
VINE FORESTS AND THICKETS OF
WELL DRAINED SOILS

OF SOILS DEVELOPED FROM EROSIONAL SURFACES, INCLUDING
RANGES, UNDULATING HILLS AND RESIDUAL PLAINS

(a) sandstones, metamorphics and granites

Types 34 to 67

Type 34 Tall semi deciduous mesophyll vine forest of permanent springs and steep upper valleys in metamorphic ranges

Reference Sites

Altanmoui Range. Site 6.

Floristics

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

Emergents

Alstonia scholaris, °*Ficus nodosa*, °*Terminalia sericocarpa*.

Canopy

Alstonia scholaris, *Cryptocarya hypospodia*, *Myristica insipida*, *Ficus racemosa*, *Carallia brachiata*, *Buchanania arborescens*, *Beilschmiedia obtusifolia*, *Ptychosperma elegans*.

Subcanopy

Pisonia umbellifera, *Polyscias elegans*, *Ptychosperma elegans*.

Understorey

Mallotus philippensis.

Groundcover

Nil.

Description

Confined to the Altanmoui Range. Tall, floristically simple forest of sheltered valleys where permanent springs occur. These areas are a focus for feral cattle and pigs, and are suffering severe degradation.

Type 35 Tall semi-deciduous notophyll vine forest of structured red and yellow earths. Metamorphic hillslopes, southern Cape York Peninsula

Reference Sites

Cooktown to Hope Vale. Site 20, Site 29, Site 31, Webb and Tracey site 504, 522.

Floristics

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

Emergents

Argyrodendron polyandrum, °*Paraserianthes toona*, *Alstonia scholaris*, °*Bombax ceiba* var. *leiocarpum*.

Canopy

Aglaia eleagnoidea, *Argyrodendron polyandrum*, *Buchanania arborescens*, *Ganophyllum falcatum*, *Geijera salicifolia*, *Alstonia scholaris*, *Beilschmiedia obtusifolia*, *Cryptocarya hypospodia*, *Litsea fawcettiana*, °*Miliusa horsfieldii*, °*Bombax ceiba* var. *leiocarpum*, *Cryptocarya murrayi*, *Cryptocarya rhodosperma*, *Endiandra longipedicellata*, *Flindersia bourjotiana*, °*Wrightia laevis* subsp. *millgar*.

Subcanopy

Myristica insipida, *Ptychosperma elegans*, *Graptophyllum spinigerum*, *Atractocarpus sessilis*, *Cinnamomum baileyanaum*, *Cleistanthus apodus*, *Dimorphocalyx australiensis*, *Gomphandra australiana*, *Psychotria dallachiana*.

Lianes and Epiphytes

Piper caninum, *Strychnos colubrina*, *Epipremnum pinnatum*, *Hypserpa decumbens*, *Calamus australis*, *Mucuna gigantea*, *Melodorum leichhardtii*, *Ventilago ecorollata*, *Flagellaria indica*.

Groundcover

Doodia media.

Description

Tall forest of somewhat complex structure confined to the higher rainfall parts of southern Cape York Peninsula in the Cooktown-Hope Vale area. The understorey is generally open in nature and the groundcover sparse. It is the equivalent of Tracey's Type 4 (semi-deciduous mesophyll vine forest) of the humid tropical region.

Type 36 Simple evergreen notophyll vine forest on steep upper hillslopes of metamorphic ranges

Reference Sites

Mt. Cook, Cooktown. Site 30.

Floristics

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

Canopy (in order of cover)

Anthocarapa nitidula, *Myristica insipida*, *Canarium vitiense*, *Chionanthus ramiflora*, *Planchonella obovata*, °*Semecarpus australiensis*, #*Cinnamomum baileyianum*, *Beilschmiedia obtusifolia*, *Alstonia scholaris*, *Cryptocarya hypospodia*.

Subcanopy

Ptychosperma elegans, *Arytera divaricata*.

Understorey

Dysoxylum latifolium, #*Polyscias macgillivrayi*, *Phyllanthus cuscutiflorus*.

Lianes and Epiphytes

Flagellaria indica, *Salacia disepala*, *Austrosteenisia blackii*, *Mucuna gigantea*, *Calamus caryotoides*.

Groundcover

Pronephrium asperum, *Cordyline cannifolia*.

Description

This is a distinctive rainforest type confined to the upper slopes of metamorphic hills adjacent to Mt. Cook near Cooktown. It has a very uniform canopy at 20 to 25 metres in height dominated by two species, *Anthocarapa nitidula* and *Myristica insipida*. *Ptychosperma elegans* dominates a uniform subcanopy together with species also present in the canopy. The understorey is very open and there is little groundcover. The soil is a structured red earth.

Type 37 Slightly deciduous microphyll vine thicket with *Acacia* emergents, on steep metamorphic hillslopes and crests

Reference Sites

Starcke River area. Site 49.

Floristics

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

Emergents

Acacia aulacocarpa, *Acacia polystachya*.

Canopy (in order of cover)

Dinosperma erythroocca, °*Euroschinus falcata* var. *angustifolia*, *Diospyros reticulata*, *Chionanthus ramiflora*, °*Millettia pinnata*, *Canthium odoratum*, °*Wrightia versicolor*, *Acacia* sp. (D. G. Fell 3223 + J. P. Stanton)⁴, *Tabernaemontana orientalis*, °*Vitex acuminata*, *Drypetes deplanchei*, *Cryptocarya exfoliata*, *Polyalthia nitidissima*.

Understorey

Celtis philippensis, *Austromyrtus lucida*, *Ehretia membranifolia*, *Cryptocarya exfoliata*, *Tabernaemontana orientalis*, *Murraya paniculata*, *Atalaya australiana*, *Pouteria sericea*, *Croton arnhemicus*, *Phyllanthus novae-hollandiae*, *Memecylon pauciflorum* var. *pauciflorum*, *Clerodendrum floribundum*, *Drypetes deplanchei*, *Arytera bifoliolata*, *Celtis* sp. (Cape Melville, D.G. Fell + DGF 3025), *Archidendron grandiflorum*, *Antidesma dallachii*, *Eugenia reinwardtiana*.

Lianes and Epiphytes

Malaisia scandens, *Cansjera leptostachya*, *Jasminum didymum* subsp. *didymum*, *Cayratia acris*, *Secamone elliptica*, *Ichnocarpus frutescens*, *Dioscorea transversa*, *Pachygone elliptica*.

Groundcover

Drynaria sparsisora, *Pseuderanthemum variabile*, *Ancistrachne uncinulata*.

Description

This type is confined to small parts of the range containing Brown Peak, between the Howick and Jeannie Rivers, southern Cape York Peninsula. It is low in height with a windsheared canopy reaching no more than eight metres, and with a dense understorey.

⁴ See McDonald, M. W. and Maslin, B. R. (2000). Taxonomic Revision of the Salwoods 13: 21-78 (pp. 75). This taxa is an unresolved variant of *Acacia disparrima* or possibly a hybrid between *A. disparrima* subsp. *Calidestris* and *A. midgleyi*.

Type 38 Tall semi-deciduous mesophyll/notophyll vine forest on metamorphic hills and yellow earth soils – Northern Cape York Peninsula

Reference Sites

Claudie River/Iron Range. Site 115.

Floristics

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

Canopy (in order of cover)

°#*Premna hylandiana*, °#*Tetrameles nudiflora*, °*Berrya javanica*, °*Garuga floribunda* var. *floribunda*, *Maniltoa lenticellata*, °*Antiaris toxicaria* var. *macrophylla*, *Diospyros maritima*, *Aleurites moluccana*, *Argyrodendron polyandrum*, #*Syzygium pseudofastigiatum*, °*Wrightia laevis* subsp. *millgar*, *Aidia racemosa*, °*Terminalia sericocarpa*, °*Cordia dichotoma*, °*Premna dallachyana*, *Calophyllum sil*, *Canarium vitiense*, *Grevillea baileyana*.

Subcanopy

Austromyrtus sp. (Bamaga, B. P. Hyland 10235), *Bosistoa medicinalis*, *Dimocarpus australianus*, #*Rinorea bengalensis*, *Arytera bifoliolata*, °*Sterculia quadrifida*, °*Miliusa horsfieldii*, °*Mitraphora diversifolia*, *Diospyros maritima*.

Understorey

Mallotus resinusus, *Cleistanthus hylandii*, *Tabernaemontana orientalis*, *Dimorphocalyx australiensis*, *Glycosmis trifoliata*, *Flacourtia* sp. (Shiptons Flat, L. W. Jessup + GJG 3200) *Micromelum minutum*, *Strychnos axillaris*, *Diospyros* sp. (DGF 4126), *Arytera bifoliolata*, *Ixora klanderiana*, #*Ryticaryum longifolium*, *Drypetes* sp. (DGF 4081), *Euonymus australiana*, *Glycosmis* sp. (DGF 4128), *Streblus brunonianus*, *Garuga floribunda* var. *floribunda*, *Arytera divaricata*, *Mallotus philippensis*, *Aglaiia euryanthera*, *Diospyros maritima*, *Chionanthus ramiflora*, *Cleidion spiciflorum*.

Lianes and Epiphytes

Strychnos colubrina, *Flagellaria indica*, *Calamus caryotooides*.

Groundcover

Leptaspis banksii, *Doryopteris concolor*.

Description

This is a common forest type on the lower slopes of metamorphic hills in the Iron Range area. The canopy reaches up to forty metres in height with the majority of species deciduous in nature. It is one of the richest forest types on Cape York Peninsula in total species complement. It is the northern Cape York Peninsula equivalent of Type 35 from which it is separated by its significantly different suite of canopy species.

Type 39 Semi deciduous mesophyll/notophyll vine forest on metamorphic hillslopes – Melville Range area

Reference Sites

Melville Range. Site 129.

Floristics

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

Canopy (in order of cover)

Aleurites moluccana, °*Bombax ceiba* var. *leiocarpum*, *Aidia racemosa*, *Acacia fleckeri*, °*Wrightia laevis* subsp. *millgar*, °*Trema tomentosa* var. *viridis*, *Acacia polystachya*, °*Millettia pinnata*, °*Canarium australianum*, *Pleiogynium timorense*, *Mimusops elengi*, *Ganophyllum falcatum*, °*Terminalia muelleri*, °*Cochlospermum gillivraei*, *Melicope peninsularis*.

Subcanopy

Chionanthus ramiflora, °*Miliusa traceyi*, *Arytera bifoliolata*, °*Wrightia versicolor*, *Austromyrtus lucida*, *Pouteria sericea*, *Polyalthia nitidissima*, °*Croton arnhemicus*, *Grewia australis*.

Understorey

Diospyros compacta, *Alectryon connatus*, *Premna dallachyana*, *Euphorbia plumerioides* var. *plumerioides*, *Solanum shanesii*, *Maytenus fasciculiflora*, *Cryptocarya exfoliata*, *Glycosmis trifoliata*, *Strychnos lucida*, *Callicarpa pedunculata*, *Claoxylon tenerifolium*, *Macaranga tanarius*, *Canthium odoratum*, *Cassine melanocarpum*, *Harrisonia brownii*, *Ixora klanderiana*, *Memecylon pauciflorum* var. *pauciflorum*, *Alphitonia excelsa*, *Allophylus cobbe*, *Mallotus philippensis*.

Lianes and Epiphytes

Clematis pickeringii, *Rhamnella vitiensis*, *Pisonia aculeata*, *Jasminum aemulum*, *Malaisia scandens*, *Stephania japonica* var. *timorensis*, *Thunbergia arnhemica*, *Jacquemontia paniculata*.

Groundcover

Pseuderanthemum variabile, *Scleria mackaviensis*.

Description

A restricted type, confined to hills near the Melville Range, southern Cape York Peninsula.

Type 40 Evergreen mesophyll vine forest on steep, elevated, granite hillslopes – Cooktown area

Reference Sites

Mt. Cook, Cooktown. Site 26, Site 27.

Floristics

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

Canopy

Beilschmiedia obtusifolia, *Pouteria xerocarpa*, *Syzygium cormiflorum*, *Blepharocarya involucrigera*, *Cryptocarya hypospodia*, *Argyrodendron polyandrum*.

Subcanopy

Bosistoa brassii var. *brassii*, *Endiandra hypotephra*.

Understorey

Diospyros hebecarpa, *Helicia australasica*, *Psychotria dallachiana*, *Atractocarpus sessilis*, *Bosistoa brassii* var. *brassii*, *Chionanthus ramiflora*, *Glycosmis trifoliata*, *Myristica insipida*, *Streblus brunonianus*.

Lianes and Epiphytes

Epipremnum pinnatum, *Asplenium nidus*, *Calamus caryotoides*, *Flagellaria indica*, *Ventilago ecorollata*.

Groundcover

Bowenia spectabilis, *Drynaria rigidula*, *Platycterium bifurcatum*, *Pronephrium asperum*.

Description

Confined to granite areas on Mt Cook near Cooktown at elevations above about 130 metres. There is notable variation in canopy structure and species composition with altitude but these are not considered significant enough to warrant the description of more than one type. A few deciduous species (*Paraserianthes toona*, *Terminalia sericocarpa*) appear in the canopy at the lower altitudes, whilst at the higher levels the canopy is more even and lower in height. Above three hundred metres *Bowenia spectabilis* dominates the groundcover. Throughout, twenty to fifty percent surface rock covers the ground surface, with very large outcropping boulders. This type appears to be the equivalent of Tracey's Type 8 of the humid tropical region.

Type 41 Simple evergreen notophyll vine forest of wind exposed steep elevated granitic hillslopes

Reference Sites

Mt. Cook, Cooktown. Site 28.

Floristics

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

Canopy (in order of cover)

Myristica insipida, #*Cinnamomum baileyana*, *Chionanthus ramiflora*, *Ptychosperma elegans*, *Helicia australasica*, *Commersonia bartramia*, *Celtis paniculata*, *Blepharocarya involucrigera*, *Canthium* sp. nov. (aff. *odoratum* - DGF 2849), *Planchonella obovata*, *Buchanania arborescens*, *Mimusops elengi*, *Diospyros hebecarpa*.

Understorey

Kibara rigidifolia, *Dillenia alata*, *Atractocarpus sessilis*, *Polyscias australiana*, *Mackinlaya confusa*, *Euonymus australiana*, *Endiandra glauca*, *Cordyline cannifolia*, *Mischocarpus stipitatus*, *Cryptocarya vulgaris*, *Breynia cernua*, *Endiandra acuminata*.

Lianes and Epiphytes

Piper caninum, *Flagellaria indica*, *Hippocratea barbata*, *Melodinus australis*, *Hoya* sp., *Erycibe coccinea*, *Austrosteenisia blackii*, *Asplenium nidus*.

Groundcover

Bowenia spectabilis, *Pronephrium asperum*.

Description

Confined to Mt Cook, near Cooktown, at elevations generally above 250m. This type is clearly distinguished by its low, even and windsheared canopy. Canopy crowns are touching and overlapping with stems uniform in size. The soil is a yellow earth with outcrops of large granitic boulders.

Two species, *Myristica insipida* and *Cinnamomum baileyana* combine to make up greater than fifty percent of the canopy cover. There is an almost complete groundcover composed largely of *Bowenia spectabilis*. Thin wiry lianes are common with epiphytes rare.

Type 42 Simple evergreen notophyll vine forest of upper slopes of granite ranges – Northern Cape York Peninsula

Reference Sites

McIlwraith Range. Site 59, Site 72.

Floristics

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

Emergents

Paraserianthes toona.

Canopy

Syzygium bamagense, *Paraserianthes toona*, *Elaeocarpus arnhemicus*, *Cryptocarya triplinervis* var. *riparia*, *Argyrodendron trifoliolatum*, *Argyrodendron polyandrum*, *Alstonia scholaris*, *Aleurites moluccana*, *Austromyrtus* sp. (Bamaga, B. P. Hyland, 10235), *Beilschmiedia obtusifolia*.

Subcanopy

Cryptocarya cunninghamii, *Endiandra impressicosta*, *Cryptocarya triplinervis* var. *riparia*, *Cleistanthus peninsularis*, *Flacourtia* sp. (Shiptons Flat, L. W. Jessup + CJG 3200), *Dysoxylum latifolium*.

Understorey

Streblus pendulinus, *Mallotus philippensis*, #*Rinorea bengalensis*, *Dimocarpus australianus*, *Kibara rigidifolia*, *Pandanus zea*, *Tabernaemontana orientalis*, *Euonymus australiana*, *Haplostichantus* sp. (Rocky River Scrub, P. I. Forster, PIF 10617), *Aglaia euryanthera*.

Lianes and Epiphytes

Calamus caryotoides, *Epipremnum pinnatum*, *Malaisia scandens*, *Smilax australis*, *Cissus repens*, *Derris* sp. (DGF 3432), *Melodorum leichhardtii*, *Dischidia ovata*, *Flagellaria indica*, *Hoya nicholsoniae*.

Groundcover

Asystasia sp. (DGF 3434), *Hypoestes floribunda*, *Drynaria rigidula*, *Doryopteris concolor*, *Dicliptera spicata*.

Description

This as a widespread type of the higher altitudes (approximately 250 metres plus) of the McIlwraith Range and adjacent coastal ranges. It has a very uneven canopy between fourteen and thirty metres height, with occasional emergents of *Paraserianthes toona* to 35 metres. The understorey is dense, with closely spaced stems of saplings. Soils are deep gritty loams, usually yellow-brown, and granite occasionally outcrops. Type 42 forests occur at higher altitudes than Type 52 forests. The latter are also widespread on granite over much of the same geographical range.

Type 43 Simple evergreen notophyll vine forest with feather palms, on granite hills – Cape Melville area

Reference Sites

Melville Range. Site 53.

Floristics

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

Canopy (in order of cover)

Litsea fawcettiana, #*Wodyetia bifurcata*, *Aleurites moluccana*, *Syzygium bamagense*, *Polyalthia nitidissima*, °*Canarium australicum*, *Alstonia actinophylla*, *Dimocarpus australianus*, *Buchanania arborescens*, *Celtis paniculata*, *Mallotus philippensis*, *Beilschmiedia obtusifolia*, *Aphananthe philippinensis*, °*Sterculia quadrifida*.

Subcanopy

Drypetes deplanchei, °*Cordia dichotoma*, *Cryptocarya cunninghamii*.

Understorey

Rapanea sp. (DGF 3314), *Dendrocnide cordata*, *Cryptocarya exfoliata*, *Cleistanthus apodus*, *Endiandra glauca*, *Harrisonia brownii*, *Mischocarpus lachnocarpus*, *Vavaea australiana*, *Pleiogygium timorense*, *Leea indica*, *Wikstroemia indica*, *Brucea javanica*, *Austromyrtus lucida*, *Eugenia reinwardtiana*, *Tabernaemontana orientalis*, *Alectryon reticulatus*, *Diospyros compacta*, *Aglaia elaeagnoidea*.

Lianes and Epiphytes

Salacia chinensis, *Calamus caryotoides*, *Cissus repens*, *Parsonsia velutina*, *Stephania japonica* var. *timorensis*, *Austrosteenisia molitricha*, *Malaisia scandens*.

Groundcover

Commelina ensifolia, *Pseuderanthemum variabile*, *Lindsaea ensifolia*, *Cyperus aquatilis*, *Vetiveria filipes*, **Desmodium intortum*.

Description

Structurally, this is a unique rainforest type on Cape York Peninsula, because of the abundance of feather palms in the canopy of an upland non-swamp rainforest type. It is a well-developed forest with a relatively even canopy reaching 25 metres height. Canopy stems are uniform in size and thin wiry lianes (predominantly *Calamus caryotoides*) are common.

It is confined to the Melville Range at altitudes of about three hundred metres, where it occupies some broad, relatively rock-free saddles in what is otherwise a landscape of stunted forests among bare areas strewn with large granite boulders. Soils are uniform brown coarse sandy loams.

Type 44 Low semi-deciduous notophyll/microphyll vine forest with *Dissiliaria* sp. (Rocky River, B. P. Hyland, 10882) and conspicuous feather palms (*Wodyetia bifurcata*) – Southern Cape York Peninsula

Reference Sites

Cape Melville. Site 54.

Floristics

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

Canopy (in order of cover)

#*Dissiliaria surculosa*, *Atalaya sericopetala*, °*Millettia pinnata*, *Aleurites moluccana*, *Buchanania arborescens*, °*Terminalia muelleri*, *Wodyetia bifurcata*, °*Canarium australianum*, *Chionanthus ramiflora*, °*Premna dallachyana*, *Mimusops elengi*, *Pleiogynium timorense*, °#*Wrightia versicolor*, *Canthium lucidum*, °*Garuga floribunda* var. *floribunda*, #*Acacia fleckeri*, *Aidia racemosa*.

Subcanopy

°*Milium traceyi*, *Drypetes deplanchei*.

Understorey

Cryptocarya exfoliata, *Eugenia reinwardtiana*, *Diospyros compacta*, *Harrisonia brownii*, *Glycosmis trifoliata*, *Cleistanthus xerophilus*, *Gardenia* sp. (DGF 3335), *Croton arnhemicus*.

Lianes and Epiphytes

Eustrephus latifolius, *Abrus precatorius*, *Diplocyclos palmatus* var. *affinis*, *Tetrastigma thorsborneorum*, *Cissus repens*, *Pachygone ovata*.

Groundcover

Panicum trichoides, **Axonopus compressus*, *Scleria mackaviensis*, *Hypoestes floribunda*, *Adiantum* sp.

Description

This type was not recorded outside the Melville Range area. It is low in stature (height eight to eighteen metres) with an uneven canopy and sparse understorey. The canopy is dominated by the poorly known euphorbiaceous plant, *Dissiliaria* sp. (Rocky River, B. P. Hyland 10882), a taxon previously known only from collections on the eastern fall of the McIlwraith Range in the vicinity of the Rocky River. Extensive pig damage in this type has facilitated invasion of the introduced broad leaf carpet grass (*Axonopus compressus*).

Type 45 Low deciduous notophyll vine forest on very steep boulder strewn granite hillslopes. Western slopes of the McIlwraith Range and adjacent hills

Reference Sites

Coen to Pascoe River headwaters. Site 65, Site 67, Site 71, Webb and Tracey sites 23, 33.

Floristics

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

Emergents

Paraserianthes toona, °*Bombax ceiba* var. *leiocarpum*, °*Canarium australianum*. °*Brachychiton grandiflorus*.

Canopy

Barringtonia calyptata, °*Canarium australianum*, *Acronychia* sp. (Batavia Downs, J.R. Clarkson 8511), °*Premna dallachyana*, °*Semecarpus australiensis*, °*Wrightia pubescens* subsp. *penicillata*, °*Croton arnhemicus*, *Cryptocarya exfoliata*, *Diospyros compacta*, °*Ficus virens* var. *sublanceolata*, *Stenocarpus salignus*, *Acacia polystachya*, °*Cleistanthus peninsularis*, *Mallotus philippensis*.

Understorey

Austromyrtus sp., *Endiandra glauca*, *Memecylon pauciflorum* var. *pauciflorum*, *Aidia racemosa*, *Ixora klanderiana*, *Mallotus philippensis*, #*Microcitrus garrawayae*, *Micromelum minutum*, *Miliusa traceyi*, *Pavetta platyclada*, *Drypetes deplanchei*, *Maytenus fasciculiflora*, *Notelaea longifolia*, *Strychnos lucida*.

Lianes and Epiphytes

Uvaria concavum, *Parsonsia velutina*, *Malaisia scandens*, *Dendrobium tetragonum*, *Jasminum didymum* subsp. *didymum*, *Abrus precatorius*, *Austrosteenisia blackii*, *Caesalpinia scortechinii*, *Citrullus lantanus*, *Stephania japonica* var. *timorensis*, *Opilia armentacea*, *Eustrephus latifolius*, *Alyxia spicata*, *Capparis sarmentosa*, *Ziziphus oenopolia*.

Groundcover

Ancistrachne uncinulata, *Asystasia australasica*, *Drynaria sparsisora*, *Scleria mackaviensis*, *Spartothamnella juncea*.

Description

A vine forest of steep boulder-covered western slopes and outlying hills from the Pascoe River headwaters south to near Coen. Often confined to small patches protected from fire by the rocky nature of the ground. Associated with this type are extensive areas of granite scree where only occasional *Bombax* and *Brachychiton* occur. Landslips on steep hillslopes are common. The canopy is very uneven and in some places very open.

Type 46 Simple evergreen notophyll vine forest with *Acacia* emergents, of broad ridges in granite upland areas

Reference Sites

McIlwraith Range. Site 68, Webb and Tracey Site 572.

Floristics

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

Emergents

Acacia midgleyi

Canopy (in order of cover)

Xanthostemon chrysanthus, *Acmena hemilampra* subsp. *hemilampra*, *Endiandra dielsiana*, *Acacia midgleyi*, *Elaeocarpus eumundi*, *Cryptocarya vulgaris*, *Symplocos cochinchinensis* var. *pilosiuscula*, *Sloanea macbrydei*, *Grevillea baileyana*, *Calophyllum australicum*, *Rhodamnia blairiana*, #*Cinnamomum baileyana*, *Podocarpus grayae*, *Alphitonia whitei*, *Choriceras tricorne*.

Subcanopy

Pandanus sp., *Endiandra cowleyana*, *Acronychia acronychioides*.

Understorey

Atractocarpus sessilis, *Licuala ramsayi*, *Cleistanthus hylandii*, *Neolitsea brassii*, *Rhodomertus trineura* subsp. *capensis*, *Polyscias australiana*, *Pittosporum rubiginosum* var. *rubiginosum*, *Endiandra glauca*, *Rapanea porosa*, *Pouteria chartacea*, *Wilkea* sp. (Mt. Molloy, L. S. Smith 3955), #*Arytera macrobotrys*, *Sarcopteryx martyana*, *Cyathea rebecca*, *Syzygium johnsonii*, *Diploglottis macrantha*, *Mallotus resinus*, *Zygogynum semecarpoides*, *Pilidiostigma recurvum*.

Lianes and Epiphytes

Smilax glycyphylla, *Alyxia spicata*, *Lygodium flexuosum*, *Calamus australis*, *Melodinus australis*, *Vittaria elongata*.

Groundcover

Dominated by tree seedlings.

Description

This is one of the most common forest types in areas above three hundred metres in the McIlwraith Range where it occurs as part of a complex with Type 47. It appears to have been shaped by recurrent wind damage, as the canopy is characteristically very broken and uneven, with height varying between twelve and thirty metres. Canopy gaps are filled with dense growth of tree saplings and *Calamus australis*. Apart from *Choriceras tricorne*, a small tree which attains the canopy in large gaps, canopy species are evergreen, notophyll, and with simple leaf arrangement. Plank and spur buttressing is frequent.

Type 47 Simple evergreen notophyll vine forest with sclerophylls on crests of broad ridges in granite upland areas

Reference Sites

McIlwraith Range. Site 69.

Floristics

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

Canopy (in order of cover)

Acacia midgleyi, *Cryptocarya vulgaris*, *Grevillea baileyana*, *Acacia polystachya*, *Eucalyptus pellita*, *Podocarpus grayae*, *Argyrodendron polyandrum*, *Acronychia acronychioides*, *Sarcopteryx martyana*, *Acmena hemilampra* subsp. *hemilampra*.

Subcanopy

Endiandra glauca, *Pandanus* sp., *Lophostemon suaveolens*, *Pouteria chartacea*, *Symplocos cochinchinensis* var. *pilosiuscula*.

Understorey

Polyalthia nitidissima, *Rhodamnia blairiana*, #*Cryptocarya claudiana*, *Casearia dallachii*, *Cupaniopsis foveolata*, *Diploglottis macrantha*, *Cinnamomum oliveri*, *Atractocarpus sessilis*, *Diospyros cupulosa*, *Cleistanthus hylandii*, *Mallotus resinus*, *Diospyros hebecarpa*, *Neolitsea brassii*, *Garcinia dulcis*, *Elaeocarpus eumundi*, *Neolitsea dealbata*, *Mallotus polyadenos*, *Mackinlaya confusa*, *Pouteria queenslandica*, *Litsea leefeana*, *Licuala ramsayi*, *Dysoxylum oppositifolium*, *Helicia australasica*, *Cyclophyllum coprosmoides*, *Xanthostemon chrysanthus*, *Antidesma erostre*.

Lianes and Epiphytes

Melodinus australis, *Melodorum leichhardtii*, *Pachygone pubescens*, *Medinilla balls-headleyi*, *Calamus australis*, *Malaisia scandens*, *Alyxia spicata*, *Lygodium flexuosum*.

Groundcover

Taenitis pinnata.

Description

This is a transitional forest type, in passage from sclerophyll forest to rainforest, and is recognised by the presence of *Acacia midgleyi*, *A. polystachya*, and *Eucalyptus pellita* in the canopy. It forms a matrix with other forest types, including Type 46 and sclerophyll forests on undulating areas above about 300 metres altitude. It is notable for its rich assemblage of vine forest species in the understorey, an indication of the rapid transition to rainforest that has taken place. It is a widespread type in upland areas of the McIlwraith Range and northwards.

Type 48 Araucarian semi-deciduous vine forest on granite ridges and steep slopes

Reference Sites

McIlwraith Range. Site 70, Webb and Tracey Site 27.

Floristics

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

Emergents

Araucaria cunninghamii.

Canopy (in order of cover)

Araucaria cunninghamii, *Acacia polystachya*, °*Canarium australianum*, °*Strychnos lucida*, °*Sterculia quadrifida*, *Polyscias elegans*, *Acacia midgleyi*, *Polyalthia nitidissima*, *Dysoxylum oppositifolium*.

Understorey

Phyllanthus lamprophyllus, *Rhodamnia australis*, *Sarcopteryx martyana* *Cryptocarya exfoliata*, *Canthium graciliflorum*, *Guettardella ovatifolia*, *Drypetes deplanchei*, *Acronychia laevis*, *Diospyros* sp. (Bamaga, B. P. Hyland 2517), *Cleistanthus xerophilus*, *Casearia dallachii*, *Memecylon pauciflorum* var. *pauciflorum*, *Diospyros ferrea* var. *reticulata*, *Sterculia quadrifida*, *Rapanea porosa*, *Canthium odoratum*, *Halfordia kendack*, *Sarcopteryx martyana*, *Notelaea longifolia*, *Ficus opposita*, *Mallotus polyadenos*, *Pandanus* sp., *Kibara rigidifolia*, *Croton triaceros*.

Lianes and Epiphytes

Melodorum leichhardtii, *Hoya australis*, *Jasminum simplicifolium*, *Parsonsia velutina*, *Alyxia spicata*.

Groundcover

Pseuderanthemum variabile, *Drynaria sparsisora*, *Dianella* sp., *Ancistrachne uncinulata*, *Balanophora fungosa*, *Schelhammera multiflora*, *Scleria* sp.

Description

Araucarian vine forest on granite occupies large areas at the southern end of the McIlwraith Range. Some significant variations in canopy pattern within it were recognised on the aerial photographs, but were not examined on the ground. It is felt therefore that the type described under Type 48 may be typical only of the drier parts of its range. An examination of data from Webb and Tracey Site 35 would seem to confirm that there is an Araucarian dominated type that is better developed and floristically richer than the type described here.

In this type, whilst emergent Araucarias reach thirty metres in height, the general canopy level is quite low at ten to fifteen metres, indicative of the drought stress it frequently experiences in its location towards the inland margins of the rainforest, and on very steep rocky sites.

Type 49 Semi-deciduous mesophyll/notophyll vine forest with acacias on poorly drained podzolic soils from granite

Reference Sites

Claudie River. Site 117, Site 120.

Floristics

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

Canopy

Acacia polystachya, °#*Brachychiton velutinosus*, °*Canarium australicum*, °*Terminalia sericocarpa*, *Blepharocarya involucrigera*, *Buchanania arborescens*, *Garcinia warrenii*, *Grevillea baileyana*.

Subcanopy

Ptychosperma elegans, *Chionanthus ramiflora*.

Understorey

Chrysophyllum lanceolatum, *Bambusa forbesii*, *Dysoxylum acutangulum* subsp. *foveolatum*, *Euonymus australiana*, *Glycosmis* sp. (DGF 4148), *Glycosmis trifoliata*, *Ixora klanderiana*, *Larsenaikia ochreatea*, *Memecylon pauciflorum* var. *pauciflorum*, *Micromelum minutum*, *Tabernaemontana orientalis*, *Cryptocarya exfoliata*, *Dysoxylum oppositifolium*, #*Garcinia* sp. (Claudie River, L. J. Brass 19658), *Ptychosperma macarthurii*, #*Ryticarium longifolium*, *Salacia disepala*.

Lianes and Epiphytes

Tetracera daemeliana, *Strychnos colubrina*, *Pyrrosia longifolia*, *Parsonsia velutina*, *Morinda reticulata*, *Flagellaria indica*, *Epipremnum pinnatum*, *Calamus australis*, *Pyrrosia longifolia*, *Rhamnella vitiensis*, *Rhaphidophora australasica*, *Stephania japonica* var. *timorensis*, *Uvaria concavum*, *Asplenium australasicum*, *Calamus caryotoides*.

Groundcover

Alpinia caerulea.

Description

This type is found on podzolic soils of poor internal drainage, including gleyed podzolics found on the lower slopes and adjacent colluvial deposits of granite ranges. Soil is grey brown and yellow loam in the A horizon, with clay at ten to fifty centimetres depth. It has a well developed but uneven canopy up to 35 metres in height, sometimes dominated by Acacias (in patches) and the understorey over considerable areas may be entirely a thicket of the bamboo, *Bambusa forbesii*. The most poorly drained areas approach seasonal swamp, and in those situations the understorey and groundcover may be sparse to absent.

It is confined to the catchment of the Claudie River and some adjacent areas.

Type 50 Tall evergreen mesophyll/notophyll vine forest of the windward gentle upper slopes of granite ranges

Reference Sites

Table Range. Site 126.

Floristics

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

Canopy (in order of cover)

Endiandra longipedicellata, *Cinnamomum oliveri*, #*Macadamia claudiensis*, *Cryptocarya vulgaris*, *Blepharocarya involucrigera*, *Horsfieldia australiana*, *Syzygium bungadinnia*, *Acronychia acronychioides*, *Cryptocarya cunninghamii*, *Pouteria chartacea*, *Melicope vitiflora*, *Gmelina dalrympleana*, *Acacia polystachya*, *A. midgleyi*, *Pandanus zea*.

Subcanopy

#*Macaranga polyadenia*, *Polyscias australiana*, *Cryptocarya mackinnoniana*, *Endiandra glauca*, #*Archidendron hirsutum*.

Understorey

Tabernaemontana orientalis, *Cordyline cannifolia*, *Hydriastele wendlandiana*, *Rapanea porosa*, *Cleistanthus hylandii*, *Dysoxylum latifolium*, *Rhodomyrtus trineura* subsp. *capensis*, *Gmelina dalrympleana*, *Callicarpa pedunculata*, *Alphitonia incana*, *Garcinia dulcis*, *Diploglottis macrantha*, *Calophyllum sil*, *Neolitsea dealbata*, *Wilkea* sp. (Mt. Molloy, L. S. Smith 3955), *Pilidiostigma recurvum*, *Ptychosperma elegans*, *Sarcopteryx martyana*, *Litsea breviumbellata*, *Decaspermum fruticosum*, *Atractocarpus sessilis*, *Canthium* sp. aff. *C. coprosmoides*, *Mackinlaya confusa*, *Haplostichanthus* sp. (Rocky River Scrub, P. I. Forster, PIF 10617), #*Ryticaryum longifolium*, *Casearia dallachii*, *Ternstroemia cherryi*, *Pittosporum rubiginosum*, *Beilschmiedia obtusifolia*, *Syzygium fibrosum*, *Ficus* sp. (Heathlands, D. G. Fell + DGF 3738), *Schefflera versteegii*.

Lianes and Epiphytes

Tetracera daemeliana, *Lygodium flexuosum*, *Freycinetia percostata*, *Flagellaria indica*, *Alyxia spicata*, *Melodinus forbesii*, *Morinda reticulata*, *Calamus caryotoides*, *Cassytha filiformis*, *Calamus australis*, *Strychnos colubrina*, *Liparis* sp., *Platyterium bifurcatum*.

Groundcover

Lindsaea media, *Alpinia caerulea*, *Ophiorrhiza australiana* subsp. *heterostyla*, *Blechnum indicum*, *Dianella atraxis*, *Sphaerostephanos heterocarpus*, *Cyathea rebecca*, *Angiopteris evecta*.

Description

This is a well-developed forest type, with canopy heights reaching 35 metres, found on gentle slopes and plateaux at mid to upper levels of the windward margin of ranges, from the Claudie River southwards to the northern parts of the McIlwraith Range. It occupies the highest rainfall parts of the ranges and is often heavily impacted by wind as evidenced by tangles of *Calamus* sp. in both the understorey and draping the canopy. On plateaux it is intersected by a close pattern of small drainage lines which have a rich groundcover of ferns. The tree *Macadamia claudiensis*, endemic to Cape York Peninsula, is a common canopy feature.

**Type 51 Deciduous microphyll vine forest with abundant feather palms –
Melville Range**

Reference Sites

Melville Range. Site 8, Neldner and Clarkson Site WAK 34.

Floristics

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

Canopy (in order of cover)

°*Millettia pinnata*, #*Wodyetia bifurcata*, °*Canarium australianum*, *Atalaya sericopetala*, *Alphitonia excelsa*, #*Acacia fleckeri*, °*Sterculia quadrifida*.

Subcanopy

°*Wrightia versicolor*, *Mallotus resinus*, °*Miliusa traceyi*, *Cryptocarya exfoliata*, *Leea indica*, *Mallotus philippensis*, *Cupaniopsis fleckeri*, *Polyalthia nitidissima*.

Understorey

Mallotus resinus, *Glycosmis trifoliata*, *Mallotus philippensis*, *Capparis sepiaria*.

Groundcover

Seedlings only.

Description

Confined to foothills of the Melville Range, this is a unique rainforest structural type in an Australian context. It is characterised by the abundance of the endemic feather palm *Wodyetia bifurcata*, and the deciduous nature of the canopy. Although adjacent to areas of large granite boulders devoid of vegetation or amongst which are scattered assemblages of vine thicket species, the type itself is devoid of boulders and has an unbroken canopy at twelve to sixteen metres. No emergents are present and trees are mostly unbuttressed. Groundcover is rarely present, however herbaceous lianes are abundant in the wet season.

Type 52 Tall semi-deciduous mesophyll/notophyll vine forest of mid-slopes of granite hills and ranges

Reference Sites

Tozer, Table and McIlwraith Ranges. Site 57, Site 127.

Floristics

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

Canopy

Aleurites moluccana, *Alstonia scholaris*, *Argyrodendron polyandrum*, *Arytera divaricata*, *Acacia midgleyi*, °*Canarium australicum*, °*Garuga floribunda* var. *floribunda*, *Homalium circumpinnatum*, °*Milium brahei*, *Mimusops elengi*.

Subcanopy

Aidia racemosa, *Austromyrtus floribunda*, *Diospyros fasciculosa*.

Understorey

Pouteria chartacea, *Ptychosperma macarthurii*, *Solanum macoorai*, *Toeckima daemelianum*, *Cryptocarya triplinervis* var. *riparia*, *Dimocarpus australianus*, *Dimorphocalyx australiensis*, *Cryptocarya exfoliata*, *Glycosmis trifoliata*, *Pipturus argenteus*, *Rinorea bengalensis*.

Lianes and Epiphytes

Calamus caryotoides, *Smilax australis*, *Malaisia scandens*, *Dendrobium discolor*.

Groundcover

Dianella odorata. (Dominantly tree seedlings.)

Description

This is a tall rainforest found on eastern slopes of the main ranges south of the Pascoe River (Tozer, Table and McIlwraith Ranges) and upper slopes of hills and ranges between them and the coast. It has a very uneven canopy, sparse groundcover apart from tree seedlings, and an abundance of thin wiry lianes. In localised areas, particularly along ridges, acacias may be abundant, indicative of recurrent wind damage.

Type 53 Simple evergreen notophyll vine forest with tall Acacia emergents on granite hills

Reference Sites

McIlwraith and Macrossan Ranges. Site 44, Webb and Tracey Site 28.

Floristics

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

Emergents

Acacia polystachya.

Canopy (in order of cover)

Argyrodendron polyandrum, *Alstonia scholaris*, *Endiandra impressicosta*, *Elaeocarpus arnhemicus*, *Beilschmiedia obtusifolia*, *Cleistanthus hylandii*, *Rinorea bengalensis*, *Aglaia euryanthera*, *Austromyrtus* sp. (Claudie River, G. P. Guymer 2052), *Rhodomyrtus macrocarpa*, *Maniltoa lenticellata*, *Litsea fawcettiana*, *Acmenosperma claviflorum*, *Toechima daemelianum*, *Celtis philippensis*, *Acacia polystachya*.

Subcanopy

Dysoxylum oppositifolium, *Cryptocarya cunninghamii*, *Diospyros fasciculosa*, *Austromyrtus* sp. (Claudie River, G. P. Guymer 2052).

Understorey

Euonymus australiana, *Atractocarpus sessilis*, *Mallotus philippensis*, *Kibara rigidifolia*, *Glycosmis trifoliata*, *Cryptocarya triplinervis* var. *riparia*, *Synima cordierorum*, *Arytera bifoliolata*, *Dysoxylum oppositifolium*, *Ptychosperma elegans*, *Cupaniopsis flagelliformis* var. *flagelliformis*, #*Cryptocarya claudiana*, *Randia tuberculosa*, *Haplostichanthus* sp. (Rocky River Scrub, P. I. Forster, PIF 10617), *Prunus grisea*, *Diospyros hebecarpa*, *Streblus brunonianus*, *Tabernaemontana orientalis*, *Dimocarpus australianus*, *Syzygium fibrosum*, *Cleistanthus apodus*, *Archidendron grandiflorum*, *Pandanus zea*, *Salacia disepala*, *Drypetes deplanchei*, *Grewia oxyphylla*.

Lianes and Epiphytes

Calamus caryotoides, *Malaisia scandens*, *Smilax australis*, *Hypserpa decumbens*, *Epipremnum pinnatum*, *Dischidia ovata*, *Cissus repens*, *Verbenaceae* (DGF 3120), *Cissus opaca*, *Tiliacora australiana*, *Tetracera daemeliana*, *Aristolochia* sp. (Iron Range, G. Sankowsky + 382), *Sicyos australis* (DGF 3124), *Rhaphidophora australasica*.

Groundcover

Leptaspis banksii, *Alpinia* sp., *Cyperus* sp. (The Boulders, J. Elsol 818).

Description

A forest in the final stages of a transition from sclerophyll forest to rainforest. Remaining evidence of the former sclerophyll forest is provided by the occasional tall (to forty metres) *Acacia* emergents, remnant stumps of *Lophostemon suaveolens*, with the occasional presence in the canopy of pioneer rainforest species such as *Litsea fawcettiana*, and *Polyscias elegans*. This forest type may reflect widespread recent change in the forest environments of the higher rainfall areas of eastern Cape York.

Type 54 Tall evergreen mesophyll/notophyll vine forest on steep lower slopes of granite hills

Reference Sites

Claudie River. Site 121.

Floristics

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

Canopy (in order of cover)

Buchanania arborescens, °*Neonauclea gordoniana*, *Aleurites moluccana*, *Bosistoa medicinalis*, *Alstonia scholaris*, *Dysoxylum oppositifolium*, *Endiandra longipedicellata*, #*Ailanthus integrifolia* subsp. *integrifolia*, *Blepharocarya involucrigera*, *Anthocarapa nitidula*, *Mallotus polyadenos*, *Garcinia warrenii*, *Arytera divaricata*.

Subcanopy

Bosistoa medicinalis, *Rinorea bengalensis*, *Streblus brunonianus*, *Rhodamnia spongiosa*, *Calophyllum sil*, *Chionanthus ramiflora*, *Cryptocarya hypospodia*.

Understorey

Maniltoa lenticellata, #*Macrostelia grandiflora* subsp. *macilwraithensis*, *Ptychosperma elegans*, *Atractocarpus sessilis*, *Cordyline cannifolia*, *Cinnamomum oliveri*, *Micromelum minutum*, #*Arytera macrobotrys*, *Myristica insipida*, *Mitrephora diversifolia*, *Harpullia ramiflora*, *Dimocarpus australianus*, *Polyscias macgillivrayi*, *Garcinia dulcis*, *Dendrocnide cordata*, *Breynia cernua*, *Haplostichanthus* sp. (Rocky River, P. I Forster, PIF 10617), *Wrightia laevis* subsp. *millgar*, *Toechima daemelianum*, *Glycosmis* sp. (DGF 4148/4128), *Flacourtia* sp. (Shiptons Flat, L. W. Jessup + GJD 3200), *Cleistanthus hylandii*, #*Cryptocarya claudiana*, *Phaleria octandra*, *Pleomele angustifolia*, *Jagera pseudorhus* forma *pilosiuscula*, *Ochrosia minima*, *Calophyllum sil*, *Salacia disepala*.

Lianes and Epiphytes

Calamus caryotoides, *Cansjera leptostachya*, *Strychnos colubrina*, *Flagellaria indica*, *Melodorum* sp. (Claudie River, B. P. Hyland, 21171V), *Austrosteenisia blackii*, *Dischidia ovata*, *Epipremnum pinnatum*, *Asplenium australasicum*, *Platynerium bifurcatum*, *Scindapsus altissimus*.

Groundcover

Doodia media subsp. *media*, *Geophila repens*, *Nervilia crocifformis*, *Corymborkis veratrifolia*, *Leptaspis banksii*, *Dianella* sp. *Drynaria* sp.

Description

This appears to be a forest type of restricted distribution, possibly confined to the catchment of the Claudie River where it occurs on steep rocky slopes with well-drained brown loam soil at altitudes below about one hundred metres. It is a tall forest with an open understorey. Canopy height reaches forty metres. Downslope it may grade into Type 49, and upslope into Type 52.

Type 55 Tall semi deciduous notophyll vine forest of deep structured red earth soils (other than those derived from basalt)

Reference Sites

Lockerbie Range to Carnegie Range.

Site 104, Site 105, Site 107, Site 108, Site 119, Webb and Tracey Sites 13, 29, 516.

Floristics

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

Canopy

Dysoxylum arborescens, *Dysoxylum excelsum*, *Myristica insipida*, *Palaquium galactoxylon*, *Aglaia spectabilis*, *Beilschmiedia obtusifolia*, *Buchanania arborescens*, *Alstonia scholaris*, *Calophyllum sil*, #*Litsea macrophylla*, *Aidia racemosa*, *Arytera divaricata*, °*Miliusa horsfieldii*, °*Premna hylandiana*, *Zanthoxylum rhetsa*, *Blepharocarya involucrigera*, °*Syzygium pseudofastigiatum*.

Subcanopy

Myristica insipida is the only species that is universally present in this layer. A large number of species common in the canopy were also recorded as occasional trees. *Pandanus zea* and *Diospyros geminata* are locally common.

Understorey

Salacia disepala, *Tabernaemontana orientalis*, *Dimorphocalyx australiensis*, *Actephila lindleyi*, *Aglaia sapindina*, *Arytera bifoliolata*, *Codiaeum variegatum* var. *moluccanum*, *Flacourtia* sp. (Shiptons Flat, L. W. Jessup + G.J.G. 3200), *Haplostichanthus* sp. (Rocky River, P. I. Forster, PIF10617), *Mallotus resinusus*, *Aglaia euryanthera*, *Chrysophyllum lanceolatum*, *Pouteria chartacea*, *Atractocarpus sessilis*, *Rinorea bengalensis*, *Tetrasynandra longipes*, *Neolitsea brassii*, *Cryptocarya endiandrifolia*, *Morinda* sp., *Wilkiea* sp. (DGF 4010, possibly ex Q6 aff. *W. angustifolia*)

Lianes and Epiphytes

Pisonia aculeata, *Trichosanthes pentaphylla*, *Cissus* sp. (DGF 4032), *Austrosteenisia stipularis*, *Phaleria octandra*, *Entada phaseoloides*, *Flagellaria indica*, *Cyathostemma micranthum*, *Strychnos colubrina*, *Tetracera daemeliana*, *Smilax australis*.

Groundcover

Corymborkis veratrifolia, *Leptaspis banksii*.

Description

This forest type is anomalous in occurring across a wide range of geology, being found on rocks as widely different as ferruginized sandstone in the Lockerbie area and metamorphics at Iron Range. It is the richest in canopy species of all the forest types described and its tall stature and the open nature of the understorey makes it also amongst the most aesthetically pleasing of all rainforests. Its occurrence is determined by the presence of deep red earth soils, which may be weakly to moderately structured. The development of these soils at Iron Range is easily explained by the presence of metamorphosed basalts, but their widespread development on the Mesozoic sandstones at Lockerbie is surprising, and is most likely due to the high iron content of those lateritised rocks. In stature and structure it resembles forests developed on basalt in the Cooktown area, but is floristically much richer.

**Type 56 Semi-deciduous notophyll/microphyll vine forest and vine thicket
on rocky sandstone areas on gentle slopes and plains**

Reference Sites

Kalpowar. Site 11, Site 12.

Floristics

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

Emergents

°*Gyrocarpus americanus*, *Acacia polystachya*, *Ailanthus triphysa*, *Ganophyllum falcatum*.

Canopy

Croton arnhemicus, *Cupaniopsis fleckeri*, *Glycosmis trifoliata*, *Polyalthia nitidissima*, °*Strychnos lucida*, *Drypetes deplanchei*, °*Garuga floribunda* var. *floribunda*, *Mimusops elengi*.

Understorey

Glycosmis trifoliata, *Murraya paniculata*.

Lianes and Epiphytes

Capparis sepiaria, *Flagellaria indica*, *Ziziphus oenopolia*.

Groundcover

Sparse to absent.

Description

This restricted type survives in admixture with regularly burnt open grassy forest by occupying rocky ground where fires rarely penetrate. The rock may be either ferricrete exposed by erosion, or the levelled residual of a former sandstone eminence. The canopy is broken and uneven reaching up to sixteen metres in height and at times descending almost to ground level. Thin wiry, often thorny lianes drape the canopy trees and form dense thickets in the understorey. Groundcover is absent apart from a few scattered tree seedlings, and possibly wet season ephemerals, the ground surface being covered largely by rock and leaf litter.

Right:
(Site 11) Vine thicket at Black Hill on Kalpowar Station supports disjunct populations of *Ailanthus triphysa* and an undescribed *Senna* species. The plate illustrates the abrupt boundary with *Eucalypt cullenii* woodland (Photo: Peter Stanton).



Type 57 Deciduous notophyll/microphyll vine forest and thicket of sandstone ranges and hills (with minor occurrence on other sediments)

Reference Sites

Laura Basin, Mungkan Kandju National Park.

Sites 9, Site 16, Site 18, Site 19, Site 20, Site 34, Site 36, Site 73, Site 139.

Floristics

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

Emergents

°*Brachychiton australis*, °*Bombax ceiba* var. *leiocarpum*, °*Croton arnhemicus*, °*Gyrocarpus americanus*, °*Millettia pinnata*, °*Albizia retusa* subsp. *retusa*.

Canopy

°*Wrightia pubescens* subsp. *penicillata*, *Drypetes deplanchei*, °*Margaritaria dubium-traceyi*, °*Terminalia muelleri*, °*Millettia pinnata*, °*Garuga floribunda* var. *floribunda*, °*Bombax ceiba* var. *leiocarpum*, °*Brachychiton australis*, *Aidia racemosa*, °*Capparis lucida*, °*Celtis* sp. (Cape Melville, D. G. Fell + DGF 3025), °*Strychnos lucida*, *Paraserianthes toona*, *Flindersia collina*, *Gyrocarpus americanus*, *Cleistanthus apodus*, *Polyalthia nitidissima*, °*Croton arnhemicus*, °*Terminalia* sp. aff. *T. muelleri* (DGF 2766), °*Canarium australianum*, *Cupaniopsis fleckeri*, *Diospyros hebecarpa*, *Dysoxylum oppositifolium*, #*Erythroxylum* sp. (Olive River, J. R. Clarkson 9991).

Subcanopy

Pouteria sericea, °*Miliusa traceyi*.

Understorey

Larsenaikia ochreatea, *Ziziphus oenopolia*, *Murraya paniculata*, *Tabernaemontana orientalis*, *Abutilon micropetalum*, *Actephila lindleyi*, *Eugenia reinwardtiana*, *Euphorbia plumerioides* var. *plumerioides*, *Polyalthia nitidissima*, *Diospyros compacta*, *Meiogyne* sp. (Tingle Scrub, D. G. Fell + DGF 2667), *Memecylon pauciflorum* var. *pauciflorum*, *Atalaya australiana*, *Bosistoa medicinalis*, *Litsea glutinosa*, *Cryptocarya exfoliata*, *Cassine melanocarpa*, *Micromelum minutum*, *Guettardella ovatifolia*, *Claoxylon tenerifolium*, *Cleistanthus xerophilus*, *Arytera bifoliolata*, *Strychnos psilosperma*, *Glycosmis trifoliata*, *Phyllanthus lamprophyllus*, *Acronychia laevis*, *Ixora klanderiana*, *Austromyrtus lucidus*, *Mallotus resinus*, *Celtis philippensis*, *Dimorphocalyx australiensis*, #*Cassia* sp. (Kalpowar, D. G. Fell + DGF 2667).

Lianes and Epiphytes

Caesalpinia scortechinii, *Caesalpinia hymenocarpum*, *Cansjera leptostachya*, *Muelleragia timorensis*, *Aristolochia chalmersii*, *Atalaya sericopetala*, *Cissus repens*, *Abrus precatorius*, *Smilax australis*, *Uvaria membranaceum*, *Hippocratea barbata*, *Parsonsia* sp. (Possum Scrub, P. I. Forster PIF 13519), *Parsonsia velutina*, *Neoalsomitra capricornica*, *Alyxia spicata*, *Capparis sepiaria*, *Tiliacora australiana*.

Groundcover

Oplismenus burmanii, *Ancistrachne uncinulata*, *Panicum trichoides*, *Dicliptera spicata*, *Cyperus zollingeri*, *Scleria mackaviensis*, *Tacca leontopetaloides*, *Asystasia australasica*, *Commelina ensifolia*, *Plectranthus* sp. (DGF 2922).

Description

Largely confined to sandstones at the northern end of the Laura Basin with a few isolated small areas on siltstone west of Coen. The sandstones are largely ferruginous and weather to give a red sandy loam soil, which is covered by rocks and boulders. The type occurs less commonly on quartzitic sandstones but there appear to be no significant floristic or structural differences between the forests found on either rock type. The forests of this type are found in small, well-separated patches over a wide geographic area. Occasional deciduous emergents overtop a very broken, uneven, and largely deciduous canopy. Thin wiry lianes are abundant. The groundcover is sparse and largely composed of wet season ephemerals, with the grass *Ancistrachne uncinulata* commonly the only prominent dry season component. The boundary of the type with open woodland is fire maintained and consequently very sharp.

Type 58 Semi deciduous notophyll vine forest with *Xanthostemon umbrosus* on talus slopes of quartzose sandstone hills

Reference Sites

Princess Charlotte Bay, Lakefield. Site 33.

Floristics

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

Canopy (in order of cover)

Xanthostemon umbrosus, °*Gyrocarpus americanus*, °*Terminalia muelleri*, °*Croton arnhemicus*, *Diospyros compacta*, °*Vitex acuminata*, °*Bombax ceiba* var. *leiocarpum*, *Canthium odoratum*, *Dalbergia densa*.

Subcanopy

Erythroxylon ellipticum, °*Wrightia pubescens* subsp. *penicillata*.

Understorey

Miliusa traceyi, *Phyllanthus lamprophyllus*, *Erythroxylon ellipticum*, *Memecylon pauciflorum* var. *pauciflorum*, *Tabernaemontana orientalis*, *Glycosmis trifoliata*, *Murraya paniculata*, *Aidia racemosa*, *Millettia pinnata*, *Cryptocarya exfoliata*, *Antidesma ghaesembilla*, *Austromyrtus bidwillii*.

Lianes and Epiphytes

Abrus precatorius, *Hoya australis*, *Parsonsia velutina*, *Neoalsomitra capricornia*, *Ziziphus oenopolia*, *Drynaria rigidula*, *Parsonsia velutina*, *Jasminum simplicifolium*, *Muelleragia timorensis*.

Groundcover

Panicum trichoides, **Hyptis suaveolens*, *Laportea interrupta*, *Pseuderanthemum variabile*, *Randia* sp. (Coen, B. P. Hyland 14278=DGF 2919), *Tacca leontopetaloides*, *Plectranthus* sp. (DGF 2922), *Scleria mackaviensis*, *Wedelia bipinnata*.

Description

This type was recorded only from the isolated Jane Table Hill in Lakefield National Park, but it almost certainly occurs in the valley of the Deighton River and other sandstone gorges near Laura. There, it could be expected to be confined to very small patches. It is recognisable on the aerial photographs by the distinctive signature imparted by a canopy dominated by the evergreen *Xanthostemon umbrosus*. Records for this type were made during the wet season and a number of species recorded in the groundcover would be ephemerals.

Type 59 Semi deciduous notophyll/microphyll vine forest on weathered sandstone talus

Reference Sites

Altanmoui Range. Site 48, Site 130.

Floristics

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

Emergents

°*Gyrocarpus americanus*, °*Garuga floribunda* var. *floribunda*, °*Brachychiton* sp. (Altanmoui Range, D. G. Fell + DGF 3202).

Canopy

Mimusops elengi, °*Garuga floribunda* var. *floribunda*, *Euphorbia plumerioides* var. *plumerioides*, *Drypetes deplanchei*, *Diospyros compacta*, *Cupaniopsis fleckeri*, *Canthium odoratum*, *Dansiea* sp. nov. (Altanmoui Range, D. G. Fell + DGF 3191), *Flindersia collina*, °*Gyrocarpus americanus*, *Dinosperma erythrococca*.

Understorey

Abutilon micropetalum, *Austromyrtus* sp. (Byerstown Range, G. P. Guymer, 2037), *Eugenia reinwardtiana*, *Memecylon pauciflorum* var. *pauciflorum*, *Tabernaemontana orientalis*, *Terminalia muelleri*, #*Wrightia versicolor*, *Meiogyne* sp. (Tingle Scrub, D. G. Fell + DGF 2676), *Premna dallachyana*, *Croton* sp. (Myall Creek, P. I. Forster + PIF 14368).

Lianes and Epiphytes

Caesalpinia scortechinii, *Hippocratea barbata*, *Jasminum didymum* subsp. *didymum*, *Ventilago ecorollata*, *Omphalea papuana*.

Groundcover

Scleria mackaviensis, *Hypoestes floribunda*, *Asystasia australasica*, *Commelina ensifolia*.

Description

This type is unique to the Altanmoui Range area about forty kilometres south southeast of Cape Melville. Most of it is found in one patch of about ten hectares in the northern foothills of the range. The geology of its occurrence exhibits some unusual features. The forest is developed on a tongue of weathered sandstone scree (talus), which has slumped from a now far retreated sandstone plateau, leaving the scree sitting upon and surrounded by a granite landscape. Floristically it is unique because of the presence and abundance of new and highly disjunct species such as *Dansiea* sp. nov., *Brachychiton* sp. nov., *Pouteria cotinifolia* var. *cotinifolia* and *Flindersia collina*. The first two species were not recorded anywhere else during the study, with the latter two representing disjunct northern limits of distribution. The canopy is mostly deciduous and six to sixteen metres in height, with occasional emergents to twenty metres. An evergreen component is represented by species of *Canthium*, *Melicope*, *Diospyros*, *Atalaya*, *Memecylon* and *Euphorbia*. The latter, *E. plumerioides*, uncommon elsewhere, occurs here as a frequent canopy tree.

Type 60 Simple evergreen notophyll vine forest on yellow earth soils from lateritic and quartzose sandstones

Reference Sites

Jardine River. Site 74, Site 78, Site 80, Site 81, Site 82, Site 83, Site 84.
Webb and Tracey Sites 17, 46, 530.

Floristics

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

Canopy

Blepharocarya involucrigera, *Canthium lamprophyllum*, *Endiandra glauca*, *Auranticarpa papyracea*, *Syzygium forte* subsp. *forte*, *Callitris intratropica*, *Stenocarpus cunninghamii* sens. lat., *Welchiodendron longivalve*, *Cryptocarya cunninghamii*, *Halfordia kendack*, *Xanthophyllum octandrum*, *Flindersia ifflaiana*, *Acacia polystachya*, *Syzygium banksii*, *Pouteria chartacea*, *P. obovata*, *Syzygium angophoroides*, *Buchanania arborescens*.

Subcanopy

Ptychosperma elegans, *Pandanus conicus*, *Podocarpus grayae*.

Understorey

Polyalthia nitidissima, *Polyscias australiana*, *Atractocarpus sessilis*, *Xylopia* sp. (Bertiehaugh Homestead, C. Dalliston C.D. 173, 'monosperma' ms.), *Guettardella ovatifolia*, *Kibara rigidifolia*, *Larsenaikia ochreatea*, *Ochrosia minima*, *Choriceras tricorne*, *Cryptocarya claudiana*, *Cryptocarya murrayi*, *Diploglottis macrantha*, *Licuala ramsayi*, *Litsea breviumbellata*, *Mackinlaya confusa*, *Melodorum* sp. (Stone Crossing, L. W. Jessup 814), *Syzygium fibrosum*, *Guioa acutifolia*, *Kibara rigidifolia*, *Myristica insipida*, *Scolopia braunii*, *Cordyline cannifolia*, *Haplostichanthus* sp. (Rocky River Scrub, P. I. Forster PIF 10617), *Guettardella tenuiflora*, *Tarenna dallachiana*, *Diospyros* sp. (Bamaga, B. P. Hyland), *Neolitsea brassii*, *Pleomele angustifolia*, *Tabernaemontana orientalis*, *Pleurostyliia opposita*.

Lianes and Epiphytes

Pyrrosia longifolia, *Smilax glycyphylla*, *Flagellaria indica*, *Jasminum simplicifolium*, *Dischidia ovata*, *Melodorum leichhardtii*, *Calamus australis*, *Cassytha* sp., *Melodinus australis*, *Myrmecodia beccarii*, *Bulbophyllum baileyi*, *Hugonia jenkinsii*, *Dendrobium johannis*, *Hydnophytum* sp., *Strychnos colubrina*, *Uvaria membranaceum*.

Groundcover

Pandanus conicus, *Drynaria sparsisora*, *Dianella bambusifolia*, *Lindsaea media*.

Description

The most common rainforest type throughout the Jardine River catchment, occurring mostly on the highest parts of broad ridges. It has an uneven, often broken canopy, varying from about 15 to 35 metres in height. Understorey is often a tangle of *Calamus australis* and thin wiry lianes. Cypress Pine (*Callitris intratropica*) is often present in the canopy, occasionally as an emergent, and this species appears to play an interesting role in expansion of the rainforest. Large senescent *Callitris* within the rainforest edge are seeding the sclerophyll margin. In the current regime of infrequent fire, stands of young cypress are developing to the stage where they become largely fire exclusive, while providing an ideal nursery for seedlings from the rainforest.

Type 61 Semi deciduous notophyll vine forest of coastal bauxite and laterite exposures

Reference Sites

Far north east coast. Site 76.

Floristics

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

Canopy

°*Canarium australianum*, *Drypetes deplanchei*, *Endiandra glauca*, *Welchiodendron longivalve*, #*Archidendron hirsutum*, *Buchanania arborescens*, *Cryptocarya cunninghamii*.

Subcanopy

Diospyros hebecarpa

Understorey

Cryptocarya exfoliata, *Lophostemon suaveolens*, *Ptychosperma elegans*, *Atractocarpus sessilis*, *Myristica insipida*, *Haplostichanthus* sp. (Rocky River Scrub, P. I. Forster 10617).

Lianes and Epiphytes

Flagellaria indica, *Hippocratea barbata*, *Hypserpa decumbens*, *Jasminum didymum* subsp. *didymum*, *Morinda reticulata*, *Mucuna gigantea*, *Tiliacora australiana*, *Dendrobium discolor*.

Groundcover

Mostly confined to seedlings of canopy trees.

Description

This is a low to medium height forest (ten to twenty metres) with an even canopy, found adjacent to the coastline from Temple Bay northwards, occupying both escarpments and plateaux. It is relatively species poor, a direct result of a sometimes-harsh environment of steep slopes, shallow soils, and wind exposure. The canopy often shows the shearing effect of this latter influence.

Type 62 Simple evergreen sclerophyll/notophyll vine forest on yellow earth soil derived from quartzose sandstone

Reference Sites

Site 85, Webb and Tracey Site 529.

Floristics

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

Canopy (in order of cover)

Asteromyrtus myrtifolia, *Flindersia iffalaiana*, *Syzygium angophoroides*, *Lophostemon suaveolens*, *Welchiodendron longivalve*, *Endiandra glauca*, *Acacia polystachya*, *Podocarpus grayae*.

Subcanopy

Pandanus conicus, *Hydriastele wendlandiana*, *Xylopia* sp. (Bertiehaugh Homestead, C. Dalliston, CD 173).

Understorey

Atractocarpus sessilis, *Licuala ramsayi*, *Mackinlaya confusa*, *Croton capitis-york*, *Polyscias australiana*, *Choriceras tricornis*, *Acronychia imperforata*, *Pandanus conicus*, *Blepharocarya involucrigera*, *Garcinia warrenii*, *Psychotria polioSTEMMA*, *Deplanchea tetraphylla*, *Xanthophyllum octandrum*, *Cryptocarya murrayi*, *Canthium graciliflorum*, *Syzygium bungadinnia*, *Calophyllum sil*, *Litsea breviumbellata*, *Halfordia kendack*, *Rapanea porosa*, *Maytenus fasciculiflora*, *Diospyros calycantha*, *Syzygium fibrosum*, *Stenocarpus verticus*, *Tarenna dallachiana*, *Guioa acutifolia*, *Dysoxylum latifolium*, *Rhodamnia blairiana*, *Pouteria chartacea*, *Guettardella ovatifolia*, *Horsfieldia australiana*, *Decaspermum humile*.

Lianes and Epiphytes

Dischidia ovata, *Smilax glyciophylla*, *Calamus australis*, *Pachygone pubescens*, *Melodinus australis*, *Alyxia spicata*, *Parsonsia* sp. nov. (DGF 3723), *Myrmecodia becarrii*, *Pyrrosia longifolia*.

Groundcover

Lindsaea media, *Dipodium stenochilum*, *Ancistrachne uncinulata*, *Dianella bambusifolia*.

Description

A closed forest with even canopy containing a significant sclerophyll component. Formerly a sclerophyll forest in transition to rainforest, and thus a marginal rainforest in terms of the definition adopted in this study. An examination of the floristics of the sub-canopy and understorey, however, indicates that the sclerophylls are not regenerating and that the end point of the current transition will be a Type 60 forest, which is the common adjoining community. Communities dominated by the sclerophylls *Asteromyrtus myrtifolia* and *Asteromyrtus brassii* occupy a wide range of soils and cover many structural types. On deeper earth soils they form closed communities that tend to become fire exclusive and prone to invasion by rainforest species. This type is an advanced stage in the process and in spite of its obviously transitional status has such distinctive floristic and canopy characteristics, with trees of even height and stem diameter, that it warrants status as a distinct rainforest type.

Type 63 Complex evergreen notophyll vine forest in spring-fed sheltered valleys of low sandstone escarpments – Northern Cape York Peninsula

Reference Sites

Heathlands escarpment. Site 86, Site 87.

Floristics

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

Emergents

Palaquium galactoxylon, *Syzygium bamagense*.

Canopy

Calophyllum sil, *Endiandra longipedicellata*, #*Gulubia costata*, *Licuala ramsayi*, *Maranthes corymbosa*, *Pouteria obovoidea*, *Ptychosperma elegans*, *Ternstroemia cherryi*, *Archontophoenix tuckeri*, *Beilschmiedia obtusifolia*, *Cryptocarya hypospodia*, *Mallotus polyadenos*, #*Semecarpus australiensis*, *Syzygium bamagense*.

Subcanopy

#*Archidendron hirsutum*, #*Pternandra coerulescens*, *Garcinia dulcis*, *Garcinia warrenii*, *Helicia australasica*, *Hydriastele wendlandiana*.

Understorey

Aglaiia sapindina, *Dictyoneura obtusa*, *Horsfieldia australiana*, *Mackinlaya confusa*, *Myristica insipida*, *Atractocarpus sessilis*, *Syzygium fibrosum*, *Kibara rigidifolia*, *Pandanus conicus*, *Podocarpus grayae*, *Ficus congesta* var. *congesta*, *Aglaiia euryanthera*, *Arytera bifoliolata*, *Austromyrtus* sp., *Cleistanthus apodus*, *Cryptocarya cunninghamii*.

Lianes and Epiphytes

#*Calamus hollrungii*, *Dischidia ovata*, *Embelia caulialata*, *Entada phaseoloides*, *Epipremnum pinnatum*, *Freycinetia scandens*, *Melodinus australis*, *Rhaphidophora australasica*, *Scindapsus altissimus*, *Stenochlaena palustris*, *Strychnos colubrina*, #*Medinilla ball-headleyi*, *Melodorum* sp. (Stone Crossing, L. W. Jessup 814), *Flagellaria indica*, *Freycinetia percostata*, *Hugonia jenkinsii*

Groundcover

Dianella bambusifolia, *Drynaria sparsisora*, *Hypolytrum nemorum*.

Description

Occurring entirely on soils derived from quartzose sandstone, this rainforest proved to be the most complex recorded during the study due to unusually benign growing conditions provided by shelter from wind and excessive insolation, deep permeable soils, and a constant supply of ground water. It is found in a number of small east facing gorges along the north-south trending Great Dividing Range escarpment north of Shelburne Bay. Sandstone rock outcrops at all but the lowest levels of the gorges and may form small shelves. This forest type has an uneven canopy rich in species, with the lower layers also rich in life forms including lianes and seven species of palm. Although occupying only a small area it is clearly distinct from other types surveyed in the Heathlands/Jardine River/Escape River area. It is unique to this area, and is remarkable not only for abundance variation and richness of life forms, but also for its high concentration of listed Rare and Threatened Species.

Type 64 Tall evergreen mesophyll-notophyll vine forest of sandstone foothills to the Great Dividing Range

Reference Sites

Heathlands escarpment. Site 88.

Floristics

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

Emergents

Syzygium bamagense.

Canopy (in order of cover)

Syzygium bamagense, *Beilschmiedia obtusifolia*, *Podocarpus grayae*, *Buchanania arborescens*, *Maranthes corymbosa*, *Mallotus polyadenos*, *Garcinia dulcis*, *Acacia polystachya*, *Blepharocarya involucrigera*, *Syzygium forte* subsp. *forte*, *Endiandra longipedicellata*, *Calophyllum sil*, *Cryptocarya hypospodia*.

Subcanopy

Acmena hemilampra subsp. *hemilampra*, *Emmenosperma alphitonioides*, *Prunus turneriana*, *Cryptocarya cunninghamii*, *Syzygium bungadinnia*, *Cleistanthus apodus*, *Aidia racemosa*, *Polyscias elegans*.

Understorey

Pouteria chartacea, *Helicia australasica*, *Rhodomyrtus macrocarpa*, *Neolitsea brassii*, *Neolitsea dealbata*, *Archidendron hirsutum*, *Cleistanthus hylandii*, *Rhodomyrtus trineura* subsp. *capensis*, *Myristica insipida*, *Ptychosperma elegans*, *Atractocarpus sessilis*, *Ficus congesta* var. *congesta*, *Mischocarpus lachnocarpus*, *Licuala ramsayi*, *Cordyline cannifolia*, *Aglaiia euryanthera*, *Arytera bifoliolata*, *Austromyrtus* sp., *Dysoxylum acutangulum* subsp. *foveolatum*, *Kibara rigidifolia*, *Haplostichanthus* sp. (Rocky River Scrub, P. I. Forster PIF 10617), *Diospyros hebecarpa*, *Schefflera bractescens*.

Lianes and Epiphytes

Strychnos colubrina, *Hoya nicholsoniae*, *Flagellaria indica*, *Calamus australis*, *Pandorea pandorana*, *Freycinetia excelsa*, *Freycinetia percostata*, *Smilax australis*, *Scindapsus altissimus*, *Salacia chinensis*, *Hugonia jenkinsii*, *Alyxia spicata*, *Opilia armentacea*, *Hippocratea barbata*, *Epipremnum pinnatum*, *Dischidia ovata*, *Hydnophytum* sp., *Thrixspermum platystachys*.

Groundcover

Drynaria sparsisora, *Schelhammera multiflora*, *Taenitis pinnata*, *Dianella bambusifolia*.

Description

One of the tallest forest types recorded with an uneven canopy of twenty to forty metres, emergents of forty to fifty metres and a very high basal area due to an abundance of large trees. While allied to Type 63, it is significantly poorer in species, much less complex in structure but much taller in stature. It is developed on foothills of subdued topography below the Great Dividing Range in the same geographical location as Type 63, and is of restricted distribution. It occurs on deep yellow earths of a loam texture, developed from parent material of mixed origin - both sandstone base rock and a contribution from colluvial and alluvial processes.

Type 65 Evergreen mesophyll/notophyll vine forest in sheltered spring fed heads of valleys in sandstone ranges – Southern Cape York Peninsula

Reference Sites

Hope Vale. Site 95.

Floristics

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

Canopy

Buchanania arborescens, *Syzygium forte* subsp. *forte*, °*Wrightia laevis* subsp. *millgar*, *Mallotus polyadenos*, *Cryptocarya vulgaris*, *Pouteria xerocarpa*, *Chionanthus ramiflorus*, *Alstonia scholaris*, *Synima cordierorum*, *Elaeocarpus michaeli*, *Lophostemon suaveolens*, *Ficus destruens*, *Blepharocarya involucrigera*, *Helicia australasica*, *Flindersia bourjotiana*, *Ormosia ormondii*, *Ficus microcarpa*, *Syzygium angophoroides*, *Xanthophyllum octandrum*, *Ilex arnhemensis* subsp. *ferdinandii*, °*Cinnamomum baileyannum*.

Subcanopy

Dillenia alata, *Licuala ramsayi*, *Ptychosperma elegans*, *Hydriastele wendlandiana*.

Understorey

Aidia racemosa, *Millettia* sp. (syn. *Pongamia* sp. DGF 3839), *Mallotus ficifolia*, *Cleistanthus apodus*, *Atractocarpus sessilis*, *Polyscias australiana*, *Meiogyne* sp. (Tingle Scrub, D. G. Fell + DGF 2627), *Mischocarpus exangulatus*, *Pandanus* sp., *Kibara rigidifolia*, *Glycosmis trifoliata*, *Mackinlaya confusa*, *Cryptocarya mackinnoniana*, *Cyclophyllum coprosmoides*, *Pittosporum rubiginosum*.

Lianes and Epiphytes

Hoya australis, *Flagellaria indica*, *Austrosteenisia blackii*, *Salacia disepala*, *Strychnos colubrina*, *Freycinetia excelsa*, *Piper* sp., *Pyrosia longifolia*, *Platynerium bifurcatum*, *Asplenium australasicum*, *Epipremnum pinnatum*.

Groundcover

Arthropteris palisotii, *Doodia media* subsp. *media*, *Coveniella poecilophlebia*, *Alpinia caerulea*.

Description

The exclusion of fire by sandstone ledges and the moisture of sandstone springs allow this type to survive in an otherwise hostile environment. It has a sharp boundary with sclerophyll shrubland and woodland. The topographical features of the sites on which it occurs are reminiscent of those for Type 63, but in the latter case the surrounding vegetation is rainforest, or sclerophyll dominated closed forests, on deep soil. Type 65, in stark contrast is an island of mesic environment in a landscape of shallow rocky soils and open sclerophyll communities. This type, which reaches thirty metres in height, is notable in providing the only records from a sandstone environment of the tree species *Flindersia bourjotiana* and *Ormosia ormondii*. It also has a floristic link with sandstone habitats of the Northern Territory in the presence in the canopy of *Elaeocarpus michaelii*.

Type 66 Semi-deciduous notophyll vine-forest of remnant lateritic land surfaces

Reference Sites

Western Peninsula – Jackson River to Wenlock River.

Sites 125, Site 133, M. D. Godwin Sites NCY74, NCY82, Webb and Tracey Site 505.

Floristics

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

Canopy

Aidia racemosa, *Cupaniopsis fleckeri*, *Mimusops elengi*, *Stenocarpus verticus*, *Welchiodendron longivalve*, °*Canarium australianum*, *Ganophyllum falcatum*, *Dysoxylum oppositifolium*, *Buchanania arborescens*, *Aglaia elaeagnoidea*, *Ailanthus triphysa*, *Maranthes corymbosa*.

Understorey

Rhodamnia australis, *Endiandra glauca*, *Drypetes deplanchei*, *Memecylon pauciflorum* var. *pauciflorum*, *Glycosmis trifoliata*, *Dimorphocalyx australiensis*, *Gardenia scabrella*, *Guettardella ovatifolia*, #*Medicosma riparia*, *Celtis* sp. (Cape Melville, D. G. Fell + DGF 3025), *Miliusa traceyi*, *Phyllanthus novae-hollandiae*.

Lianes and Epiphytes

Cynanchum leptolepis, *Smilax australis*, *Abrus precatorius*, *Cansjera leptostachya*, *Cayratia acris*, *Malaisia scandens*, *Parsonsia velutina*, *Pisonia aculeata*.

Description

Forests of this type occur in numerous scattered localities between the Wenlock and Jackson rivers with another concentration between the Wenlock and Mission rivers. There is an isolated, floristically depauperate outlier, along the southern boundary of Munkan-Kaanju National Park. They are developed on red earth soils on residuals of a lateritised (or bauxitic) land surface that now form isolated low plateaux and rises. In many cases the rainforest has not occupied all the site that on soil indications is potentially available to it, and may show evidence of historically recent recession, sometimes being confined to rock-strewn areas. In stature these forests are well developed, with canopies reaching 35 metres and they may be quite rich floristically.

**Type 67 Simple evergreen notophyll vine forest with Araucarian emergents
of sandstone escarpments – Altanmoui Range, Starcke**

Reference Sites

Altanmoui Range. Site 5.

Floristics

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

Emergents

Araucaria cunninghamii.

Canopy (in order of cover)

Dysoxylum oppositifolium, #*Cinnamomum baileyannum*, *Carallia brachiata*, *Buchanania arborescens*, *Alphitonia excelsa*, *Euroschinus falcata*, *Aidia racemosa*, *Acronychia laevis*, *Endiandra glauca*, *Argyrodendron polyandrum*, *Kibara rigidifolia*.

Subcanopy

Mischocarpus stipitatus, *Schefflera actinophylla*, *Canthium lamprophyllum*, *Chionanthus ramiflora*, *Austromyrtus bidwillii*, *Atractocarpus sessilis*.

Understorey

Polyalthia nitidissima, *Diospyros compacta*, *Helicia australasica*.

Lianes

Flagellaria indica, *Smilax australis*, *Austrosteenisia blackii*, *Hypserpa decumbens*, *Melodinus australis*.

Groundcover

Doodia media subsp. *media*, *Lindsaea media*.

Description

This is a forest type found on rugged escarpments of sandstone in the Altanmoui Range and adjacent ranges south of Cape Melville. In the Altanmoui Range it occurs at the sandstone-metamorphic interface, with the type mostly developed on the overlying sandstone. It has an uneven low canopy with emergents of Hoop Pine (*Araucaria cunninghamii*) of seventeen metres plus in height. Trees are predominantly unbuttressed with evergreen crowns. Groundcover is clumped and sparse, composed of seedlings and ferns with a high build-up of surface leaf litter. Thin wiry lianes are common, with vascular epiphytes rare.