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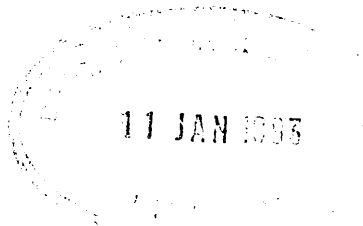
# OTWAY BASIN PALYNOLOGY

## FINAL REPORT ON 52 CORE SAMPLES

Geological Survey of Victoria  
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BY

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**Introduction**

This report completes the palynological investigation of 52 outcrop samples and one outcrop sample. A preliminary report was issued summarising the conclusions and this report details the assemblages and comments on the depositional environment.

The data are arranged in two appendices: the first is a summary of the data and conclusions, the second is a listing of the species recorded. These lists are not exhaustive but rather record the species necessary to validate the biostratigraphic assignment.

The identification of environments requires some comment. Through most of the Early Tertiary the Otway Basin experienced a marginal marine if not an open marine environment and therefore such terms as 'non marine' and 'marginal marine' become rather subjective and a matter of degree rather than being precise. In this report either the lack of marine dinoflagellates or a very low frequency is interpreted as being dominantly a non marine environment.



W.K.Harris  
16 September 1992

## APPENDICES

1. Table summarising palynological data.
2. Species distribution in samples studied.

OTWAY BASIN PALYNOLOGY

BORE HOLE	DEPTH IN FT.	UNIT	YIELD	PRESERVATION	ZONE	SUGGESTED UNIT	DEPOSITIONAL ENVIRONMENT
BUCKNELL 2	2091	Nm	V.GOOD	V.GOOD	Lower N.asperus	Nm	MARGINAL MARINE
BUCKNELL 2	2238	Wd	LOW	GOOD	M.diversus	Wd	MARGINAL MARINE
COORIEJONG 1	952	Nm	V.GOOD	V.GOOD	Lower N.asperus	Nm	MARGINAL MARINE
COORIEJONG 1	1079	Wd	GOOD	GOOD	M.diversus	Wd	MARGINAL MARINE
ECKLIN 3	2147	Nm	V.GOOD	V.GOOD	Lower N.asperus	Nm	MARGINAL MARINE
ECKLIN 3	2238	Wd	V.GOOD	V.GOOD	Lower N.asperus	Nm	MARGINAL MARINE
LAANG 1	2460	Nm	GOOD	GOOD	Lower N.asperus	Nm	MARGINAL MARINE
LAANG 1	2633	Wd	FAIR	POOR	M.diversus	Wd	MARGINAL MARINE
LAANG 1	2791.5	Wpt	FAIR	GOOD	M.diversus	Wd	MARGINAL MARINE
LATROBE 1	221	Nn	V.GOOD	V.GOOD	Lower N.asperus	?Nm	MARGINAL MARINE
LATROBE 1	259	Wd	V.GOOD	V.GOOD	M.diversus	Wd	MARINE
LATROBE 1	357	Wd	GOOD	GOOD	M.diversus	Wd	MARGINAL MARINE
LATROBE 1	1380.5	Wp	V.LOW	FAIR	L.balmei	Wp	? MARGINAL MARINE
MEPUNGA 7	2155.5	Nm	V.GOOD	V.GOOD	Lower N. asperus	Nm	MARGINAL MARINE
MEPUNGA 7	2384	Wd	V.GOOD	V.GOOD	M.diversus	Wd	? MARGINAL MARINE
MEPUNGA 7	2592	Wp	GOOD	V.GOOD	F.longus	Wpt	MARGINAL MARINE
MEPUNGA 7	2806	Wp	GOOD	GOOD	M.diversus	Wd	NON MARINE
MEPUNGA 9	2747	Nm	V.GOOD	V.GOOD	Lower N.asperus	Nm	MARGINAL MARINE
MEPUNGA 9	2933	Wd	FAIR	FAIR	M.diversus	Wd	NON MARINE
MEPUNGA 10	4045.5	Wp	FAIR	FAIR	L.balmei	Wp	MARGINAL MARINE
MEPUNGA 10	4062.5	Wpt	FAIR	GOOD	F.longus	Wpt	MARGINAL MARINE
NARRAWATURK 2	2316	Nm	V.GOOD	V.GOOD	Lower N. asperus	Nm	MARGINAL MARINE
NARRAWATURK 2	2442	Wd	GOOD	GOOD	M. diversus	Wd	NON MARINE
NARRAWATURK 2	2569	Wd	GOOD	GOOD	M.diversus	Wd	NON MARINE
NARRAWATURK 2	2837	Wd	V.GOOD	V.GOOD	M. diversus	Wd	NON MARINE
NARRAWATURK 2	3024	Wd	FAIR	FAIR	M. diversus	Wd	NON MARINE
NARRAWATURK 2	3418	Wp	FAIR	FAIR	L.balmei	Wp	NON MARINE
NARRAWATURK 2	3782	Wpt	FAIR	FAIR	F.longus	Wpt	? MARGINAL MARINE
NIRRANDA 3	2602.5	Nm	V.LOW	GOOD	Lower N. asperus	Nm	NON MARINE
NIRRANDA 3	2784.75	Wd	V.GOOD	V.GOOD	M. diversus	Wd	MARGINAL MARINE
NIRRANDA 3	3361	Wdp/Wp	FAIR	FAIR	M. diversus	Wd	NON MARINE
NIRRANDA 3	3533	Wpt	FAIR	FAIR	M. diversus	Wd	NON MARINE

OTWAY BASIN PALYNOLOGY

NIRRANDA 6	2178	Wd	V.LOW	GOOD	M. diversus	Wd	MARGINAL MARINE
NIRRANDA 6	3076.5	Wp	V.LOW	GOOD	F.longus	Wpt	MARGINAL MARINE
NIRRANDA 6	3090.5	Wpt	V.LOW	GOOD	F.longus	Wpt	MARGINAL MARINE
NULLAWARRE 3	2423	Nm	V.GOOD	V.GOOD	M. diversus	Wd	MARGINAL MARINE
NULLAWARRE 3	2620	Wd	V.GOOD	V.GOOD	M. diversus	Wd	MARGINAL MARINE
PAARATTE 1	1492.5	Nm	FAIR	V.GOOD	Lower N. asperus	Nm	MARGINAL MARINE
PAARATTE 1	1596	Wd	GOOD	V.GOOD	M. diversus	Wd	MARGINAL MARINE
PANMURE 2	2353	Nm	GOOD	GOOD	?M. diversus	Wd	? MARGINAL MARINE
PANMURE 2	2473	Wd	V.LOW	POOR	?F.longus	Wpt	MARGINAL MARINE
PORT CAMPBELL 1	2916	Wpt	FAIR	FAIR	F.longus	Wpt	MARGINAL MARINE
TIMBOON 5	1377.5	Nm	V.GOOD	V.GOOD	Lower N. asperus	Nm	MARGINAL MARINE
TIMBOON 5	1388.5	Wd	V.GOOD	V.GOOD	Lower N. asperus	Nm	NON MARINE
TIMBOON 5	1473	Wd	V.GOOD	V.GOOD	M. diversus	Wd	NON MARINE
TIMBOON 5	2287	Wpt	LOW	POOR	F.longus	Wpt	MAGINAL MARINE
WANGOOM 2	1985	Nm	V.GOOD	V.GOOD	Lower N. asperus	Nm	NON MARINE
WANGOOM 2	2259	Wd	V.LOW	GOOD	indeterminate	-	-
WANGOOM 2	2652	Wp	GOOD	GOOD	F.longus	Wpt	MARGINAL MARINE
WANGOOM 6	1836	Nm	GOOD	GOOD	Lower N. asperus	Nm	NON MARINE
WANGOOM 6	1962	Wd	GOOD	GOOD	M. diversus	Wd	NON MARINE
WANGOOM 6	2732.5	Wp	FAIR	GOOD	L. balmei	Wp	MARGINAL MARINE
ST-2	OUTCROP	Tp6	V.GOOD	V.GOOD	un-named	Tp	NON MARINE

List of species present in Bucknell No2/2091ft. ordered alphabetically.

39 species present in 1 samples.  
*Achomosphaera alcornu* 800  
*Areosphaeridium multicornutum* 809  
*Corrudinium obscurum* 827  
*Cupanieidites orthoteichus* 242  
*Distatodinium tenerum* 835  
*Ericipites scabratus* 542  
*Gleicheniidites circinidites* 766  
*Haloragacidites harrisii* 275  
*Ilexpollenites anguloclavatus* 367  
*Impagidinium victorianum* 866  
*Lingulodinium machaerophorum* 872  
*Lygistepollenites florinii* 674  
*Malvacipollis diversus* 489  
*Microcachryidites antactica* 669  
*Myrtaceidites parvus* 246  
*Nothofagidites emarcidus* 497  
*Nothofagidites falcatus* 501  
*Nothofagidites flemingii* 505  
*Nothofagidites lachlanae* 495  
*Nothofagidites vansteeni* 499  
*Operculodinium centrocarpum* 876  
*Periporopollenites vesicus* 475  
*Phyllocladidites mawsonii* 666  
*Polyorifites oblatum* 480  
*Propylipollis parvus* 637  
*Proteacidites adenanthoides* 609  
*Proteacidites kopiensis* 566  
*Proteacidites leightonii* 623  
*Proteacidites pachypolus* 564  
*Proteacidites reticulatus* 612  
*Rugulatisporites mallatus* 757  
*Santalumidites cainozoicus* 444  
*Simplicepollis meridianus* 537  
*Spiniferites ramosus membranaceus* 894  
*Tectatodinium warrekillanum* 901  
*Tetracolporopollenites rotundus* 531  
*Tricolporites adelaidensis* 452  
*Tripoporopollenites ambiguus* 626  
*Verrucosisporites kopukuensis* 782

List of species present in Bucknell No2/2238ft. ordered alphabetically.

17 species present in 1 samples.  
927  
*Cupanieidites orthoteichus* 242  
*Dilwynites granulatus* 647  
*Diphyes colligerum* 837  
*Gothanipollis bassensis* 251  
*Haloragacidites harrisii* 275  
*Lygistepollenites florinii* 674  
*Malvacipollis diversus* 489  
*Myrtaceidites tenuis* 248  
*Nothofagidites matauraensis* 506  
*Periporopollenites vesicus* 475  
*Proteacidites grandis* 562  
*Proteacidites leightonii* 623  
*Proteacidites pachypolus* 564  
*Simplicepollis meridianus* 537  
*Spiniferites ramosus* 892  
*Tetracolporopollenites rotundus* 531

List of species present in Cooriejong No.1/952ft. ordered alphabetically.

36 species present in 1 samples.  
*Achomospaera alaicornu* 800  
*Araucariacites australis* 645  
*Cupanieidites orthoteichus* 242  
*Diphyes colligerum* 837  
*Ericipites scabratus* 542  
*Gleicheniidites circinidites* 766  
*Haloragacidites harrisii* 275  
*Ilexpollenites anguloclavatus* 367  
*Lygistepollenites florinii* 674  
*Malvacipollis diversus* 489  
*Microcachryidites antactica* 669  
*Myrtaceidites parvus* 246  
*Nothofagidites emarcidus* 497  
*Nothofagidites falcatus* 501  
*Nothofagidites flemingii* 505  
*Nothofagidites lachlanae* 495  
*Nothofagidites vansteensisi* 499  
*Periporopollenites vesicus* 475  
*Phthanoperidinium comatum* 880  
*Phyllocladidites mawsonii* 666  
*Polyorifites oblatus* 480  
*Propylipollis parvus* 637  
*Proteacidites adenanthoides* 609  
*Proteacidites kopiensis* 566  
*Proteacidites leightonii* 623  
*Proteacidites pachypolus* 564  
*Proteacidites reticulatus* 612  
*Rugulatisporites mallatus* 757  
*Santalumidites cainozoicus* 444  
*Simplicepollis meridianus* 537  
*Spiniferites ramosus* 892  
*Tetracolporopollenites rotundus* 531  
*Thalassiphora pelagica* 902  
*Tricolporites adelaidensis* 452  
*Tripoporopollenites ambiguus* 626  
*Verrucosisporites kopukuensis* 782

List of species present in Cooriejong No.1/1079ft. ordered alphabetically.

19 species present in 1 samples.  
*Cupanieidites orthoteichus* 242  
*Dilwynites granulatus* 647  
*Diphyes colligerum* 837  
*Gothanipollis bassensis* 251  
*Haloragacidites harrisii* 275  
*Intratripoporopollenites notabilis* 284  
*Lygistepollenites florinii* 674  
*Malvacipollis diversus* 489  
*Myrtaceidites tenuis* 248  
*Nothofagidites matauraensis* 506  
*Periporopollenites vesicus* 475  
*Proteacidites grandis* 562  
*Proteacidites leightonii* 623  
*Proteacidites pachypolus* 564  
*Schizocolpus marlinensis* 430  
*Simplicepollis meridianus* 537  
*Spiniferites ramosus* 892  
*Tetracolporopollenites rotundus* 531  
*Verrucosisporites kopukuensis* 782

List of species present in Ecklin No.3/2147ft. ordered alphabetically.

35 species present in 1 samples.  
*Anacolosidites luteoides* 269  
*Araucariacites australis* 645  
*Areosphaeridium multicornutum* 809  
*Cupanieidites orthoteichus* 242  
*Dacrycarpites australiensis* 670  
*Dilwynites granulatus* 647  
*Diphyes colligerum* 837  
*Drytopollenites semilunatus* 555  
*Emmetrocyta urnaformis* 841  
*Ericipites scabratus* 542  
*Foveotriletes balteus* 763  
*Gothanipollis bassensis* 251  
*Herkosporites elliotii* 759  
*Impagidinium victorianum* 866  
*Lingulodinium machaerophorum* 872  
*Lygistepollenites florinii* 674  
*Malvacipollis diversus* 489  
*Microcachryidites antactica* 669  
*Myrtaceidites parvus* 246  
*Nothofagidites asperus* 504  
*Nothofagidites falcatus* 501  
*Nothofagidites vansteeni* 499  
*Periporopollenites vesicus* 475  
*Propylipollis annularis* 643  
*Proteacidites asperopolus* 584  
*Proteacidites incurvatus* 613  
*Proteacidites kopiensis* 566  
*Proteacidites leightonii* 623  
*Proteacidites pachypolus* 564  
*Rugulatisporites trophus* 755  
*Simplicipollis meridianus* 537  
*Spiniferites ramosus* 892  
*Systematophora ancyrea* 898  
*Tetracolporopollenites rotundus* 531  
*Tricolpites incisus* 354

List of species present in Ecklin No.3/2238ft. ordered alphabetically.

28 species present in 1 samples.  
*Araucariacites australis* 645  
*Areosphaeridium multicornutum* 809  
*Cupanieidites orthoteichus* 242  
*Deflandrea heterophyllycta* 830  
*Haloragacidites harrisii* 275  
*Ilexpollenites anguloclavatus* 367  
*Malvacipollis diversus* 489  
*Microcachryidites antactica* 669  
*Myrtaceidites mesonesus* 247  
*Nothofagidites emarcidus* 497  
*Nothofagidites falcatus* 501  
*Nothofagidites flemingii* 505  
*Nothofagidites heterus* 498  
*Nothofagidites vansteeni* 499  
*Operculodinium centrocarpum* 876  
*Periporopollenites demarcatus* 474  
*Periporopollenites vesicus* 475  
*Phthanoperidinium comatum* 880  
*Phyllocladidites mawsonii* 666  
*Polyorifites oblatus* 480  
*Propylipollis annularis* 643  
*Propylipollis biporus* 580  
*Proteacidites adenanthoides* 609  
*Proteacidites crassus* 628  
*Proteacidites obscurus* 559  
*Proteacidites reticulatus* 612  
*Santalumidites cainozoicus* 444  
*Spiniferites ramosus* 892



Laang No.1 bases

- • • *Haloragacidites harrisii*
- • *Intratropopollenites notabilis*
- *Australopollis obscurus*
- • • *Malvacipollis diversus*
- • • *Nothofagidites emarcidus*
- • • *Nothofagidites flemingii*
- • • *Nothofagidites matauraensis*
- • • *Simplicepollis meridianus*
- • *Proteacidites grandis*
- • *Proteacidites crassus*
- • • *Propylipollis parvus*
- • *Dilwynites granulatus*
- • • *Phyllocladidites mawsonii*
- • *Podocarpidites elliptica*
- • • *Microcachryidites antactica*
- • • *Lygistepollenites florinii*
- • *Laevigatosporites ovatus*
- • • *Gleicheniidites circinidites*
- *Tripunctisporis sp.*
- *Cordosphaeridium inodes*
- • *Spiniferites ramosus*
- *Cerodinium medcalfii*
- • *Cupanieidites orthoteichus*
- • *Santalumidites cainozoicus*
- *Nothofagidites waipawaensis*
- *Dryptopollenites semilunatus*
- • *Proteacidites pachypolus*
- • *Proteacidites leightonii*
- *Propylipollis beddoesii*
- *Laevigatosporites major*
- *Herkosporites eliottii*
- *Spiniferites ramosus membranaceus*
- *Myrtaceidites parvus*
- *Myrtaceidites mesonesus*
- *Illexpollenites anguloclavatus*
- *Tricolporites adelaidensis*
- *Periporopollenites demarcatus*
- *Periporopollenites vesicus*
- *Polyorifites oblatum*
- *Nothofagidites vansteenisii*
- *Nothofagidites falcatus*
- *Nothofagidites asperus*
- *Tetracolporopollenites rotundus*
- *Propylipollis ivanhoensis*
- *Proteacidites kopiensis*
- *Proteacidites adenanthoides*
- *Proteacidites reticulatus*
- *Proteacidites tenuixinus*
- *Tripoporopollenites ambiguus*
- *Propylipollis annularis*
- *Araucariacites australis*
- *Verrucosisporites kopukuensis*
- *Areosphaeridium multicornutum*
- *Deflandrea phosphoritica*
- *Dinopterygium grumosum*
- *Operculodinium centrocarpum*
- *Systematophora ancyrea*

2460  
2633  
2791.5

Laang No.1 bases

57 species encountered in 3 samples

Date: 09-16-1992 / Time: 22:03:04

Latrobe No.1 bases

- • • • Haloragacidites harrisii
- Gambierina edwardsii
- Peninsulapollis gillii
- • • • Nothofagidites lachlanae
- • • Propylipollis parvus
- • • Propylipollis reticulosabratus
- • • Dilwynites granulatus
- • Phyllocladidites reticulosaccatus
- • • Microcachryidites antarctica
- • Lygistepollenites balmei
- Herkosporites ellottii
- • • • Spiniferites ramosus
- • Spinozonocolpites prominatus
- • • Cupanieidites orthoteichus
- • • Myrtacidites parvus
- • • Myrtacidites tenuis
- • • Anacolosidites luteoides
- • • Haloragacidites canacomyrnicoides
- • Intratriporopollenites notabilis
- • • Periporopollenites vesicus
- • Australopollis obscurus
- • • Polyorifites obriatus
- • • Micranthem spinyspora
- • • Malvacipollis diversus
- • • Nothofagidites matauraensis
- • • Polycolporopollenites esobalteus
- • Pseudowinterapollis wahooensis
- • • Simplicipollis meridianus
- • • Eriopites scabratus
- • • Dryptopollenites semilunatus
- • • Proteacidites pachypolus
- • • Proteacidites kopiensis
- • • Proteacidites incurvatus
- • • Proteacidites leightonii
- • • Proteacidites crassus
- • Propylipollis tuberculiformis
- • Propylipollis annularis
- • • Lygistepollenites florinii
- • Rugulatisporites trophus
- • Kenleyia sp.
- • Arecipites minutiscabratus
- • Myrtacidites eugenioides
- • Gothanipollis bassensis
- • Tricolpites incisus
- • • Tricolporites valvatus
- • • Polycolpites langstonii
- • • Tetracolporopollenites rotundus
- • • Proteacidites grandis
- • • Proteacidites bremerensis
- • • Proteacidites pseudomoides
- • • Areosphaeridium multicornutum
- • Cordosphaeridium fibrospinosum
- • Cordosphaeridium inodes
- • Dinopterygium grumosum
- • Lingulodinium machaerophorum
- • Spiniferites fungosus
- • Homotryblum tasmaniense
- • Spinidinium sp.
- • Glaphyrocysta sp.
- • Senegalium dilwynense
- • Achilleodinium biformoides
- • Wetzelella hyperacantha
- • Anacolosidites sectus
- • Tricolpites coprosmoides
- • Tricolpites simatus
- • Illexpollenites anguloclavatus
- • Luminidites phormoides
- • Santalumidites cainozoicus
- • Tricolporites adelaidensis
- • Nothofagidites vansteensii
- • Nothofagidites falcatus
- • Nothofagidites asperus
- • Nothofagidites flemingii
- • Propylipollis ivanhoensis
- • Proteacidites asperopolus
- • Proteacidites scitus
- • Proteacidites adenanthoides
- • Proteacidites reticulatus
- • Proteacidites tenuixinus
- • Triporopollenites ambiguus
- • Propylipollis minimus
- • Araucariacites australis
- • Phyllocladidites mawsonii
- • Rugulatisporites mallatus
- • Gleicheniidites circlidites
- • Verrucosiporites kopukuensis
- • Corrudinium incompositum
- • Deflandrea phosphoritica
- • Spiniferites monilis

221  
259  
357  
1380 S

Latrobe No.1 bases

89 species encountered in 4 samples

Date: 09-16-1992 / Time: 20:38:13

Mepunga No.7 bases

- *Gambierina edwardsii*
- *Gambierina rudata*
- *Intratropipollenites notabilis*
- *Tripoporipollenites sectilis*
- *Tubulifloridites lilliei*
- *Peninsulapollis gillii*
- *Forcipites longus*
- *Tricolpites reticulatus*
- *Tricolpites phillipsii*
- *Tricolpites confessus*
- *Tricolporites leuros*
- *Nothofagidites lachlanae*
- *Pseudowinterapollis wahoensis*
- *Ericipites scabratus*
- *Amosopollis dilwynensis*
- *Quadruplanus brossus*
- *Proteacidites fromensis*
- *Proteacidites angulatus*
- *Propylipollis parvus*
- *Propylipollis scabratus*
- *Araucariacites australis*
- *Podocarpidites exiguus*
- *Phyllocladidites reticulosaccatus*
- *Lygistepollenites ellipticus*
- *Phyllocladidites mawsonii*
- *Podocarpidites elliptica*
- *Lygistepollenites balmei*
- *Lygistepollenites florinii*
- *Krauseliporites papillatus*
- *Sterelsporites antiquasporites*
- *Herkosporites elliotii*
- *Gleicheniidites circinidites*
- *Clavifera triplex*
- *Operculodinium centrocarpum*
- *Spiniferites ramosus*
- *Spinidinium sp.*
- *Isabeladinium bakeri*
- *Milfordia homeopunctata*
- *Cupanieidites orthoteichus*
- *Myrtaceidites parvus*
- *Gothanipollis bassensis*
- *Haloragacidites harrisii*
- *Ilexpollenites anguloclavatus*
- *Schizocolpus marlinensis*
- *Tricolporites adelaidensis*
- *Periporipollenites polyoratus*
- *Periporipollenites demarcatus*
- *Malvacipollis diversus*
- *Nothofagidites emarcidus*
- *Nothofagidites flemingii*
- *Simplicepollis meridianus*
- *Dryptopollenites semilunatus*
- *Proteacidites obscurus*
- *Proteacidites incurvatus*
- *Proteacidites pseudomoides*
- *Proteacidites leightonii*
- *Tripoporipollenites ambiguus*
- *Propylipollis reticulosabratus*
- *Propylipollis annularis*
- *Propylipollis latrobensis*
- *Dilwynites granulatus*
- *Ephedra notensis*
- *Dacrycarpites australensis*
- *Verrucosisporites kopukuensis*
- *Tripunctisporis sp.*
- *Sparganiaceapollenites sp.*
- *Myrtaceidites eugenioides*
- *Banksiaeidites elongatus*
- *Triorites magnificus*
- *Beaupreaidites verrucosus*
- *Tricolpites simatus*
- *Santalumidites cainozoicus*
- *Periporipollenites vesicus*
- *Polyorifites obliatus*
- *Nothofagidites goniatus*
- *Nothofagidites vansteenisii*
- *Nothofagidites falcatus*
- *Polycolpites reticulatus*
- *Tetracolporipollenites rotundus*
- *Proteacidites rectomarginis*
- *Proteacidites grandis*
- *Proteacidites pachypolus*
- *Proteacidites scitus*
- *Proteacidites adenanthoides*
- *Proteacidites reticulatus*
- *Microcachryidites antactica*
- *Peromonolites densus*
- *Laevigatosporites major*
- *Matonisporites ornamentalis*
- *Areosphaeridium multicornutum*
- *Distatodinium tenerum*
- *Hystriochokolpoma poculum*
- *Phthanoperidinium comatum*

2155 5  
2384  
2592

Mepunga No.7 bases

93 species encountered in 3 samples

Date: 09-16-1992 / Time: 21:33:14

List of species present in Mepunga No.9/2747ft. ordered alphabetically.

37 species present in 1 samples.  
*Anacolosidites sectus* 270  
*Cupanieidites orthoteichus* 242  
*Deflandrea phosphoritica* 832  
*Ericipites crassiexinus* 541  
*Haloragacidites harrisii* 275  
*Hystrichokolpoma rigaudae* 849  
*Illexpollenites anguloclavatus* 367  
*Laevigatosporites major* 702  
*Lygistepollenites florinii* 674  
*Malvacipollis subtilis* 476  
*Myrtacidites parvus* 246  
*Nothofagidites asperus* 504  
*Nothofagidites deminutus* 500  
*Nothofagidites emarcidus* 497  
*Nothofagidites falcatus* 501  
*Nothofagidites flemingii* 505  
*Nothofagidites incrassata* 515  
*Nothofagidites vansteensisi* 499  
*Parvisaccites catastus* 676  
*Periporopollenites vesicus* 475  
*Phyllocladidites mawsonii* 666  
*Podocarpidites elliptica* 668  
*Polyorifites oblatum* 480  
*Propylipollis annularis* 643  
*Propylipollis ivanhoensis* 558  
*Proteacidites adenanthoides* 609  
*Proteacidites incurvatus* 613  
*Proteacidites kopiensis* 566  
*Proteacidites obscurus* 559  
*Proteacidites reticulatus* 612  
*Rugulatisporites mallatus* 757  
*Simplicipollis meridianus* 537  
*Sparganiaceapollenites* sp. 233  
*Spiniferites ramosus* 892  
*Tricolporites valvatus* 448  
*Triorites magnificus* 297  
*Verrucosisporites kopukuensis* 782

List of species present in Mepunga No.9/2933ft. ordered alphabetically.

21 species present in 1 samples.  
*Cupanieidites orthoteichus* 242  
*Dilwynites granulatus* 647  
*Haloragacidites harrisii* 275  
*Intratrisporopollenites notabilis* 284  
*Laevigatosporites major* 702  
*Lygistepollenites florinii* 674  
*Malvacipollis diversus* 489  
*Myrtacidites mesonesus* 247  
*Myrtacidites tenuis* 248  
*Periporopollenites vesicus* 475  
*Podocarpidites elliptica* 668  
*Podosporites brevisaccatus* 653  
*Proteacidites kopiensis* 566  
*Proteacidites leightonii* 623  
*Proteacidites pachypolus* 564  
*Pseudowinterapollis wahoensis* 532  
*Rugulatisporites mallatus* 757  
*Schizocolpus marlinensis* 430  
*Simplicipollis meridianus* 537  
*Spiniferites ramosus* 892  
*Spinozonocolpites prominatus* 202

List of species present in Mepunga No.10/4045.5ft. ordered alphabetically.

22 species present in 1 samples.  
*Amosopollis dilwynensis* 543  
*Australopollis obscurus* 479  
*Gambierina edwardsii* 279  
*Gambierina rudata* 280  
*Krauselisporites papillatus* 709  
*Latrobosporites ohalensis* 750  
*Lygistepollenites balmei* 672  
*Lygistepollenites ellipticus* 658  
*Microcachryidites antactica* 669  
*Nothofagidites endurus* 503  
*Palaeoperidinium pyrophorum* 925  
*Peninsulapollis gillii* 315  
*Periporopollenites polyoratus* 466  
*Phyllocladidites reticulosaccatus* 657  
*Podocarpidites elliptica* 668  
*Propylipollis latrobensis* 644  
*Propylipollis reticulosabratus* 640  
*Proteacidites angulatus* 624  
*Spinidium sp.* 916  
*Spiniferites ramosus membranaceus* 894  
*Tricolpites confessus* 356  
*Tripunctisporis sp.* 783

List of species present in Mepunga No.10/4062.5 ordered alphabetically.

13 species present in 1 samples.  
*Forcipites sabulosus* 317  
*Gambierina edwardsii* 279  
*Herkosporites elliotii* 759  
*Latrobosporites ohalensis* 750  
*Lygistepollenites balmei* 672  
*Manumiella druggii* 910  
*Palaeostomocystis reticulata* 914  
*Peninsulapollis askiniae* 320  
*Peninsulapollis gillii* 315  
*Proteacidites amolosexinus* 581  
*Proteacidites angulatus* 624  
*Proteacidites fromensis* 567  
*Tetracolporites verrucosus* 530



Nirranda No.3 bases

- • • *Cupanieidites orthoteichus*
- • • *Haloragacidites harrisii*
- • • *Periporopollenites vesicus*
- • • • *Malvacipollis diversus*
- • • *Nothofagidites matauraensis*
- • • *Polycopites langstonii*
- • • *Simplicepollis meridianus*
- • • *Proteacidites grandis*
- • • *Proteacidites leightonii*
- • • • *Propylipollis reticuloscabratus*
- • • • *Propylipollis annularis*
- • • • *Dilwynites granulatus*
- • • • *Microcachryidites antactica*
- • • • *Lygistepollenites florinii*
- • • • *Myrtaceidites parvus*
- • • • *Tricolpites incisus*
- • • • *Polyorifites oblatum*
- • • • *Proteacidites pachypolus*
- • • • *Myrtaceidites eugenioides*
- • • • *Myrtaceidites tenuis*
- • • • *Gothanipollis bassensis*
- • • • *Anacolosidites luteoides*
- • • • *Haloragacidites canacomycoides*
- • • • *Ilexpollenites anguloclavatus*
- • • • *Nothofagidites flemingii*
- • • • *Tetracolporopollenites rotundus*
- • • • *Proteacidites bremerensis*
- • • • *Proteacidites pseudomoides*
- • • • *Areosphaeridium multicornutum*
- • • • *Cordosphaeridium inodes*
- • • • *Diphyes colligerum*
- • • • *Tricolporites leuros*
- • • • *Nothofagidites vansteenisii*
- • • • *Nothofagidites falcatus*
- • • • *Nothofagidites asperus*
- • • • *Proteacidites obscurus*
- • • • *Proteacidites crassus*
- • • • *Propylipollis parvus*
- • • • *Podocarpidites elliptica*
- • • • *Laevigatosporites ovatus*

2602.5'  
2784.75'  
3361'  
3533'

Nirranda No.3 bases

40 species encountered in 4 samples

Date: 09-17-1992 / Time: 11:03:04

Nirranda No.6 bases

- • *Gambierina edwardsii*
- • *Triporopollenites sectilis*
- • *Tubulifloridites lilliei*
- • *Peninsulapollis gilliii*
- • *Forcipites longus*
- • *Beaupreaidites orbiculatus*
- • *Nothofagidites senectus*
- • *Proteacidites amolosexinus*
- • • *Dilwynites granulatus*
- • *Phyllocladidites reticulosaccatus*
- • *Latrobosporites crassus*
- • *Verrucosisporites cristatus*
- • *Manumiella druggii*
- • *Trithyrodinium evittii*
- • *Palaeostomocystis reticulata*
- • *Gambierina rudata*
- • *Australopollis obscurus*
- • *Tetracolporites verrucosus*
- • *Pseudowinterapollis wahoensis*
- • *Herkosporites elliotii*
- • *Tripunctisporis sp.*
- • *Trithyrodinium suspectum*
- • *Cupanieidites orthoteichus*
- • *Haloragacidites harrisii*
- • *Tricolpites confessus*
- • *Ilexpollenites anguloclavatus*
- • *Malvacipollis diversus*
- • *Nothofagidites matauraensis*
- • *Simplicepollis meridianus*
- • *Proteacidites grandis*
- • *Proteacidites pachypolus*
- • *Proteacidites leightonii*
- • *Propylipollis annularis*
- • *Microcachryidites antactica*
- • *Lygistepollenites florinii*
- • *Wetzeliella homomorpha*

2178  
3076.5  
3090.5

Nirranda No.6 bases

36 species encountered in 3 samples

Date: 09-16-1992 / Time: 17:00:42



List of species present in Nullawarre No3/2423ft. ordered alphabetically.

29 species present in 1 samples.  
*Anacolosidites luteoides* 269  
*Araucariacites australis* 645  
*Baculatisporites disconformis* 765  
*Cupanieidites orthoteichus* 242  
*Ephedra notensis* 650  
*Ericipites scabratus* 542  
*Gleicheniidites circinidites* 766  
*Haloragacidites harrisii* 275  
*Ilexpollenites anguloclavatus* 367  
*Intratropollenites notabilis* 284  
*Kenleyia* sp. 918  
*Laevigatosporites ovatus* 701  
*Lygistepollenites florinii* 674  
*Malvacipollis diversus* 489  
*Malvacipollis subtilis* 476  
*Nothofagidites matauraensis* 506  
*Nothofagidites waipawaensis* 509  
*Periporopollenites vesicus* 475  
*Phyllocladidites mawsonii* 666  
*Podocarpidites elliptica* 668  
*Propylipollis tuberculiformis* 639  
*Proteacidites adenanthoides* 609  
*Proteacidites leightonii* 623  
*Schizocolpus marlinensis* 430  
*Spinozonocolpites prominatus* 202  
*Stereisporites antiquasporites* 751  
*Tetracolporopollenites rotundus* 531  
*Tricolpites simatus* 353  
*Wetzeliella homomorpha* 909

List of species present in Nullawarre No3/2620ft. ordered alphabetically.

30 species present in 1 samples.  
*Clavatipollenites glarius* 208  
*Cordosphaeridium fibrospinosum* 822  
*Cupanieidites orthoteichus* 242  
*Foveotriletes lacunosus* 761  
*Glaphyrocysta* sp. 917  
*Haloragacidites canacomyracoides* 272  
*Haloragacidites harrisii* 275  
*Intratropollenites notabilis* 284  
*Krauselisporites papillatus* 709  
*Lygistepollenites florinii* 674  
*Malvacipollis diversus* 489  
*Malvacipollis subtilis* 476  
*Myrtaceidites mesonesus* 247  
*Myrtaceidites tenuis* 248  
*Nothofagidites emarcidus* 497  
*Nothofagidites flemingii* 505  
*Nothofagidites incrassata* 515  
*Periporopollenites vesicus* 475  
*Propylipollis annularis* 643  
*Propylipollis latrobensis* 644  
*Proteacidites crassus* 628  
*Proteacidites kopiensis* 566  
*Proteacidites leightonii* 623  
*Proteacidites pachypolus* 564  
*Schizocolpus marlinensis* 430  
*Simplicepollis meridianus* 537  
*Spiniferites ramosus membranaceus* 894  
*Spinozonocolpites prominatus* 202  
*Tropollenites gemmatus* 540  
*Verrucosisporites kopukuensis* 782

List of species present in Paaratte No.1/1492.5ft. ordered alphabetically.

26 species present in 1 samples.  
*Achomosphaera alcicornu* 800  
*Cupanieidites orthoteichus* 242  
*Deflandrea phosphoritica* 832  
*Ericipites crassiexinus* 541  
*Haloragacidites harrisii* 275  
*Lingulodinium machaerophorum* 872  
*Lygistepollenites florinii* 674  
*Malvacipollis diversus* 489  
*Malvacipollis subtilis* 476  
*Melitasphaeridium pseudorecurvatum* 873  
*Milfordia homeopunctata* 235  
*Myrtaceidites eugenioides* 245  
*Nothofagidites emarcidus* 497  
*Nothofagidites falcatus* 501  
*Nothofagidites incrassata* 515  
*Nothofagidites vansteeni* 499  
*Periporopollenites demarcatus* 474  
*Phthanoperidinium comatum* 880  
*Phyllocladidites mawsonii* 666  
*Polyorifites oblatus* 480  
*Propylipollis ivanhoensis* 558  
*Proteacidites adenanthoides* 609  
*Proteacidites leightonii* 623  
*Proteacidites pachypolus* 564  
*Proteacidites reflexus* 621  
*Spiniferites ramosus* 892

List of species present in Paaratte No.1/1596ft. ordered alphabetically.

33 species present in 1 samples.  
*Anacolosidites luteoides* 269  
*Clavatipollenites glarius* 208  
*Cupanieidites orthoteichus* 242  
*Ephedra notensis* 650  
*Ericipites crassiexinus* 541  
*Haloragacidites harrisii* 275  
*Homotryblium tasmaniense* 912  
*Ilexpollenites anguloclavatus* 367  
*Kisselovia edwardsii* 923  
*Laevigatosporites major* 702  
*Laevigatosporites ovatus* 701  
*Malvacipollis diversus* 489  
*Myrtaceidites tenuis* 248  
*Nothofagidites emarcidus* 497  
*Nothofagidites heterus* 498  
*Nothofagidites lachlanae* 495  
*Nothofagidites matauraensis* 506  
*Periporopollenites vesicus* 475  
*Polyorifites oblatus* 480  
*Propylipollis annularis* 643  
*Proteacidites adenanthoides* 609  
*Proteacidites asperopolus* 584  
*Proteacidites crassus* 628  
*Proteacidites kopiensis* 566  
*Proteacidites pachypolus* 564  
*Proteacidites rynthius* 586  
*Rugulatisporites mallatus* 757  
*Santalumidites cainozoicus* 444  
*Simplicipollis meridianus* 537  
*Tetracolporopollenites rotundus* 531  
*Tricolpites incisus* 354  
*Tricolporites valvatus* 448  
*Triporopollenites ambiguus* 626

List of species present in Panmure No2/2353ft. ordered alphabetically.

20 species present in 1 samples.  
*Araucariacites australis* 645  
*Cupanieidites orthoteichus* 242  
*Ericipites scabratus* 542  
*Gleicheniidites circinidites* 766  
*Haloragacidites harrisii* 275  
*Lygistepollenites florinii* 674  
*Malvacipollis diversus* 489  
*Nothofagidites emarcidus* 497  
*Nothofagidites flemingii* 505  
*Periporopollenites polyoratus* 466  
*Periporopollenites vesicus* 475  
*Phyllocladidites mawsonii* 666  
*Podocarpidites elliptica* 668  
*Propylipollis parvus* 637  
*Propylipollis reticulosabratus* 640  
*Proteacidites kopiensis* 566  
*Proteacidites leightonii* 623  
*Proteacidites pachypolus* 564  
*Simplicepollis meridianus* 537  
*Tricolpites incisus* 354

List of species present in Panmure No.2/2473ft. ordered alphabetically.

21 species present in 1 samples.  
*Clavifera triplex* 784  
*Dacrycarpites australiensis* 670  
*Gambierina edwardsii* 279  
*Gambierina rudata* 280  
*Haloragacidites trioratus* 290  
*Latrobosporites ohaiensis* 750  
*Lygistepollenites balmei* 672  
*Nothofagidites endurus* 503  
*Nothofagidites senectus* 502  
*Peninsulapollis askiniae* 320  
*Peninsulapollis gillii* 315  
*Phimopollenites pannosus* 375  
*Podocarpidites elliptica* 668  
*Proteacidites amolosexinus* 581  
*Proteacidites angulatus* 624  
*Pseudowinterapollis wahooensis* 532  
*Spinidium sp.* 916  
*Stereisporites antiquasporites* 751  
*Tetracolporites verrucosus* 530  
*Triporopollenites sectilis* 301  
*Trithyrodinium evittii* 913

List of species present in Port Campbell No.1/2916ft. ordered alphabetically

11 species present in 1 samples.  
*Amosopollis dilwynensis* 543  
*Clavifera triplex* 784  
*Forcipites longus* 316  
*Gambierina edwardsii* 279  
*Krauselisporites papillatus* 709  
*Lygistepollenites balmei* 672  
*Manumiella druggii* 910  
*Peninsulapollis gillii* 315  
*Phyllocladidites reticulosaccatus* 657  
*Triorites minisculus* 286  
*Tubulifloridites lilliei* 314

Timboon No.5 bases

- *Gambierina edwardsii*
  - *Gambierina rudata*
  - *Peninsulapollis gillii*
  - *Forcipites* sp. A
  - *Manumiella druggii*
  - *Palaeostomocystis reticulata*
  - • • *Cupanieidites orthoteichus*
  - • • *Myrtaceidites eugenioides*
  - *Myrtaceidites tenuis*
  - *Gothanipollis bassensis*
  - *Anacolosidites luteoides*
  - *Tricolpites incisus*
  - • • *Ilexpollenites anguloclavatus*
  - • • *Periporopollenites vesicus*
  - *Polyorifites oblatum*
  - • • *Malvacipollis diversus*
  - • *Nothofagidites matauraensis*
  - • • *Tetracolporopollenites rotundus*
  - • • *Simplicipollis meridianus*
  - *Proteacidites grandis*
  - • • *Proteacidites pachypolus*
  - • • *Proteacidites leightonii*
  - *Propylipollis reticulosabratus*
  - • • *Propylipollis annularis*
  - *Dilwynites granulatus*
  - • • *Phyllocladidites mawsonii*
  - • • *Microcachryidites antactica*
  - • • *Lygistepollenites florinii*
  - *Herkosporites elliottii*
  - *Myrtaceidites mesonesus*
  - *Anacolosidites sectus*
  - • *Haloragacidites harrisii*
  - • *Tricolpites simatus*
  - • *Santalumidites cainozoicus*
  - • *Tricolporites adelaidensis*
  - • *Nothofagidites vansteenisi*
  - • *Nothofagidites falcatus*
  - • *Nothofagidites asperus*
  - • *Nothofagidites flemingii*
  - • *Ericipites scabratus*
  - • *Propylipollis ivanhoensis*
  - • *Proteacidites kopiensis*
  - • *Propylipollis biporus*
  - • *Proteacidites asperopolus*
  - • *Proteacidites reticulatus*
  - • *Araucariacites australis*
  - • *Gleicheniidites circinidites*
  - • *Verrucosiporites kopukuensis*
  - *Myrtaceidites parvus*
  - *Tricolporites valvatus*
  - *Micrantheum spinyspora*
  - *Nothofagidites lachlanae*
  - *Polycolporopollenites esobalteus*
  - *Pseudowinterapollis couperi*
  - *Proteacidites tenuixinus*
  - *Tripoporopollenites ambiguus*
  - *Rugulatisporites mallatus*
  - *Hystrichokolpoma rigaudae*
  - *Phthanoperidinium comatum*
- 1377.5  
- 1388.5  
- 1473'  
- 2287'

Timboon No.5 bases

59 species encountered in 4 samples

Date: 09-16-1992 / Time: 17:26:21

Wangoom No.2 bases

- *Gambierina edwardsii*
- *Gambierina rudata*
- *Triporopollenites sectilis*
- *Tubulifloridites lilliei*
- *Peninsulapollis gilliii*
- *Forcipites longus*
- *Beaupreaidites orbiculatus*
- *Australopollis obscurus*
- *Nothofagidites senectus*
- *Tetracolporites verrucosus*
- *Pseudowinterapollis wahooensis*
- *Proteacidites amolosexinus*
- *Dilwynites granulatus*
- *Phyllocladidites reticulosaccatus*
- *Latrobosporites crassus*
- *Herkosporites elliotii*
- *Tripunctisporis sp.*
- *Manumiella druggii*
- • *Myrtaceidites mesonesus*
- • *Nothofagidites waipawaensis*
- • *Propylipollis parvus*
- • *Phyllocladidites mawsonii*
- • *Lygistepollenites florinii*
- • *Cupanieidites orthoteichus*
- • *Myrtaceidites parvus*
- • *Haloragacidites harrisii*
- • *Tricolpites simatus*
- • *Ilexpollenites anguloclavatus*
- • *Santalumidites cainozoicus*
- • *Tricolporites adelaidensis*
- • *Periporopollenites vesicus*
- • *Polyorifites obliatus*
- • *Micrantheum spinyspora*
- • *Malvacipollis diversus*
- • *Nothofagidites vansteenisii*
- • *Nothofagidites falcatus*
- • *Nothofagidites flemingii*
- • *Nothofagidites matauraensis*
- • *Simplicepollis meridianus*
- • *Propylipollis ivanhoensis*
- • *Proteacidites pachypolus*
- • *Proteacidites koplensis*
- • *Propylipollis biporus*
- • *Proteacidites asperopolus*
- • *Proteacidites scitus*
- • *Proteacidites reticulatus*
- • *Proteacidites leightonii*
- • *Triporopollenites ambiguus*
- • *Propylipollis annularis*
- • *Araucariacites australis*
- • *Microcachryidites antactica*
- • *Rugulatisporites mallatus*
- • *Gleicheniidites circinidites*

1985  
2259  
2652

Wangoom No.2 bases

53 species encountered in 3 samples

Date: 09-16-1992 / Time: 19:40:56

Wangoom No.6 bases

- • • *Haloragacidites harrisii*
- • *Gambierina edwardsii*
- *Tricolpites phillipsii*
- *Australopollis obscurus*
- • • *Nothofagidites matauraensis*
- • *Proteacidites incurvatus*
- • *Proteacidites angulatus*
- • *Propylipollis reticulosabratus*
- • *Phyllocladidites reticulosaccatus*
- *Lygistepollenites ellipticus*
- *Phyllocladidites verrucosus*
- *Lygistepollenites balmei*
- *Peromonolites densus*
- *Herkosporites elliotii*
- *Svalbardella sp.*
- *Spinidinium sp.*
- *Eisenackia sp.*
- *Palaeoperidinium pyrophorum*
- *Spinozonocolpites prominatus*
- • *Myrtaceidites parvus*
- • *Myrtaceidites tenuis*
- *Anacolosidites luteoides*
- *Periporopollenites vesicus*
- • *Polyorifites oblatius*
- • *Malvacipollis diversus*
- • *Polycolporopollenites esobalteus*
- *Pseudowinterapollis wahooensis*
- • *Simplicepollis meridianus*
- • *Ericipites scabratus*
- *Drytopollenites semilunatus*
- • *Proteacidites pachypolus*
- • *Proteacidites kopiensis*
- • *Proteacidites leightonii*
- *Proteacidites crassus*
- *Propylipollis tuberculiformis*
- • *Propylipollis annularis*
- • *Microcachryidites antactica*
- • *Lygistepollenites florinii*
- *Rugulatisporites trophus*
- *Cupanieidites orthoteichus*
- *Myrtaceidites eugenioides*
- *Tricolpites simatus*
- *Illexpollenites anguloclavatus*
- *Santalumidites cainozoicus*
- *Tricolporites adelaidensis*
- *Micrantheum spinyspora*
- *Polyporina bipatterna*
- *Nothofagidites vansteenisii*
- *Nothofagidites falcatus*
- *Nothofagidites asperus*
- *Nothofagidites flemingii*
- *Propylipollis ivanhoensis*
- *Propylipollis biporus*
- *Proteacidites asperopolus*
- *Proteacidites reticulatus*
- *Proteacidites tenuixinus*
- *Tripoporopollenites ambiguus*
- *Propylipollis parvus*
- *Araucariacites australis*
- *Phyllocladidites mawsonii*
- *Rugulatisporites mallatus*
- *Gleicheniidites circinidites*

1836  
1962  
2732.5

Wangoom No.6 bases

62 species encountered in 3 samples

Date: 09-16-1992 / Time: 20:01:08