
VINE FORESTS AND THICKETS OF
WELL DRAINED SOILS

OF SOILS DEVELOPED FROM DETRITAL MATERIAL

(a) sand dunes and sand plains

Types 16 to 24

**Type 16 Semi deciduous notophyll/microphyll vine thicket of aeolian dunes
– Southern Cape York Peninsula**

Reference Sites

Starcke River to Cape Melville area. Site 3, Site 4, Site 37.

Floristics

(°denotes obligate deciduous species; #denotes listed rare and threatened species; *denotes exotic species)

Canopy

Niemeyera antilogum, *Celtis paniculata*, **Croton arnhemicus*, *Cupaniopsis anacardioides*, *Pouteria sericea*, **Vitex acuminata*, *Mimusops elengi*, *Aglaia elaeagnoidea*, *Celtis philippinensis*, **Millettia pinnata*, *Vavaea amicorum*.

Understorey

Glycosmis trifoliata, *Memecylon pauciflorum* var. *pauciflorum*, *Eugenia reinwardtiana*, *Litsea glutinosa*, *Murraya paniculata*, *Phyllanthus novae-hollandiae*, *Polyalthia nitidissima*, *Premna dallachiana*.

Lianes and Epiphytes

Aristolochia chalmersii, *Cayratia maritima*, *Diplocyclos palmatus* var. *affinis*, *Rhamnella vitiensis*, *Trichosanthes cucumerina* var. *cucumerina*.

Groundcover

Commelina ensifolia, *Scleria mackaviensis*, *Panicum trichoides*.

Description

Scattered occurrences occur on quaternary aeolian dunes, beginning at the beach line, from Cape Melville to eight kilometres south of the mouth of the Jeannie River. The canopy varies in height and evenness depending on topographical position on the dune. Exposed eastern aspects have a low even canopy whilst the best height development and most uneven canopy is found in the sheltered swales. The groundcover is largely ephemeral, being sparse to non-evident in the late dry season.

Right:
(Site 37) Semi-deciduous notophyll vine forest on coastal aeolian dunes at Cape Melville with *Celtis philippinensis*, *Vavaea amicorum* and *Aglaia elaeagnoidea* common in the canopy layer (Photo: Peter Stanton).



Type 17 Evergreen notophyll vine forest of consolidated aeolian dune sands – Northern Cape York Peninsula

Reference Sites

Cape Grenville to Cape Direction. Site 112, Site 113, Site 114, Webb and Tracey Sites 507, 510, 547.

Floristics

(°denotes obligate deciduous species; #denotes listed rare and threatened species; *denotes exotic species)

Canopy

Manilkara kauki, *Dinosperma erythrocoeca*, *Pouteria sericea*, **Terminalia muelleri*, #*Xanthostemon youngii*, #*Xanthostemon* sp. (Bolt Head, J. R. Clarkson 8805), *Drypetes vernicosa*, *Jagera pseudorhus*, *Syzygium forte* subsp. *forte*, **Vitex acuminata*, #*Syzygium argyropedicum*, *Niemeyera antilogum*, *Endiandra glauca*, *Stenocarpus verticus*.

Subcanopy

Austromyrtus sp. (G. P. Guymer 12037), *Vavaea amicorum*.

Understorey

Aglaia elaeagnoidea, *Cyclophyllum coprosmoides*, *Atractocarpus sessilis*, *Actephila lindleyi*, *Diospyros* sp. (Bamaga, B. P. Hyland 2527), *Halfordia kendack*, *Kibara rigidifolia*, *Memecylon pauciflorum* var. *pauciflorum*, *Micromelum minutum*, *Alectryon reticulata*, *Pleomele angustifolia*, *Meiogyne* sp. (Tingle Scrub, D. G. Fell + DGF 2527).

Lianes and Epiphytes

Clematis pickeringii, *Myrmecodia beccari*, *Rhamnella vitiensis*, *Dendrobium discolor*, *Jasminum* sp. (Jardine River, L. J. Brass 18869), *Jasminum didymum* subsp. *didymum*, *Alyxia spicata*, *Cissus* sp. (DGF 4107), *Dioscorea transversa*.

Groundcover

Cyperus pedunculata, *Pandanus conicus*, *Pseuderanthemum variable*.

Description

The main area of occurrence of this type is between Cape Grenville and Cape Direction with minor occurrences to the north and south. It is found on parabolic and other wind formed dunes within three kilometres of the coast and rising between ten and seventy metres altitude. There is much small-scale variation in height development and floristics of the canopy in this type, which is related to changes in dune topography and corresponding changes in soil drainage and exposure to wind. The rare and threatened *Syzygium argyropedicum* reaches its northern limit of distribution in this forest type in the low dunes behind Chilli Beach.

Right:

(Site 112) Simple evergreen notophyll vine forest on consolidated coastal aeolian dune sands with *Manilkara kauki*, *Pouteria sericea*, *Dinosperma erythrocoeca* and *Xanthostemon youngii* abundant in the canopy (Photo: Peter Stanton).



Type 18 Semi-deciduous notophyll vine forest of a coastal dune complex

Reference Sites

Evans Bay – tip of Cape York. Site 102.

Floristics

(°denotes obligate deciduous species; #denotes listed rare and threatened species; *denotes exotic species)

Canopy

Manilkara kauki, *Mimusops elengi*, *Syzygium bungadinnia*, *Intsia bijuga*, *Maranthes corymbosa*, *Celtis paniculata*, **Garuga floribunda* var. *floribunda*, **Antiaris toxicaria* var. *macrophylla*, *Celtis philippensis*, *Buchanania arborescens*, *Vavaea amicorum*, *Aglaia elaeagnoidea*, **Sterculia* sp. (Annan River, L. J. Brass 20319), *Carallia brachiata*, **Semecarpus australiensis*, *Garcinia warrenii*, **Ficus virens* var. *sublanceolata*.

Subcanopy

Diospyros maritima, **Terminalia muelleri*, *Atalaya australiensis*, **Terminalia catappa*, **Pongamia pinnata*, *Aidia racemosa*.

Understorey

Phaleria octandra, *Ptychosperma elegans*, *Ptychosperma macarthurii*, *Halfordia kendack*, *Ixora klanderiana*, *Aglaia elaeagnoidea*, *Myristica insipida*, *Dillenia alata*, *Ficus fraseri*, *Kibara rigidifolia*, *Psychotria poliostemma*, *Chionanthus ramiflora*, *Polyalthia nitidissima*, *Diospyros compacta*, *Caryota rumphiana*, *Drypetes deplanchei*, *Litsea glutinosa*, *Scolopia braunii*, *Pouteria sericea*, *Pouteria chartacea*, *Cryptocarya cunninghamii*, *Eugenia reinwardtiana*, *Tabernaemontana orientalis*, *Carissa laxiflora*, *Rhodomyrtus macrocarpa*, *Cryptocarya claudiana*, *Guettardella ovatifolia*, *Diplospora australis*, *Rapanea urceolata*, *Sterculia quadrifida*, *Archidendron grandiflorum*, *Diospyros fasciculiflora*, *Pleurostyliia opposita*, *Canthium* sp. (Friday Is., L. J. Brass 13158).

Lianes and Epiphytes

Smilax australis, *Cayratia maritima*, *Dioscorea transversa*, *Adenia heterophylla* subsp. *australis*, *Derris trifolia*, *Cansjera leptostachya*, *Rhamnella vitiense*, *Taeniophyllum* sp., *Myrmecodia beccarii*, *Salacia disepala*.

Groundcover

Amorphophallus galbra, *Pseuderanthemum variabile*, *Dianella* sp.

Description

This type, which attains a canopy height approaching thirty metres, represents the best development of closed forest on dune sand in Cape York Peninsula. It is restricted to the Evans Bay area just south of Cape York. The dunes on which it occurs are a complex of a beach frontal dune and adjoining swale and low (to seven metres) wind deposited dune further inland. On its seaward fringe it is fringed by large trees of *Calophyllum inophyllum*.

Right:

(Site 102) Semi-deciduous notophyll vine forest on coastal frontal dune-swale at Evans Bay with *Mimusops elengi*, *Manilkara kauki*, *Intsia bijuga* abundant in the canopy and with frequent *Antiaris toxicaria* var. *macrophylla* (Photo: Peter Stanton).



Type 19 Simple evergreen notophyll vine forest on weathered aeolian dunes of quartz sand

Reference Sites

Newcastle Bay to Hunter Point. Site 131, Webb and Tracey Site 517.

Floristics

(°denotes obligate deciduous species; #denotes listed rare and threatened species; *denotes exotic species)

Canopy (in order of cover)

Blepharocarya involucrigera, *Myristica insipida*, *Buchanania arborescens*, *Syzygium forte* subsp. *forte*, *Cryptocarya cunninghamii*, *Horsfieldia australiana*, °*Terminalia muelleri*, *Carallia brachiata*, *Pouteria chartacea*, *Rhodamnia* sp. (Cape York, L. S. Smith 12538), *Beilschmiedia obtusifolia*, *Ficus microcarpa*, *Alstonia spectabilis*, *Acacia polystachya*, °*Vitex acuminata*, *Cryptocarya exfoliata*, *Scolopia braunii*.

Subcanopy

Austromyrtus sp. (DGF 3891), *Calophyllum sil*, *Endiandra glauca*, *Millettia pinnata*.

Understorey

Atractocarpus sessilis, *Arytera bifoliolata*, *Haplostichanthus* sp. (Rocky River Scrub, P. I. Forster 10617), *Toechima daemelianum*, *Memecylon pauciflorum* var. *pauciflorum*, *Randia tuberculosa*, *Pouteria sericea*, *Glycosmis trifoliata*, *Kibara rigidifolia*, *Micromelum minutum*, *Aglaia euryanthera*, *Phaleria octandra*, *Tabernaemontana orientalis*, *Mischocarpus lachnocarpus*, *Syzygium fibrosum*, *Polyalthia australis*, *Ochrosia minima*, *Polyalthia nitidissima*, *Eugenia reinwardtiana*, *Strychnos axillaris*, *Atalaya australiana*, *Capparis* sp. (Coen, L. S. Smith, 11862), *Chionanthus ramiflora*, *Cupaniopsis flagelliformis* var. *flagelliformis*, *Drypetes deplanchei*, *Ficus fraseri*.

Lianes and Epiphytes

Cyathostemma micranthum, *Salacia disepala*, *Austrosteenisia blackii*, *Tetracera nordtiana*, *Flagellaria indica*.

Groundcover

Amorphophallus galbra, *Cordyline cannifolia*.

Description

In comparison to Types 16, 17, and 18 which are also developed on aeolian dune systems, this type occurs much further inland on older dunes which have already weathered enough to form more subdued topography. It is found in the Newcastle Bay area and localities southwards to about the Hunter Point area of the Jardine River National Park.

Type 20 Low microphyll/notophyll vine forest with sclerophylls and with or without emergent *Araucaria cunninghamii* on older coastal dunes of variable origin

Reference Sites

East coast – Rocky River to Capt. Billy Landing. Site 63, Site 90, Site 124, Webb and Tracey Sites 24, 508.

Floristics

(°denotes obligate deciduous species; #denotes listed rare and threatened species; *denotes exotic species)

Emergents

Acacia crassicarpa, *Araucaria cunninghamii*.

Canopy

Thryptomene oligandra, #*Xanthostemon* sp. (Bolt Head, J. R. Clarkson 8805), *Canthium* sp. (Friday Island, L. J. Brass 13158), *Asteromyrtus myrtifolia*, *Stenocarpus verticus*, *Syzygium banksii*, *Araucaria cunninghamii*, *Halfordia kendack*, *Acacia crassicarpa*, *Niemeyera antilogum*.

Subcanopy

Rhodamnia australis, °*Terminalia muelleri*.

Understorey

Drypetes vernicosa, *Diospyros compacta*, #*Cycas silvestris*, *Atractocarpus sessilis*, *Pandanus conicus*, *Diospyros ferrea*, *Croton capitis-york*, *Carissa laxiflora*, *Canthium coprosmoides*, *Austromyrtus* sp. (Cape Flattery, L. J. Webb 13537), *Aglaia elaeagnoidea*, *Acronychia imperforata*, *Eriostemon australasicus* subsp. *banksii*, *Pouteria sericea*.

Lianes and Epiphytes

Alyxia spicata, *Bulbophyllum baileyi*, *Cassytha pubescens*, *Dendrobium johannis*, *Dendrobium discolor*, *Pyrrosia longifolia*, *Hoya australis*, *Ipomoea digitata*.

Groundcover

Drynaria quercifolia, *Drynaria sparsisora*, *Arthrostylis aphylla*, *Lomandra banksii*.

Description

Occurs on the older, more weathered coastal dunes of mixed beach and wind-blown origin, from the Rocky River northwards. Some soil development has begun in these deep sands and they may be considered to be incipient podzols. In places, emergent *Araucaria cunninghamii* gives this type a distinctive appearance when seen from a distance. The canopy has a significant sclerophyll component and there is a gradation between this type and closed sclerophyll shrubland (closed heath). The stand of Hoop Pine (*Araucaria cunninghamii*) within this type just south of Captain Billy Landing is the most northern stand in mainland Australia of this commercially important species.

Type 21 Evergreen notophyll vine forest on old stranded beach dunes

Reference Sites

Rocky River to Nesbit River. Site 60.

Floristics

(°denotes obligate deciduous species; #denotes listed rare and threatened species; *denotes exotic species)

Canopy (in order of cover)

#*Beilschmiedia peninsularis*, #*Xanthostemon youngii*, *Canthium* sp. (Friday Is., L. J. Brass 13158), *Syzygium forte* subsp. *forte*, *Rhodamnia australis*, *Dinosperma erythrocca*, *Euroschinus falcata* var. *falcata*, °*Terminalia* sp. (DGF 3441), #*Syzygium argyropedicum*, °*Brachychiton* sp., *Stenocarpus verticus*, *Halfordia kendack*, *Niemeyera antilogum*, *Arytera bifoliolata*, *Aidia racemosa*, *Austromyrtus* sp. (Claudie River, G. P. Guymer 2052), *Siphonodon australis*.

Subcanopy

#*Microcitrus garrawayae*, *Dinosperma erythrocca*, *Halfordia kendack*.

Understorey

Phyllanthus lamprophyllus, *Drypetes vernicosa*, *Rapanea* sp. (DGF 3446), *Pandanus* sp., *Turraea pubescens*, *Kibara rigidifolia*, *Graptophyllum spinigerum*, *Memecylon pauciflorum* var. *pauciflorum*, *Meiogyne* sp. (Tingle Scrub, DGF 2676), *Cryptocarya exfoliata*, *Eugenia reinwardtiana*, *Arytera bifoliolata*, *Actephila* sp. (DGF 3448), *Guettardella ovatifolia*, *Macaranga tanarius*, *Dimorphocalyx australiensis*, *Solanum macoorai*, *Aglaiia* sp. (DGF 3450), *Croton capitis-york*, *Ficus platypoda* var. *platypoda*.

Description

This type is developed on broad low former beach ridges, now well removed from the coast, with the main occurrence in scattered localities on Umpila homelands between the Nesbit and Rocky Rivers. It is notable for the frequent presence of three Rare and Threatened species in the canopy and sub-canopy layer.

Type 22 Deciduous and semi-deciduous notophyll/microphyll vine forest developed on a shallow sand mantle over clay

Reference Sites

Site 32, Site 35, Site 106, Site 138, Webb and Tracey Site 3

Floristics

(°denotes obligate deciduous species; #denotes listed rare and threatened species; *denotes exotic species)

Emergents

°*Gyrocarpus americanus*, °*Garuga floribunda* var. *floribunda*, *Ganophyllum falcatum*, *Alstonia actinophylla*.

Canopy

°*Wrightia pubescens* var. *penicillata*, °*Miliusa traceyi*, *Celtis* sp. (Cape Melville, D. G. Fell + DGF 3025), °*Croton arnhemicus*, °*Terminalia muelleri*, *Mimusops elengi*, °*Millettia pinnata*, °*Garuga floribunda* var. *floribunda*, *Buchanania arborescens*, °*Gyrocarpus americanus*, *Manilkara kauki*, °*Bombax ceiba* var. *leiocarpum*, °*Canarium australicum*, *Ganophyllum falcatum*.

Subcanopy

Celtis paniculata.

Understorey

Ziziphus oenopolia, *Eugenia reinwardtiana*, *Glycosmis trifoliata*, *Mallotus nesophilus*, *Canthium* sp. (Friday Island, L. J. Brass 18158), *Cassine melanocarpa*, *Micromelum minutum*, *Premna serratifolia*, *Psychotria polioctemma*, *Diospyros fasciculiflora*, *Ixora klanderiana*, *Acronychia imperforata*, *Arytera bifoliolata*, *Atalaya australiana*, *Cyclophyllum coprosmoides*, *Cerbera manghas*, *Premna dallachiana*, *Wrightia pubescens* subsp. *pubescens*, *Litsea glutinosa*, *Tabernaemontana orientalis*.

Lianes and Epiphytes

Tiliacora australiana, *Abrus precatorius*, *Cansjera leptostachya*, *Dendrobium bigibbum*, *Taeniophyllum* sp., *Tetracera daemeliana*, *Pisonia aculeata*, *Flagellaria indica*, *Hippocratea barbata*, *Ipomoea mauritana*, *Alyxia spicata*, *Cayratia cardiophylla*, *Muelleragia timorensis*, *Parsonsia velutina*, *Trichosanthes cucumerina* var. *cucumerina*, *Neosalsomitra capricornica*.

Groundcover

Cyperus zollingeri, **Hyptis suaveolens*, *Panicum trichoides*, **Urena lobata*, *Parietaria* sp. (D.G. Fell 2972a), *Malaxis marsupichila*, *Hypoestes floribunda*.

Description

Found throughout rainforest areas on Cape York Peninsula and spanning a wide range of rainfall zones. Soil appears to be the critical determinant of this type that is confined to sites where a shallow mantle of sand has been deposited on clay plains, mostly close to tidal margins. Sites range from those of Princess Charlotte Bay where sandy alluvium of terrestrial origin sits on the margin of a marine clay plain, to others adjoining high tide where shallow beach dunes or sand sheets have been deposited over former mangrove muds. The sands may be calcareous or siliceous.

Type 23 Evergreen or semi-deciduous mesophyll/notophyll vine forest of coastal headlands where wind blown sand forms a shallow deposit over laterite or bauxite

Reference Sites

Pascoe River northwards. Site 75, Site 77.

Floristics

(°denotes obligate deciduous species; #denotes listed rare and threatened species; *denotes exotic species)

Canopy

Acmena hemilampra subsp. *hemilampra*, *Aglaia elaeagnoidea*, *Buchanania arborescens*, *Endiandra glauca*, *Ficus drupacea*, °*Ficus obliqua* var. *obliqua*, *Garcinia warrenii*, *Halfordia kendack*, *Manilkara kauki*, °*Semecarpus australiensis*, *Syzygium forte* subsp. *forte*, *Vavaea amicum*, *Celtis paniculata*, *Cryptocarya cunninghamii*, *Syzygium bamagense*.

Subcanopy

Myristica insipida, *Ptychosperma elegans*.

Understorey

Polyscias elegans, *Atractocarpus sessilis*, *Ixora klanderiana*, *Kibara rigidifolia*, *Austromyrtus* sp., *Cassine melanocarpum*, *Cryptocarya exfoliata*, *Diospyros maritima*, *Diospyros* sp. (Bamaga, B. P. Hyland 2517), *Rhodomyrtus macrocarpa*, *Pleomele angustifolia*, *Polyscias australiana*, *Diospyros* sp. (DGF 3613).

Lianes and Epiphytes

Flagellaria indica, *Smilax glyciophylla*.

Description

These forests, which are confined to areas north of the Pascoe River, are notable for the almost total dominance of the canopy and understorey by fleshy-fruited species. This is probably due to a close relationship between their distribution and the movements and ecological requirements of frugivorous birds. Similar forest composition has been observed on offshore islands where nesting colonies of the Torresian Imperial Pigeon exist. Although growing in various depths of sand, the development and nature of these forests is obviously strongly influenced by the underlying rock that occurs within rooting depth.

Type 24 Semi-deciduous notophyll vine-forest on sand plain deposits weathered from adjacent sandstone uplands, or on flats amongst aeolian dunes

Reference Sites

Far north east coast. Site 91, Webb and Tracey site 506.

Floristics

(°denotes obligate deciduous species; #denotes listed rare and threatened species; *denotes exotic species)

Canopy (in order of cover)

Buchanania arborescens, °*Canarium australianum*, *Acacia polystachya*, *Cryptocarya cunninghamii*, *Syzygium bungadinnia*, *Vavaea amicorum*, *Syzygium bamagense*, *Ficus drupacea*, *Celtis* sp. (DGF 3817), °*Ficus obliqua* var. *obliqua*, *Drypetes deplanchei*, *Aidia racemosa*, *Mimusops elengi*, *Memecylon hylandii*, *Arytera bifoliolata*, *Ptychosperma elegans*, °*Mallotus polyadenos*.

Subcanopy

°*Semecarpus australiensis*, *Microcitrus garrawayae*, *Austromyrtus* sp., #*Archidendron hirsutum*, *Decaspermum humile*, *Polyscias elegans*, *Garcinia dulcis*, *Strychnos axillaris*

Understorey

Atractocarpus sessilis, *Arytera bifoliolata*, *Chionanthus ramiflorus*, *Diploglottis macrantha*, *Cordyline cannifolia*, *Dysoxylum latifolium*, *Aglaia euryanthera*, *Cleistanthus hylandii*, *Scolopia braunii*, *Ptychosperma elegans*, *Cryptocarya exfoliata*, *Celtis philippensis*, *Alectryon tomentosus*, *Toechima daemelianum*, *Dysoxylum acutangulum* subsp. *foveolatum*, *Austromyrtus* sp., *Pouteria sericea*, *Canthium lamprophyllum*.

Lianes and Epiphytes

Calamus caryotoides, *Salacia disepala*, *Carissa laxiflora*, *Uvaria membranaceum*, *Flagellaria indica*, *Tetracera nordtiana*, *Jasminum didymum* subsp. *didymum*, *Strychnos colubrina*, *Pachygone ovata*, *P. pubescens*, *Dendrobium johannis*.

Groundcover

Dianella atraxis.

Description

These are well-developed forests, with canopy height up to 35 metres, which are part of the coastal sand plain complex below the Great Dividing Range scarp from near Captain Billy Landing northwards to Cape Orford Ness and amongst dunes from Cape Grenville to the Olive River.