



## Supplement

# Aboriginal Translocations: The Intentional Propagation and Dispersal of Plants in Aboriginal Australia

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**Supplementary Table 1. Species deliberately planted, nurtured and/or transported by Aboriginal people in Australia.** \*denotes introduced species (post-European arrival in area). Aboriginal names, where known from the regions documented in the table, are shown in italics.

Species	Bioregion/s	Life-form	Uses/significance	Translocation Type	Notes	Reference	Evidence (ethnographic source type)	Reliability
<i>Acacia dictyophleba</i> ( <i>Moolyari</i> /spear bush)	Tanami	Shrub	Material; ceremonial	Assisted migration (post-contact)	Walpiri man took seed from a population of this important spear-making plant, which is highly prized, to grow back at Yuendumu; in 1974	Kimber (1976)	Ethnographic (direct observation)	High
<i>Acacia salicina</i> ( <i>Wirra</i> /sally wattle)	Simpson Strzelecki Dunefields	Tree	Ceremonial; narcotic	Introduction; reinforcement	Wongkanguru people broadcast the seed after it had been crushed, in ceremonies performed after or before rain	Horne & Aiston (1924)	Ethnographic (direct observation)	High
<i>Acacia</i> spp.	Esperance Plains; Jarrah Forest	Shrubs	Food; ceremonial	Introduction	Contemporary Menang Noongar elders say that presence of certain <i>Acacia</i> species is indicative of old campsites; wattle seeds were certainly a widespread food source	Alison Lullfitz, University of WA, pers. comm., March 2017	Ethnographic; biogeographic (contemporary knowledge; first-hand historical account)	High

Supplementary Table 1. (Continued).

Species	Bioregion/s	Life-form	Uses/significance	Translocation Type	Notes	Reference	Evidence (ethnographic source type)	Reliability
<i>Adansonia gregorii</i> (Australian baobab tree)	Dampierland; Central Kimberley; Northern Kimberley; Victoria Bonaparte	Tree	Food; materials; ceremonial	Assisted migration; introduction; reinforcement	Genetic and linguistic data point to humans as most likely dispersal vector; authors conclude that humans significantly influenced evolution and distribution of the species across north-western Australia	Rangan et al. (2015)	Phylogenetic; ethnographic (linguistic)	High
<i>Amorphophallus paeoniifolius</i> (jungle yam)	Arnhem Coast; Central Arnhem	Tuber	Food	Introduction; reinforcement; in situ nurture	Common practice to leave part of tuber in ground when harvesting, and to actively plant them at other sites in Arnhem Land	Russell-Smith et al. (1997)	Ethnographic (contemporary knowledge; direct observation; firsthand historical account)	High
<i>Araucaria bidwillii</i> (bunya pine)	South Eastern Queensland	Pine tree	Food; ceremonial	Introduction; assisted migration; reinforcement	GN Hyam records '...evidence of a trace of primitive agriculture in the theory that the seeds [of the bunya tree] were sometimes deliberately planted to secure a continuity of supply'; does not reveal source, and no further references found	Hyam (1939)	Ethnographic (second-hand information, no source provided)	Low
<i>Astrelba pectinata</i> (Katoora/barley grass)	Channel Country	PG	Food; ceremonial	Introduction; reinforcement; in situ nurture	Alice Duncan-Kemp observed trading, sprinkling and irrigating of seed during the Katoora Ceremony, at Mooraberrie, south-western Queensland	Duncan-Kemp (1934)	Ethnographic (first-hand historical account)	Moderate
<i>Banksia brownii</i> (feather-leaved banksia)	Jarrah Forest	Shrub	Food and materials	Assisted migration	Outlying occurrence on Vancouver Peninsula (main population in Stirling Range) next to Aboriginal campsite; DNA data provides some support for human agency to establish this population	David Coates, pers.comm.	Biogeography; phylogenetic; ethnographic (contemporary knowledge)	Moderate

Supplementary Table 1. (Continued).

Species	Bioregion/s	Life-form	Uses/significance	Translocation Type	Notes	Reference	Evidence (ethnographic source type)	Reliability
<i>Banksia</i> spp.	Esperance Plains; Jarrah Forest	Shrubs	Food and materials	Introduction; assisted migration; reinforcement	Transport of seeds of certain species reported by contemporary Menang Noongar elders; George Grey observed <i>Banksia</i> cones to be a common part of women's dillybags (used for lighting fires)  Ngarigo oral history tells how when old women walked songline tracks, they carried seeds of their favourite food and resource plants, which would be sown and cultivated at their chose, and spiritually significant places; grove of ancient kurrajongs in Charles Massy's homestead garden mark an important ceremonial place.	Alison Lullfitz, University of WA, pers. comm., March 2017; Grey (1841)	Ethnographic (contemporary knowledge, firsthand historical account); biogeographic	Moderate
<i>Brachychiton populneus</i>	South Eastern Highlands	Tree	Food and materials; ceremonial	Assisted migration		Rob Mason, in Massy (2017)	Ethnographic (contemporary knowledge); biogeographic	High
<i>Castanospermum australe</i> (Bugam/black bean/Moreton Bay chestnut)	South Eastern Queensland; NSW North Coast	Tree	Food; cultural	Introduction; assisted migration	Cultural evidence of recent human-mediated dispersal validated by genomic homogeneity across multiple catchments and extensively dissected topography	Rossetto et al. (2017)	Ethnographic (mythology); biogeographic; phylogenetic	High
<i>Cenchrus ciliaris</i> (buffel grass)*	Great Sandy Desert; Little Sandy Desert; Gibson Desert	Perennial grass	Unknown	Assisted migration (post-contact)	Martu people stated that after contact, relatives spread seed of this species along the Rudall River; difficult to verify	Walsh (1990)	Ethnographic (contemporary knowledge)	Moderate
<i>Citrullus lanatus</i> (Bitter melon)*	Great Sandy Desert; Little Sandy Desert; Gibson Desert	Perennial forb	Unknown	Assisted migration (post-contact)	Martu people stated that after contact, relatives spread seed of this species along the Rudall River; difficult to verify	Walsh (1990)	Ethnographic (contemporary knowledge)	Moderate

Supplementary Table 1. (Continued).

Species	Bioregion/s	Life-form	Uses/significance	Translocation Type	Notes	Reference	Evidence (ethnographic source type)	Reliability
<i>Colocasia esculenta</i> var. <i>aquatilis</i> (Taro)	Cape York Peninsula; Gulf Coastal; Arnhem Coast; Darwin Coastal; Tiwi Cobourng; Victoria	Tuber	Food	Introduction; assisted migration; reinforcement; in situ nurture	Common New Guinea cultivated domesticate; possible origin is experimental horticulture prior to early Holocene sea level rises creating Torres Strait.	Jones & Meehan (1989); Denham et al. (2009)	Biogeographic	Low
	Bonaparte Channel Country; Simpson				People scattered these bulbs during ceremonial performances celebrating Jelkabalubalura, a mythological hero who originally distributed them	Reuther, in Kimber (1984); Horne & Aiston (1924); Aiston (1930)	Ethnographic (first-hand historical account)	Moderate
<i>Cyperus bulbosus</i> (Yaua/yelka)	Sirzelecki Dunefields	Perennial sedge	Food; ceremonial	Introduction; reinforcement				
<i>Dioscorea</i> spp. (Yams)	Cape York Peninsula; Gulf Coastal; Arnhem Coast; Darwin Coastal; Tiwi Cobourng; Victoria	Tuber	Food	Assisted migration	Multiple populations across northern Australia provide the earliest unambiguous evidence of deliberate planting on the continent, because viable populations of these plants (common cultivated domesticate in New Guinea) could not have become established without human agency.	Jones & Meehan (1989); Denham et al. (2009)	Biogeographic	High
	Bonaparte; Wet Tropics							
<i>Dioscorea bulbifera</i> (Bitter yam)	Arnhem Coast; Central Arnhem	Tuber	Food	Introduction; reinforcement; in situ nurture	Common practice to leave part of tuber in ground when harvesting, and to actively plant them at other sites in Arnhem Land	Russell-Smith et al. (1997); Denham et al. (2009)	Ethnographic (direct observation)	High
	Victoria Bonaparte	Tuber	Food	Introduction; reinforcement (post-contact)	Tubers re-planted during harvesting, and bulbils also collected for planting in Murinpatha woman Biddy Simon's garden	Head et al. (2002)	Ethnographic (direct observation)	High

Supplementary Table 1. (Continued).

Species	Bioregion/s	Life-form	Uses/significance	Translocation Type	Notes	Reference	Evidence (ethnographic source type)	Reliability
<i>Dioscorea bulbifera</i> (Greater yam)	Northern Kimberley	Tuber	Food	Reinforcement	Tubers re-planted during harvesting	Crawford (1982)	Ethnographic (direct observation)	High
<i>Dioscorea</i> sp. (Mindal)	Victoria Bonaparte	Tuber	Food	Introduction	Over two visits to remote springs, Murinpatha woman Biddy Simon tried to find a place where she had planted a type of round yam she called mindal, while on holiday when she was about 13, some 40 years earlier	Head et al. (2002)	Ethnographic (direct observation)	High
Yam species	Cape York Peninsula	Tuber	Food	Reinforcement; in situ nurture	Numerous references to tops of yams being broken off then replaced in the ground	McConnel (1957); Campbell (1965); Hynes & Chase (1982)	Ethnographic (direct observation)	High
<i>Erythrina vesperillo</i> (Batswing coral tree)	Great Sandy Desert; Tanami; Gibson Desert	Tree	Ceremonial	Introduction	Circumstantial evidence suggestive of planting, e.g. occurring around wells in very disjunct populations or single plants	Kimber (1976)	Biogeographic	Low
<i>Exocarpos</i> spp. (Native cherry)	Esperance Plains; Jarrah Forest	Shrubs	Food	Introduction	Transport of seeds of certain species reported by contemporary Menang Noongar elders, southwestern WA	Alison Lullfitz, University of WA, pers. comm., March 2017	Ethnographic (Contemporary knowledge)	Moderate

Supplementary Table 1. (Continued).

Species	Bioregion/s	Life-form	Uses/significance	Translocation Type	Notes	Reference	Evidence (ethnographic source type)	Reliability
<i>Ficus</i> sp. (Fig tree)	Great Sandy Desert	Tree	Ceremonial	Introduction (post-contact)	Walpiri man took cuttings and seed from a special fig tree near an important dreaming site back to Papunyah, to maintain a connection with country he would probably never visit again; in 1974	Kimber (1976)	Ethnographic (direct observation)	High
Grass sp.	NSW South Western Slopes	PG	Food	Reinforcement	Helped to collect and process a 'heavy kind' of grass seed (apparently specific species); the best grains were planted into the burnt area	Gillmore (1934:221-3)	Ethnographic (first-hand historical account)	Moderate
Grass species	Simpson Strzelecki Dunefields	Grass	Food	Assisted migration; introduction; reinforcement	Bushman Walter Smith described broadcasting and long-distance trade of seed in Simpson Desert and neighbouring areas	Kimber (1984)	Ethnographic (first-hand historical account)	Moderate
Ground-berry (unidentifiable from description; possibly <i>Eremophila debilis</i> )	NSW South Western Slopes	Shrub	Food	Reinforcement	Best seeds selected and planted back into site after eating the fruit	Gillmore (1934:221-3)	Ethnographic (first-hand historical account)	Moderate
<i>Hakea</i> spp.	Esperance Plains; Jarrah Forest	Shrubs	Food	Introduction	Transport of seeds of certain species reported by contemporary Menang Noongar elders, south-western WA Walpiri man collected trailers from an important mythological site to be planted back at Papunyah	Alison Lullfitz, pers.comm., March 2017	Ethnographic (contemporary knowledge)	Moderate
<i>Ipomoea costata</i> (Yella/bush potato)	Great Sandy Desert	Tuber	Food; ceremonial	Introduction (post-contact)		Kimber (1976)	Ethnographic (direct observation)	High

Supplementary Table 1. (Continued).

Species	Bioregion/s	Life-form	Uses/significance	Translocation Type	Notes	Reference	Evidence (ethnographic source type)	Reliability
<i>Ipomoea costata</i> / <i>Ipomoea polpha</i>	Great Sandy Desert	Tuber	Food; ceremonial	Reinforcement	Planting of these species noted in unspecified part of the Western Deserts	Yen (1989)	Ethnographic (second-hand information, no source provided)	Low
<i>Livistona australis</i> (Cabbage palm)	South East Corner	Palm tree	Food; ceremonial	Assisted migration	Highly valued for roots and young shoots; suggested that planting may account for isolated occurrence near Orbst	Hyam (1939)	Biogeographic (second-hand information, no source provided)	Low
<i>Livistona mariae</i> (Central Australian cabbage palm)	Macdonnell Ranges	Palm tree	Food; ceremonial	Assisted migration	Biogeographic and DNA evidence suggest human agency in establishment of this isolated population	Kondo et al. (2012); Bowman et al. (2015)	Biogeographic; phylogenetic; ethnographic (mythology)	Moderate
<i>Macrozamia dyeri</i>	Esperance Plains; Jarrah Forest	Cycad	Food	Introduction; reinforcement; in situ nurture	Preliminary field observations strongly suggest that distributions have been manipulated by people; Ethel Hassell observed the trading and burial of 'great heaps' of <i>Macrozamia</i> in south-western WA.	Alison Lullfitz, pers.comm., March 2017; Hassell (1975)	Biogeographic; ethnographic (first-hand historical account)	Moderate
<i>Marsilea</i> spp. (nardoo)	Simpson Strzelecki Dunefields	PH	Food; ceremonial	Introduction; reinforcement	Bushman Walter Smith described broadcasting and long-distance trade of seed in Simpson Desert and neighbouring areas; also a mythological being celebrated to the south who was responsible for 'cultivating' nardoo	Kimber (1984)	Ethnographic (first-hand historical account; mythology)	Moderate

Supplementary Table 1. (Continued).

Species	Bioregion/s	Life-form	Uses/significance	Translocation Type	Notes	Reference	Evidence (ethnographic source type)	Reliability
	Southern Volcanic Plain; South East Coastal							
<i>Microseris scapigera</i> (Murnong/yam daisy)	Plain; Victorian Midlands; South Eastern Highlands	Tuber	Food	Reinforcement; in situ nurture	Extensive cultivation by fire and digging in grasslands and grassy woodlands of Victoria, with observations of 'yam gardens' and people re-planting tubers	Gott (1983); Pascoe (2014) and references therein	Ethnographic (first-hand historical account); archaeological	High
<i>Musa acuminata</i> ssp. <i>banksi</i> (Banana)	Cape York Peninsula	Tree	Food	Assisted migration	Common New Guinea cultivated domesticate; possible origin is experimental horticulture prior to early Holocene sea level rises creating Torres Strait.	Jones & Meehan (1989); Denham et al. (2009)	Biogeographic	Low
<i>Nauclea orientalis</i> (Leichhardt tree)	Victoria Bonaparte	Tree	Materials	Introduction (post-contact)	Planted from certain sites in the bush in Biddy Simon's garden	Head et al. (2002)	Ethnographic (direct observation)	High
	Great Sandy Desert; Tanami; Gibson Desert; Finke; Central Ranges				On Central Australian outstations, this is the only indigenous plant introduced into garden plots; seeds are sometimes spread during harvest, but this may be a post-contact practice	Farrington & Urry (1985); Latz (1995)	Ethnographic (direct observation)	High
<i>Nitritaria billardieri</i> (Nitre bush)	Flinders Lofty Block	Shrub	Food	Introduction; reinforcement	Often observed growing around Aboriginal camps	Clarke (2014)	Biogeographic	Low
<i>Nymphophaea</i> spp. (Water lily)	Mitchell Downs	Water lily	Food	Introduction (post-contact)	Staple food; continues to be spread into waterholes where they are not present by women on the Barkly Tableland	Kate van Wezel, pers. comm., September 2016	Ethnographic (direct observation)	High



Supplementary Table 1. (Continued).

Species	Bioregion/s	Life-form	Uses/significance	Translocation Type	Notes	Reference	Evidence (ethnographic source type)	Reliability
<i>Phoenix dactylifera</i> (Date palm)	Gulf Plains	Palm tree	Food	Assisted migration (post-contact)	Seed gifted to Aboriginal people in the Gulf Country by 'Afghans' was planted and became regarded as a special tree due to links with the past	Martin and Trigger (2015)	Ethnographic (direct observation); biogeographic	High
<i>Platysace deflexa</i> (Youck/Ravensthorpe radish)	Esperance Plains; Jarrah Forest	Tuber	Food	Introduction	Transport of seeds reported by contemporary Menang Noongar elders + preliminary field observations suggest distribution has been manipulated by people	Alison Lullfitz, University of WA, pers. comm., March 2017	Ethnographic (contemporary knowledge); biogeographic	Moderate
<i>Platysace trachymenoides</i>	Esperance Plains; Jarrah Forest	Tuber	Food	Introduction	Transport of seeds reported by contemporary Menang Noongar elders + preliminary field observations suggest distribution has been manipulated by people	Alison Lullfitz, University of WA, pers. comm., March 2017	Ethnographic (contemporary knowledge); biogeographic	Moderate
<i>Portulaca</i> spp. (oleracea and pilosa) (purslane)	WA (possibly Murchison)	AH	Food	Reinforcement; in situ nurture	Thomas, in a general work on the Australian Aborigines, describes cultivation on mounds as a 'well-established fact' but does not reveal his source.	Thomas (1906)	Ethnographic (second-hand information, no source provided)	Low
<i>Santalum acuminatum</i> (Quandong)	NSW South Western Slopes	Tree	Food	Introduction; reinforcement; in situ nurture	Planting of seeds by Wiradjuri observed, along with cross-fertilisation by hand between groves; south-western NSW, circa 1870s	Gillmore (1934)	Ethnographic (first-hand historical account)	Moderate
<i>Santalum acuminatum</i> (Quandong)	Esperance Plains; Jarrah Forest	Tree	Food	Introduction	Widespread occurrence conjectured to be due to Noongar cultivation	Drummond (1843), in Lullfitz et al. (2017)	Ethnographic (second-hand information, no source provided)	Low

Supplementary Table 1. (Continued).

Species	Bioregion/s	Life-form	Uses/significance	Translocation Type	Notes	Reference	Evidence (ethnographic source type)	Reliability
<i>Solanum centrale</i> (Desert raisin)	Great Sandy Desert; Little Sandy Desert; Gibson Desert; Tanami	PH	Food	Introduction; reinforcement	Valuable food plant; often grows around campsites; subject of increase ceremonies to ensure continued production, but no direct observations of translocation	Gerritsen (2008)	Biogeographic	Low
<i>Solanum chippendalei</i>	Burt Plain; Tanami	PH	Food	Introduction	Scattering of seeds by the Alywar to establish colonies outside normal range of species in Central Australia; unknown whether this practice occurred pre-contact	Latz (1995)	Ethnographic (direct observation)	High
<i>Solanum diversifolium</i> (yalijarra/bush tomato)	Great Sandy Desert; Little Sandy Desert; Gibson Desert	PH	Food	Reinforcement; introduction	Elderly Martu man described how before summer rain, bush tomato seed was scattered on burnt ground near camp	Walsh (1990)	Ethnographic (first-hand historical account)	Moderate
<i>Swainsona formosa</i> (Sturts desert pea)	Great Sandy Desert	PH	Aesthetics	Assisted migration (post-contact)	Pintubi man took seed home, because he found carpets of the plants seen on a trip so beautiful; in 1974	Kimber (1976)	Ethnographic (direct observation)	High
<i>Tecticornia arborea</i> (Kurumi)	Murchison	Shrub	Food; ceremonial	Reinforcement	Stone arrangement shows story of collection, preparation and consumption of seed; ancestors would sow the seed into cracks in the claypan to ensure supply	Dix & Lofgren (1974)	Ethnographic (contemporary knowledge); archaeological	Moderate
<i>Typhonium bulbiferum</i> (Mayluma)	Victoria Bonaparte	Tuber	Food	Introduction (post-contact)	Planted from certain sites in the bush in Biddy Simon's garden	Head et al. (2002)	Ethnographic (direct observation)	High

**Supplementary Table 1.** (Continued).

Species	Bioregion/s	Life-form	Uses/significance	Translocation Type	Notes	Reference	Evidence (ethnographic source type)	Reliability
Various fruit-bearing trees of northern Australian rainforests and vine forests	Cape York Peninsula;							
	Gulf Coastal; Arnhem Coast; Darwin Coastal; Tiwi Cobour; Victoria Bonaparte	Trees and shrubs		Introduction; reinforcement; in situ nurture	High concentrations of edible fruit trees adjacent to camp sites and shell mounds/middens	Jones (1975); Hynes & Chase (1982); Cribb et al. (1988)	Biogeographic	Moderate
Various tuber species, including yams ( <i>Dioscorea</i> spp.)	Warren; Swan Coastal Plain; Geraldton Sandplains; Esperance Plains	Tubers	Food	Reinforcement; in situ nurture	Active manipulation documented in coastal western Australia, including re-planting of tubers during harvesting	Hallam (1975); Gregory & Gregory (1884)	Ethnographic (first-hand historical accounts)	High
			Food					