), nom. inval., nom. nud.

Notes

De Candolle included this name in a list of names as '*M. hispida* (Wendl.)', '*omninò mihi ignotae*' [translates as 'unknown to me']. Without a description or specimens, the name is of uncertain application.

Melaleuca lanigera DC., Prodr. 3: 215 (1828), nom. inval., pro. syn.

[=Melaleuca incana R.Br., Bot. Reg. 5: tab. 410 (1819)].



Fig. 9. Lectotype of Leptospermum emarginatum – GOET 027605.



Fig. 10. Lectotype of *Leptospermum glomeratum* – GOET 027607.

De Candolle included this name under *Melaleuca incana* R.Br., and attributed the name to 'Wendl. ?', but without further details or a description.

Melaleuca linearis Schrad. & J.C.Wendl., Sert. Hannov. 1(2): 19, tab. 11 (1796)

(Fig. 11.)

[=Callistemon linearis (Schrad. & J.C.Wendl.) Colvill ex Sweet, Hort. Brit. 1: 155 (1826)]. Metrosideros linearis (Schrad. & J.C.Wendl.) Sm., Trans. Linn. Soc. London 3: 271 (1797).

Type citation: 'Habitat in Novae Hollandiae sinu Botanybay.' *Type*: cultivated, Herrenhausen Gardens, '*Metrosideros linearis*, H.H.', *s. dat., J.C. Wendland s.n.* (lecto, here designated: GOET 030143!).

Notes

Craven and Lepschi (1999) placed *Melaleuca linearis* Schrad. & J.C.Wendl. in their 'Doubtful and/or otherwise excluded taxa'. This name is treated as a synonym of *Callistemon linearis* by the Australian Plant Census (CHAH, see https://biodiversity.org.au/nsl/services/APC).

Specimens in GOET

Cultivated, Herrenhausen Gardens, '*Callistemon, 678/22*', *s. dat., J.C.Wendland s.n.* (GOET 030154!).

Melaleuca scoparia var. diosmatifolia Schrad & J.C.Wendl., Sert. Hannov. 1(3): 25, tab. 15, fig. 1 (1797), nom. inval.

[=*Leptospermum scoparium* J.R.Forst. & G.Forst., *Char. Gen. Pl.* 72 (as 48), tab. 36, fig. f–l (1775)].

Notes

Although described from plants originating in New Zealand, this name is included here because the species also occurs in Australia.

Melaleuca sect. Icosandrae Schrad. & J.C.Wendl., Sert. Hannov. 1(2): 19 (1796)

Type: Melaleuca linearis Schrad. & J.C.Wendl.

Notes

Schrader and Wendland (1796, p. 19) proposed the placement of the genera *Metrosideros* Banks ex Gaertn, *Leptospermum*, *Fabricia* Gaertn. and *Melaleuca* into two sections within *Melaleuca*. *Melaleuca* section *Icosandrae* to include *Metrosideros*, *Leptospermum* and *Fabricia*, and *Melaleuca* section *Polyadelphae* to include *Melaleuca* s. str. In the Herrenhausen herbarium at GOET, *Melaleuca* is sorted under the Linnean class Polyandria–Monogynia, whereas taxa such as, for example, *Metrosideros* are sorted under Icosandria– Monogynia on the basis of the different number of stamens. It is conceivable that Schrader and JCW wanted to reflect this placement in their sectional classification and, therefore, chose sectional names similar to the Linnean class names. Melaleuca sect. Polyadelphae Schrad. & J.C.Wendl., Sert. Hannov. 1(2): 19 (1796)

Type: not cited.

Notes

See under Melaleuca section Icosandrae.

Melaleuca thea Schrad. & J.C.Wendl., Sert. Hannov. 1(3):24, tab. 14 (1797)

(Fig. 12.)

[=Leptospermum polygalifolium Salisb., Prodr. Stirp. Chap. Allerton 350 (1796)]. Leptospermum thea (Schrad. & J.C.Wendl.) Willd., Sp. Pl., 4th edn. 2(2): 949 (1799).

Type citation: 'Habit. in Novae Hollandiae sinu Botany-Bay.' *Type*: J.C.Wendland, *Sert. Hannov*. 1(3): tab. 14 (1797) (lecto, here designated).

Notes

JCW compared this taxon to *L. squarrosum* Gaertn., but distinguished it as being a *Melaleuca* on the basis of characters of the capsules. Craven and Lepschi (1999) included *M. thea* in their 'Doubtful and/or otherwise excluded taxa'. Thompson (1989) incorrectly gave the illustration as tab. 13. The illustration tab. 14 is here lecotypified.

Specimens in GOET

The following three specimens are included in the folder named '*Leptospermum flavescens* Smith, *Leptospermum Thea* Smith Willd. H.H.': cultivated, Herrenhausen Gardens 'H.H.', *s. dat.*, *H.L.Wendland s.n.* (GOET 030110!); cultivated, Berlin Botanic Gardens 'e.Horti Berol. 23', 1823, *H.L.Wendland s.n.* (GOET 030111!); and cultivated, Herrenhausen Gardens, 'e.H. Herrenh. 25', 1825, *H.L.Wendland s.n.* (GOET 030112!).

Metrosideros pinifolia J.C.Wendl., Coll. Pl. 1: 53, tab. 16 (1805)

[=*Callistemon pinifolius* (J.C.Wendl.) Sweet, *Hort. Brit.*, 1st edn. 1:155 (1826)]. *Melaleuca linearis* var. *pinifolia* (J.C.Wendl.) Craven, *Novon* 16(4): 472 (2006).

Type citation: 'Vaterland: Neu-Holland.' *Type*: illustration, J.C.Wendland in *Coll. Pl.* 1: tab. 16 (1805) (lecto, *fide* L.A. Craven, *Novon* 16(4), 472 (2006)).

Notes

The specimen GOET 030136! was collected from a plant growing at Herrenhausen.

Metrosideros scariosa J.C.Wendl. ex Hornem., Hort. Bot. Hafn., Suppl. 139 (1819)

Type citation: 'Hab. – T. missa 1818 a celeb. Wendlandio sub hoc nomine.' *Type*: not seen.

Notes

Hornemann (1819) provided no reference to specimens or to an illustration in the protologue. Hornemann added after the description '*Hab. –. T. missa 1818 a celeb. Wendlandio sub*



Fig. 11. Lectotype of Melaleuca linearis – GOET 030143.



Fig. 12. Lectotype of *Melaleuca thea*, in H.A.Schrader & J.C.Wendland, *Sertum Hannoveranum* 1(3): tab. 14 (1797). Image from Biblioteca Digital Real Jardín Botánico CSIC.

hoc nomine' [translates as 'sent by Wendland under the name in 1818']. It is listed as a name of uncertain application in the Australian Plant Census (CHAH, see https://biodiversity.org.au/ nsl/services/APC) and in The Plant List (see http://www. theplantlist.org) as an unplaced name.

Metrosideros stricta H.L.Wendl., Allg. Deutsche Gart.-Zeitung 4(40): 339 (1826), nom. inval., nom. nud.

Notes

This name was included in a list of plants cultivated in Herrenhausen Gardens in 1826. A specimen GOET 030149! is labelled in the hand of HLW as '*Metrosideros stricta*, H.H., *Callistemon*'. However, identity of the specimen remains uncertain.

Tristania subverticillata H.L.Wendl., *Allg. Gartenzeitung* 1: 186 (1833)

(Fig. 13.)

[=Lophostemon confertus (R.Br.) Peter G.Wilson & J.T.Waterh., Austral. J. Bot. 30(4): 424 (1982)].

Type citation: 'Das Vaterland, Neuholland.' *Type*: cultivated, Herrenhausen Gardens, 1833, *H.L.Wendland s.n.* (lecto, here designated: GOET 027625! mounted on two sheets).

Notes

This name was not typified by Wilson and Waterhouse (1982) in their review of *Tristania*. Wendland (1833) noted that 'Die Blüthezeit, July. Das Vaterland, Neuholland. Im Jahre 1822 ist diese Pflanze aus Samen gezogen und hat vergangenes Jahr zum erstenmal geblüht' [translates as 'Flowering time, July. Origin, New Holland. In the year 1822 the plant was raised from seed and flowered for the first time last year.']. The lectotype specimen has young fruit, which matches HLW's note.

Pandanaceae

Pandanus sessilis H.Wendl., Index Palm. 47 (1854), nom. inval., nom. nud.

Notes

A name of uncertain application. Wendland (1850) noted that 'P. sessilis hat eine Höhe von 10'' erreicht' [translates as 'P. sessilis has reached a height of 10''], in reference to a plant cultivated at Herrenhausen Gardens. HW noted that the plant was obtained from Loddiges Nursery in 1841 (Wendland 1854).

Passifloraceae

Passiflora glabra J.C.Wendl., *Coll. Pl.* 1: 55, tab. 17 (1805) (Fig. 14.)

[=Passiflora aurantia G.Forst., Fl. Ins. Austr. 62 (1786)].

Type citation: 'Das Vaterland?' *Type*: J.C.Wendland, *Coll. Pl.* 1: tab. 17 (1805) (lecto, here designated).

Notes

Satterthwait (1982, p. 150) cited the type as 'T: cultivated at Hanover; n.v.'. No specimens related to this name have been located at GOET. The illustration is here designated as the lectotype.

Pittosporaceae

Billardiera canariensis J.C.Wendl., Bot. Beob. 43 (1798)

[=Billardiera scandens Sm., Spec. Bot. New Holland 1(1):1, tab. 1 (1793)].

Type citation: 'Vaterland: die Canarischen Inseln.' *Type*: J.C.Wendland, *Hort. Herrenhus.* 3: tab. 15 (1799) (lecto, *fide* L.W.Cayzer *et al., Austral. Syst. Bot.* 17(1): 93 (2004)).

Notes

This taxon was erroneously indicated to be from the Canary Islands, but it is endemic to south-eastern Australia. At the time that this name was published by JCW, Australian plants were cultivated in several places, such as the Canary Islands and the Cape of Good Hope, which were on the shipping route to Australia. Bentham (1863, p. 124) treated *B. canariensis* as a synonym of *B. scandens*.

Proteaceae

As with the Fabaceae, members of the Proteaceae were among the first Australian plants to be cultivated in European gardens. They proved adaptable and hardy in botanical gardens collections and, as with Fabaceae novel taxa, were to be expected and, subsequently, described from cultivated specimens. On the basis of plants grown in Herrenhausen Gardens, JCW established one new genus (*Hakea*) and five new species. The present work recognises nine names in the Proteaceae associated with JCW and HLW.

Banksia cuneifolia H.L.Wendl. ex Hoffmanns., Verz. Pfl.-Kult. Nachtr. 2: 25, 64 (1826)

Type citation: 'Austral.' Type: not seen.

Notes

Von Hoffmannsegg (1826, p. 25) indicated that the name was provided by 'Wendl. fil.'. (= HLW) with location as 'Austral.' in a preliminary list of species, but otherwise provided no reference to specimens or to an illustration in the protologue (p. 64). No relevant specimens have been located in GOET or in any herbaria (e.g. B, G, H, HAL) where Hoffmannsegg collections are held. George (1999, p. 249) noted that this taxon was 'Insufficiently described; based on cultivated material'. Although the protologue is sufficient for valid publication of the name, the identity of the taxon is unresolved. Banksia cuneifolia was included in Roemer and Schultes (1827, p. 379) and de Candolle (1857, p. 466) with a verbatim copy of Hoffmannsegg's original description. Bentham (1870, p. 555) noted that it was in a group of 'garden plants which appear to have been correctly referred to B. integrifolia, although several of them have been described only as to their foliage'. A fossil taxon from Tertiary deposits



Fig. 13. Lectotype of *Tristania subverticillata* – GOET 027625 (sheet 1 of 2).



Fig. 14. Lectotype of Passiflora glabra, in J.C.Wendland, Collectio Plantarum 1: tab. 17 (1805). Image from Biodiversity Heritage Library.

in Switzerland, *Banksia cuneifolia* Heer (Heer 1856, p. 98), is an illegitimate later homonym of Hoffmannsegg's name.

Banksia reticulata H.L.Wendl. ex Hoffmanns., Verz. Pfl.-Kult. Nachtr. 2: 25, 67 (1826)

Type citation: 'Hab. in Austral.' Type: not seen.

Notes

Von Hoffmannsegg (1826, p. 25) indicated that the name was provided by 'Wendl. fil.'. (=HLW). George (1999, p. 251) noted that 'T: Australia, coll. unknown; n.v. Insufficiently described'. Hoffmannsegg provided no reference to specimens or to an illustration in the protologue. No relevant specimens have been located in GOET or in any herbaria (e.g. B, G, H, HAL) where Hoffmannsegg collections are held. Although the protologue is sufficient for valid publication of the name, the identity of the taxon is unresolved. The name was subsequently attached to cultivated plants in Kew (Hovey 1845) and Cornwall (Fitzherbert 1909); however, whether these represent B. reticulata is unable to be determined. Banksia reticulata was included in Roemer and Schultes (1827, p. 379) and de Candolle (1857, p. 466) with a verbatim copy of Hoffmannsegg's original description. Bentham (1870, p. 555) noted that it was in a group of 'garden plants which appear to have been correctly referred to B. integrifolia, although several of them have been described only as to their foliage'.

Hakea Schrad. & J.C.Wendl., Sert. Hannov. 1(3): 27 (1797)

Type: Hakea glabra Schrad. & J.C.Wendl.

Notes

The generic description was included in the introduction under: 'Charact. Essent.', which, even though the genus name was not explicitly indicated, can be interpreted as valid publication as a descriptio generico-specifica (ICN Art. 38.5, Melbourne Code, McNeill *et al.* 2012). *Hakea* is a genus of ~150 species endemic to Australia (Barker *et al.* 1999), named for Baron Christian Ludwig von Hake (1745–1818), a German patron of science and a Councillor in Hanover.

Hakea glabra Schrad. & J.C.Wendl., Sert. Hannov. 1(3): 27, tab. 17 (1797)

[=Hakea teretifolia (Salisb.) Britten subsp. terretifolia, J. Bot. 54: 60 (1916)].

Type citation: 'Habit. in Novae Hollandiae sinu Botany-bay'. *Type: s. loc., s. dat.,* [? Schrader] Herb., *Anon. s.n.* (syn: BW 02470010!, BW 02470020!; both sheets in one folder); *s. loc., s. dat., Anon. s.n.* (syn: B 100295501!;*fide* R.M. Barker, L. Haegi & W.R. Barker in A.J.G.Wilson (ed.), *Fl. Australia* 17B: 95 (1999)).

Notes

Barker *et al.* (1999, p. 95) cited several specimens under 'type' for *Hakea glabra*: these specimens are BW 02470010!, BW 02470020! and B 100295501! A further specimen, cited as 'M' was not located. The only specimen at GOET, GOET 024324!,

was collected in 1832, and is, therefore, not involved in typification.

Specimen at GOET

Cultivated, Herrenhausen Gardens, 'Hakea glabra Sch. et Wendl. e. H. Herrenh. 32', 1832, *leg. ign.*, GOET 024324!

Hakea pubescens Schrad. & J.C.Wendl., Sert. Hannov. 1(3): 27 (1797)

[=Hakea gibbosa (Sm.) Cav., Annales Hist. Nat. 1: 214 (1800)].

Type citation: 'ramis cernuis foliisque pubescentibus.' *Type*: not seen.

Notes

Barker *et al.* (1999, p. 64) included *Hakea pubescens* Schrad. & J.C.Wendl. under the synonymy of *H. gibbosa* with a '?', indicating that the status was not resolved. No extant specimens related to this name have been located at GOET.

Hakea sericea Schrad. & J.C.Wendl., Sert. Hannov. 1(3): 27 (1797)

Type citation: 'ramis erectis, ramulis sericeis, foliis glabris.' *Type:* not seen.

Notes

Barker *et al.* (1999, p. 61) gave typification as 'T: not designated, presumably a plant grown in the Hannover Garden.'. No extant specimens related to this name have been located at GOET.

Protea nectarina J.C.Wendl., Sert. Hannov. 1(4): 5, tab. 21 (1798) (Fig. 15.)

[=Lambertia formosa Sm., Trans. Linn. Soc. London 4: 214, 223, tab. 20 (1798).].

Type citation: 'Patria: Nova Hollandia.' *Type*: J.C.Wendland, *Sert. Hannov.* 1(4): tab. 21 (1798) (lecto, here designated).

Notes

Hnatiuk (1995, p. 429) cited typification as 'T: Nova Hollandia (N.S.W.), coll. unknown: *n.v.*'. No extant specimens related to this name have been located at GOET. This name had a rather short life because it was synonymised 2 years later by Cavanilles (1800, p. 234) under *Lambertia formosa* Sm.

Protea pulchella Schrad. & J.C.Wendl., Sert. Hannov. 1(2): 15, tab. 7 (1796)

[=Petrophile pulchella (Schrad. & J.C. Wendl.) R.Br., Trans. Linn. Soc. London 10: 69 (1810).].

Type citation: 'Habitat in Novae Hollandiae sinu Botanybay.' *Type*: cultivated, Herrenhausen Gardens, 'Wendland. W. *P. pulchella*', *s. dat., J.C.Wendland s.n.* (lecto, here designated: B-W 02402-010!).



Fig. 15. Lectotype of *Protea nectarina*, in J.C.Wendland, *Sertum Hannoveranum* 1(4): tab. 21 (1798). Image from Biblioteca Digital Real Jardín Botánico CSIC.

The Wendland specimen B-W 02402-010 was sent by Wendland to Willdenow, and is here considered as original material of P. pulchella Schrad. & J.C.Wendl. Foreman (1995, p. 157) cited type material of P. pulchella Schrad. & J.C.Wendl. as 'T: Botany-bay (N.S.W.), 1803, R.Brown (Britten 3240); syn: BM'. Two specimens labelled Petrophile pulchella R.Br., Brown 3240, Port Jackson, 1802-1803 were found online on JSTOR (see http://plants.jstor.org). Both collections (BM 000991888 and K 000736528) bear a label reading 'R. Brown, Iter Australiense, 1802-5 N°. 3240', indicating that they were collected after the original description of Protea pulchella was published in 1796, and are, therefore, not original material. In GOET, only one specimen labelled Protea pulchella was found: GOET 024499! ('Protea pulchella Andr.', ex Herbarium Wendland Herrenhausen'). This is probably original material of P. pulchella Andr. nom. illeg. (non P. pulchella Schrad. & J.C.Wendl.).

Sapindaceae

Dodonaea triquetra J.C.Wendl., Bot. Beob. 44 (1798)

Type citation: 'Vaterland: Australien.' *Type*: cultivated, Herrenhausen Gardens, 'habitat in Nova Hollandia', *s. dat.*, *J.C.Wendland s.n.* (lecto: B-W 07318-010!, *fide* J.G.West, *Brunonia* 7: 51 (1984)).

Notes

West (1984, p. 51) gave typification as 'Type: 'Australien'. Lectotype (here designated): *Wendland s.n.*, habitat in Nova Hollandia. m. fl. (B in Hb. Willdenow), photo only seen'. West suggested that Wendland based it on cultivated plants at Herrenhausen, and that the specimen (n. 7318 in Herb Willdenow) originated from Herrenhausen: 'cult in Ht. Herrenhausen; vidi specim. Held at B'. West also suggested that the species was widely cultivated in Europe by the time the species was first described.

This specimen consists of four branches, one of which contains fruit, whereas the other three are flowering branches. JCW did not include fruit descriptions in the protologue of the species so that the fruiting branch can be excluded as original material. The four branches were initially placed in a single folder, but were not mounted, and the only label information was '*Dodonaea triquetra* Wendl.'. Because they were not mounted, it is not sure whether they are part of the same gathering, or whether the fruiting branch was collected later. It is most probable that these were all later collections, and do not represent original material.

Specimens in GOET

Cultivated, Herrenhausen Gardens, 'Dodonaea triquetra Wendl.', s. dat., leg. ign. (GOET 027626!).

Conflicts of interest

The authors declare that they have no conflicts of interest.

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