Cookeroo, a new genus of fossil kangaroos (Marsupialia, Macropodidae) from the Oligo-
Miocene of Riversleigh, northwestern Queensland, Australia

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SUPPLEMENTARY DATA

Nexus formatted character matrix for taxa included in the phylogenetic analysis. Outgroup
species were *Pseudocheirus peregrinus*, *Trichosurus vulpecula*, *Galadi speciosus* and
Burramys brutyi. ? = missing data.

#NEXUS

[File saved by NDE version 0.5.0, Thu Apr 16 13:37:35 2015]

BEGIN TAXA;

DIMENSIONS NTAX=69;

TAXLABELS

'Galadi speciosus'

'Trichosurus vulpecula'

'Pseudocheirus peregrinus'

'Burramys brutyi'

'Nambaroo tarrinyeri'

'Nambaroo saltavus'

'Nambaroo couperi'

'Nambaroo gillespieae'

'Ganawamaya aediculis'

'Ganawamaya ornata'

'Ganawamaya acris'

'Wururoo dayamayi'

'Balbaroo gregoriensis'

'Balbaroo fangaroo'

'Balbaroo camfieldensis'

'Balbaroo nalima'

'Hypsiprymnodon moschatus'

'Hypsiprymnodon bartholomaii'

'Hypsiprymnodon philcreaseri'

'Ekaltadeta ima'

'Ekaltadeta jamiemulvaneyi'

'Jackmahoneya toxoniensis'

'Propleopus oscillans'

'Bettongia moyesi'

'Bettongia penicillata'

'Aepyprymnus rufescens'

'Potorous tridactylus'

'Purtia mosaicus'

'Wakiewakie lawsoni'

'Ngamaroo archeri'

'Lagostrophus fasciatus'

'Tjukuru wellsii'

'Troposodon minor'

'Gumardee pascuali'

'Bulungamaya delicata'

'Ganguroo bilamina'

'Ganguroo bites'

'Ganguroo robustiter'

'Wabularoo naughtoni'

'Wabularoo prideauxi'

'Wanburoo hilarus'

'Hadronomas puckridgi'

'Sthenurus andersoni'

'Simosthenurus occidentalis'

'Procoptodon goliah'

'Dorcopsoides fossilis'

'Dorcopsis veterum'

'Dorcopsulus vanheurni'

'Setonix brachyurus'

'Thylogale billardierii'

'Petrogale brachyotis'

'Bohra illuminata'

'Dendrolagus bennettianus'

'Dendrolagus matschiei'

'Protemnodon anak'

'Congruus congruus'

'Wallabia bicolor'

'Prionotemnus palankarinnicus'

'Kurrabi mahoneyi'

'Lagorchestes conspicillatus'

'Lagorchestes hirsutus'

'Baringa nelsonensis'

'Onychogalea unguifera'

'Macropus eugenii'

'Macropus fuliginosus'

'Macropus pavana'

'Macropus robustus'

'Cookeroo bulwidarri'

'Cookeroo hortusensis'

;

ENDBLOCK;

BEGIN CHARACTERS;

DIMENSIONS NCHAR=119;

FORMAT DATATYPE=STANDARD MISSING=? GAP=- SYMBOLS="012345";

CHARLABELS

[1] 'Rostrum depth relative to posterior (neurocranial)portion of cranium'

- [2] 'Marked cranial foreshortening (brachycephaly)'
- [3] 'Level of basicranial plane relative to palatal plane'
- [4] 'Splanchnocranium anteroventral deflection'
- [5] 'Superficial masseter origin on jugal'
- [6] 'Large ectoglenoid process'
- [7] 'Postglenoid process'
- [8] 'Neurocranium element contact'
- [9] 'Ectotympanic proportions'
- [10] 'Maximum occiput breadth relative to height'
- [11] 'Foramen magnum size relative to occiput size'
- [12] 'V-shaped squamosal inflation between occiput and posterior end of zygomatic arch'
- [13] 'Relative anteroposterior length of upper incisors'
- [14] 'I1 shape'
- [15] 'I3 anterobuccal crest'
- [16] 'I3 lingual surface'
- [17] 'Number of cuspules/ridgelets on P3/p3 anterior to large posterior cusp'
- [18] 'Deep cleft on main crest of P3 and p3 immediately posterior to anterior most cuspule'

- [19] 'P3 lingual cingulum'
- [20] 'P3 lateral constriction immediately anterior to posterolingual cusp'
- [21] 'Upper cheek tooth row shape in transverse plane'
- [22] 'Molar progression'
- [23] 'Molar morphology'
- [24] 'Preprotocrista development'
- [25] 'Postprotocrista orientation'
- [26] 'Postprotocrista development'
- [27] 'Postprotocrista division'
- [28] 'Postparacrista development'
- [29] 'Postmetacrista/postmetaconulecrista development'
- [30] 'Morphology of symphyseal plate of dentary'
- [31] 'Buccinator sulcus on dentary'
- [32] 'Anterior extent of masseteric canal'
- [33] 'Insertion area for middle masseter muscle'
- [34] 'Mandibular condyle shape'
- [35] 'Position of i1 occlusal surface during incisor occlusion'
- [36] 'i1 morphology'
- [37] 'Enamel distribution on i1'

- [38] 'p3 morphology'
- [39] 'Buccal side of p3'
- [40] 'Cheek tooth row shape in dorsoventral plane'
- [41] 'Molar crown height index'
- [42] 'Premetacristid development'
- [43] 'Slight postmetacristid'
- [44] 'Postprotocristid development'
- [45] 'Cristid obliqua form'
- [46] 'Paracristid and cristid obliqua division'
- [47] 'Development of postentocristid and posthypocristid'
- [48] 'Lophid enamel crenulations'
- [49] 'Tuber calcanei posteromedial expansion'
- [50] 'Relative length of talus articular region on calcaneus'
- [51] 'Step of calcaneus–cuboid articulation'
- [52] 'Ventromedian facet of cuboid articulation on calcaneus'
- [53] 'Relative breadth of calcaneus–talus articulation'
- [54] 'Distinctness of medial and lateral talar facetson calcaneus'
- [55] 'Shape of lateral talar facet on calcaneus'

[56] 'Medial projection of sustentaculum tali of calcaneus beyond edge of medial talar facet'

[57] 'Shape of sustentaculum tali of calcaneus'

[58] 'Posterior extent of sustentaculum tali'

[59] 'Orientation of talar trochlear crests'

[60] 'Height of medial trochlear crest on talus relative to lateral crest'

[61] 'Medial malleolar process/fossa on talus'

[62] 'Metatarsal IV length relative to calcaneus length'

[63] 'Metatarsal IV relative breadth'

[64] 'Metatarsal IV distal epiphysis breadth'

[65] 'Metatarsal V relative breadth'

[66] 'Metatarsal V plantar ridge'

[67] 'Relative length of fibular articular facet on tibia'

[68] 'Relative length of anterior tibial crest'

[69] 'Shape of anterior tibial crest'

[70] 'Length of tibia relative to that of femur'

[71] 'Development of greater trochanter crest of femur'

[72] 'Angle of ilium to ischium'

[73] 'Position of rectus femoris origin on ilium'

- [74] 'Iliopubic process at junction of ilium and pubis'
- [75] 'Relative length of ischium to ilium'
- [76] 'Area of supraspinous fossa relative to infrapinuousfossa of scapula'
- [77] 'Scapula acromion shape'
- [78] 'Displacement of acromion relative to glenoid fossa on scapula'
- [79] 'Relative size of medial tuberosity to lateral tuberosity on humerus'
- [80] 'Development of deltoid tuberosity vs. pectoralcrests on humerus'
- [81] 'Relative width of trochlear notch posterior margin on ulna'
- [82] 'Olecranon length/shape relative to length of ulna'
- [83] 'Radius cross-section depth (mid-length) to width of the diaphysis,
measured at the mid-length ofthe diaphysis from between the epiphyseal plates'
- [84] 'Basioccipital and basisphenoid'
- [85] 'Frontal region'
- [86] 'Frontal sinuses'
- [87] 'Postorbital constriction of skull'
- [88] 'Masseteric process'
- [89] 'Cheek region of skull'
- [90] 'Alisphenoid contribution to paroccipital process'
- [91] 'Mastoid process'

[92] 'Inflated alisphenoid forming auditory bulla'

[93] 'Digastric eminence'

[94] 'Mandibular canal'

[95] 'Posterior mental foramen'

[96] 'i1 occlusal surface'

[97] 'Presence of i2'

[98] p2

[99] C1

[100] p3

[101] 'p3/P3'

[102] 'm4 length'

[103] P3

[104] 'm1 protoconid'

[105] 'm1 protoconid'

[106] 'Trigonid basin on m1'

[107] 'm1 protostylid'

[108] 'hypocingulid on lower molars'

[109] 'M1 StC'

[110] 'M1 StD'

[111] 'M1 anterolingual cingulum'

[112] 'M1 neometaconule and postlink'

[113] 'Internal carotid foramen'

[114] 'Ventral margin of mandible'

[115] Postentocristid

[116] 'Height of p3/P3'

[117] 'Palatal vacuities'

[118] 'p3 main crest'

[119] 'p3 occlusal outline'

;

STATELABELS

1

shallow

intermediate

deep,

2

absent

present,

3

'same plane or slightly higher'

'markedly higher',

4

marked

intermediate

minimal,

5

shallow

'deep, with distinct orbital rim',

6

absent

present,

7

absent

small

large,

8

'frontal-squamosal'

'parietal-alisphenoid',

9

small

'thick, wide, rugose, ventrally keeled',

10

'deeper than broad'

'broader than deep',

11

small

large,

12

absent

present,

13

'I2 and/or I3 not reduced relative to I1'

'I2 distinctly shorter than I1 and I3'

'I2 and I3 distinctly shorter than I1',

14

subcylindrical

'slightly broadened'

'markedly broadened',

15

'absent or very small, restricted to anterior end'

distinct,

16

'no anterolingual crest or lingual shelf'

'anterolingual crest present, no lingual shelf'

'anterolingual crest and small lingual shelf present',

17

'Transcrisetae absent'

'Less than 3'

Three

Four

'between 5 and 10'

'10 or more',

18

absent

present,

19

cuspules'

'absent or very low, fine'

'low, narrow to moderately broad, tapered anteriorly'

'broad, not raised into crest along lingual edge, with or without

'broad, raised into low crest along lingual edge'

'raised into high crest along lingual edge',

20

absent

present,

21

straight

'bowed laterally',

22

absent

present,

23

Other

Bunodont

'Bunolophodont '

Lophodont

Bilophodont,

24

'strongly developed, confluent with precingulum'

'small but distinct'

absent,

25

'restricted to lingual side of tooth'

'extends into interloph valley near to tooth midline',

26

'short, thick'

'fine, low'

intermediate

'high, thick, strongly developed',

27

absent

'incipiently or completely divided into two components',

28

present

'absent or very fine and low',

29

'both distinct'

'postmetaconulecrista enlarged, postmetacrista absent or very weak',

30

'shallow, smooth or very slightly rugose'

'deep, rugose'

'deep, very rugose, and anteriorly expanded',

31

absent

'narrow, shallow'

'narrow, deep'

'broad, deep concavity',

32

'Masseteric canal not developed'

'to below anterior cheek teeth'

'to below posterior cheek teeth'

'posterior to m4 (near vertical)',

33

'small to moderately proportioned'

'broad and concave'

'large, terminates ventrally at distinct ridge',

34

'barrel shaped, not tapered medially'

'oval or circular'

'barrel shaped, tapered medially'

'Oval with anteromedial expansion',

35

'i1 rests on crowns of I2 and I3, and posterior facet of I1'

'i1 rests on palate, bordered by I2 and I3',

36

'procumbent, thin and elongate'

'procumbent blade with thick enamel flanges'

'slightly robust with thin enamel flanges'

'markedly upturned and robust',

37

'principally buccal side'

'buccal enamel layer extended to completely encircle crown '

'separate lingual enamel layer present',

38

'No transcristae'

Plagiaulacoid

Sectorial,

39

'lacks eminence, cingulid, or crest'

'bears posterobuccal eminence'

'bears welldeveloped buccal cingulid or crest',

40

Concave

'flat or very slightly convex'

'markedly convex dorsally',

41

'low (< 0.45)'

'intermediate (0.45-0.75)'

'high (> 0.75)',

42

'well developed, confluent with paracristid'

'moderately developed'

'weakly developed or absent',

43

present

absent,

44

distinct

'slight or absent',

45

'restricted to buccal side of tooth'

'straight or slightly curved, terminates near tooth midline low on
posterior face of protolophid'

'distinctly kinked, terminates near tooth midline low on posterior face
of protolophid',

46

absent

present,

47

'postentocristid distinct, meets large posthypocristid'

'both crests fine or absent'

'posthypocristid present, adjacent to distinct central groove',

48

absent

present,

49

absent

present,

50

'long (> 0.43)'

'intermediate ($0.43-0.35$)'

'short (< 0.35)',

51

incipient

'markedly stepped or slightly bevelled'

'slightly smoothed, oblique'

smoothed,

52

absent

'continuous with dorsolateral facet'

'separate, distinct, well-developed'

'reduced, confluent with dorsomedial facet',

53

'intermediate (0.40-0.45)'

'narrow (< 0.40)'

'broad (> 0.45)',

54

'confluent, smoothly continuous anteriorly'

'continuous anteriorly, but facet contours distinct'

'distinct, separate facets',

55

'untapered or marginally tapered medially'

'slightly or moderately tapered medially'

'markedly tapered medially',

56

'absent or very slight'

marked,

57

'straight (anteroventrally oriented) or very slightly curved'

rounded

square,

58

'roughly in line with fibular facet'

intermediate

'significantly posteriorly placed from fibular facet',

59

'oblique (anterolaterally oriented)'

'anteroposteriorly oriented',

60

'subequal in height (trochleagroove shallow)'

'medial crest slightly higher'

'medial crest distinctly higher, with trochleagroove deep',

61

'fossa intermediate, no distinct process'

'fossa intermediate, process small, slightly medially extended'

'fossa broad/shallow, process large and medially extended'

'fossa narrow/deep, process small, slightly medially extended',

62

'intermediate (1.5-2.4)'

'long (> 2.4) '

'short (< 1.5)',

63

'narrow (< 0.12)'

'intermediate (0.12-0.16)'

'broad (> 0.16)',

64

'narrow relative to ligament attachments'

'distinctly broad relative to shaft width, minimum development of
ligament attachments',

65

'intermediate (0.07-0.13)'

'narrow (< 0.07)'

'wide (> 0.13)'

'highly to extremely reduced',

66

'small, posteriorly restricted'

absent

'elongate, well developed',

67

'short (< 0.62)'

'long (> 0.62)',

68

'intermediate (0.20-0.26)'

'long (> 0.26)'

'short (< 0.20)',

69

'stepped-in distally'

'not stepped distally, curves smoothly into diaphysis',

70

'intermediate (1.10-1.45)'

'short (< 1.10)'

'long (> 1.45)',

71

'distally flared or intermediate'

'distally narrowed'

'distally flared and markedly broadened',

72

'slight angle'

'aligned in same plane'

'large angle',

73

'distinctly separate from acetabular rim'

intermediate

'adjacent to acetabular rim',

74

'very small, pointed'

'long, well-developed, square in outline'

'short, broad'

'very large',

75

'long (> 0.7)'

'short (< 0.7)',

76

'roughly equal'

'supraspinous fossa roughly half area'

'supraspinous fossa roughly one-third area'

'supraspinous fossa much smaller than infraspinous fossa',

77

'anterodorsally curved'

straight,

78

'caudal to the cranial margin of the glenoid fossa'

'cranially displaced',

79

'slightly smaller'

'distinctly smaller'

subequal,

80

'deltoid insertion poorly developed'

'intermediate, small deltoid tuberosity connected by oblique ridge'

'large deltoid tuberosity separated from pectoral crest by sulcus',

81

wide

narrow,

82

'long, deep'

intermediate

reduced,

83

'intermediate (1.3-1.5)'

'shallow (< 1.3)'

'deep (1.5-2.0)'

'very deep (> 2.0)',

84

coplanar

angled,

85

'Not flat'

Flat,

86

'Not markedly inflated'

'Markedly inflated',

87

Absent

'Slight constriction'

'Marked constriction',

88

'Not extending below alveolar margin'

'Extending below alveolar margin',

89

'Smooth transition of zygoma to cheek'

'With sulcus anterior to zygoma',

90

'Does not contribute'

'contribute to anterior face',

91

'Small (<paroccipital process)'

'Hypertrophied (>paroccipital process)',

92

Uninflated

'Lightly inflated'

'Highly inflated',

93

Undisctinct

Distinct,

94

'Single mandibular canal'

'Mandibular canal confluent with masseteric canal'

'Mandibular canal length reduced, foramina overlap'

'Mandibular canal lost, single mandibular foramen',

95

Present

Absent,

96

'Reaching to level of molar occlusal plane'

'Below molar occlusal plane',

97

Present

Absent,

98

'persists after p3 eruption'

'displaced by p3 eruption',

99

'Present and large'

'Present and small'

Absent,

100

'Buccally flexed'

'Aligned with molar row',

101

'Very short (P3L/M1 <1)'

'Short (P3L/M1 <1-1.299)'

'Medium (P3L/M1 1.3-1.599)'

'Long (P3L/M1 1.6-1.99)'

'Very long (P3L/M1 >2)',

102

'Smaller than m3'

'Subequal to m3'

'Larger than m3',

103

'Lacking posterolingual cusp or ridge'

'With posterolingual cusp or ridge',

104

Central

Buccal,

105

'Dominates trigonid'

'Subequal to metaconid',

106

'Not developed'

'Narrow transversely'

'Broad transversely',

107

Absent

'Present as enamel ridge'

'Present as cuspid',

108

'Hypocingulid present between low posthypocristid and entoconid'

'Hypocingulid present posterior to posthypocristid'

Absent,

109

Present

'Reduced to stylar crest'

Absent,

110

Present

'Reduced to stylar crest'

Absent,

111

Absent

Present,

112

Absent

Present,

113

'Anterior to basioccipital/basisphenoid suture'

'Close to or posterior to basioccipital/basisphenoid suture',

114

'Convex (anterior of mandible steeply inclined)'

'Straight (anterior of mandible shallowly inclined)',

115

absent

'Present and connects to posthypocristid'

'Present. connected to hypocingulid',

116

'Extends above the level of m1/M1'

'Levels with m1/M1',

117

Present

Absent,

118

'Straight '

Curved

'L-shaped',

119

'Short and wide'

'Short and narrow'

'Long and narrow'

'Long and wide',

;

MATRIX

'Galadi speciosus' 0000002101 00????0010 0000000000 0000??001
?21110-0?? ?????????? ?????????? ?????????? ???0001010 0100100001 0201000000
0000000000

'Trichosurus vulpecula' 0001001101 0000000000 0020000000
0000000000 0201000011 0020100000 0220220101 0000100002 0030002100 0100100110
0200001012 000011000

'Pseudocheirus peregrinus' 0001001101 0000000110 0000000000
0000000000 0001100002 0020000000 0220220101 0000100002 0030001000 0100010011
0000002000 000011100

'Burramys brutyi' ?????????? ??????4000 0010000000 000??00100
00010000?? ?????????? ?????????? ?????????? ???????00? ??000000?0 2000000022
00?010003

'Nambaroo tarrinyeri' ?????????? ??????4000 ??4001000? ???????10?
02110000?? ?????????? ?????????? ?????????? ?????????? ?????????? 0110002(01)22
01??20?00

'Nambaroo saltavus' ?????????? ??????40?? ?4??????? ??????10?
02010000?? ?????????? ?????????? ?????????? ?????????? ?????????? 1??0102(01)??
????(12)0?00

'Nambaroo couperi' ?????????? ??????30?? ?04??????0 1101???101
02111000?? ?????????? ?????????? ?????????? ?????????? ??010??1?0 11?0002(01)??
???021?10

'Nambaroo gillespieae' 0001001000 00????(34)010 0041110000
1101?10101 0211101001 2222010000 002000??1? 000110000? 0??0012000 1001000100
1110002121 001021010

'Ganawamaya aediculis' ?????????? ??????40?? ?04??????0
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'Ganawamaya ornata' ?????????? ??????30?? ??????????0 1????1020?
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'Ganawamaya acris' ?????????? ??????(23)010 0041110000
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'Wururoo dayamayi' ?????????? ??????30?? ?04??????0 11?????100
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'Balbaroo gregoriensis' ?????????? ?????????? ?4??????? ??????????
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'Balbaroo fangaroo' 0001001000 0000004000 0041110000
1100?10201 01111010?? ?????????? ?????????? ?????????? ??0011000 1001000101
211011(01)112 011021013

'Balbaroo camfieldensis' ?????????? ?????????? ?04??????? 110??????1
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'Balbaroo nalima' 0001002000 0000??4000 0041110000
1200?10201 0(01)11101001 22220000?? ?????????? 0????????? 0??0011000 1001001101
211112(012)112 011121013

'Hypsiprymnodon moschatus' 0000000000 0000004000 0010000000
0100000101 0201000000 0000000000 0000000000 0000000000 0000100000 0101100110
2000002022 000010003

'Hypsiprymnodon bartholomaii' 0000000100 00????4000 001000000?
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300?????22 001?10003

'Hypsiprymnodon philcreaseri' ?????????? ??????4000 0010000000
010??00101 02010000?? ?????????? ?????????? ?????????? ???????00? ??011001?0
3000002022 00?010?03

'Ekaltadeta ima' 0000001000 00????4000 0020000000 010?000101
01010000?? ?????????? ?????????? ?????????? ??001200? 10011000?0 3000002022
001010003

'Ekaltadeta jamiemulvaneyi' ?????????? ??????40?? ?02??????
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'Jackmahoneya toxoniensis' ?????????? ??????4000 ?020100000
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'Propleopus oscillans' ?????????? ??????4000 0020000000 01???00101
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'Bettongia moyesi' 10010001?? ??10005000 1010000000
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'Bettongia penicillata' 1001001000 0010005000 1010000000
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3001120022 101011002

'Aepyprymnus rufescens' 1001002000 0010004000 1020000000
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3001120022 001011102

'Potorous tridactylus' 0001000000 0010004100 1010000000
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2001120022 001011012

'Purtia mosaicus' ?????????? ??????50?? ?03??????0 0??????200
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'Wakiewakie lawsoni' ?????????? ??????50?? ?02?????? 010????200
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'Ngamaroo archeri' ?????????? ??????50?? ?03??????0 010????200
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'Lagostrophus fasciatus' 0000002100 0000002010 1040120001
3311001201 1201101001 1101002101 0010021200 1001110001 001?100111 0203111121
1111120222 111001021

'Tjukuru wellsi' ?????????? ??????10?? ?04??????1 32??????01
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'Troposodon minor' ?????????? ??0?02010 0040120001
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'Gumardee pascuali' ?????????? ??????5011 103011000? 11?????200
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'Bulungamaya delicata' ?????????? ??????4000 0030110000
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2101120002 11?011?13

'Ganguroo bilamina' 0001001100 0000004010 0041110000
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2111120201 111101013

'Ganguroo bites' ?????????? ??????40?? ?04??????0 1201???201
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'Ganguroo robustiter' 0001001100 0000004010 0041110000
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'Wabularoo naughtoni' ?????????? ??????4000 004111(01)000
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'Wabularoo prideauxi' ?????????? ??????4020 004111(01)000
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'Wanburoo hilarus' ?????????? ??00014020 0042110000 2201?10211
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'Hadronomas puckridgi' 2002012111 0010014020 0042110000
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'Sthenurus andersoni' 2002012111 0012013040 1042110002
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2111120222 101001013

'Simosthenurus occidentalis' 2112012111 0010013040 1042111002
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2111120222 101001013

'Procoptodon goliah' 2112012111 0010013040 1042111002
2302032221 1211110101 1201002212 0011310012 22130311?2 1221012111 0003001121
0211120222 111011010

'Dorcopsoides fossilis' 0000001100 00?110(34)001 0042110000
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'Dorcopsis veterum' 0000001100 0001103001 0042110000
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4211120212 101101012

'Dorcopsulus vanheurni' 0000001100 100110(34)001 0042110000
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2211120222 101101012

'Setonix brachyurus' 0000002100 0002103010 1042120000
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3111120222 101101012

'Thylogale billardierii' 0000002100 0002102010 1042120000
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'Petrogale brachyotis' 0000002101 1102122010 1042120000
1301120201 1211101001 2202100001 1010000000 0101021011 0101101111
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'Bohra illuminata' 1000002101 1101122010 1042110000
1301120211 1211101010 3322100001 201020000? ?112??10?1 0??1101111 00021??121
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'Dendrolagus bennettianus' 1000002101 1101121120 1042110000
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0002(01)11111 3111120222 101101113

'Dendrolagus matschiei' 1000002101 1101122120 1042110000
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3111120222 101001113

'Protemnodon anak' 1000002101 100210(23)030 1042120000
1301110201 2211101001 1222000201 2211200102 1002121012 0111?01111 0?0?111121
3211120122 101101002

'Congruus congruus' 1000002101 1002102030 104212000?
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121????22 101??11?1

'Wallabia bicolor' 0000002100 0002102030 1042120000
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1211120222 101101002

'Prionotemnus palankarinnicus' ???0????? ???2102010 1042130100
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'Kurrabi mahoneyi' ?????????? ??????2010 1042130110 130??10?01
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'Lagorcheses conspicillatus' 0000002100 0002102010 1042120000
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1111120222 101101010

'Lagorcheses hirsutus' 0000002100 0002102010 1042120000
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'Baringa nelsonensis' ?0??1????? ??22??2000 1042130110 132?110?02
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'Onychogalea unguifera' 0000102100 0022101000 1042130000
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'Macropus eugenii' 0000002100 0002101010 1042130110
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0211120222 101101001

'Macropus fuliginosus' 0000002100 0002101000 1141130110
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0211120222 101101101

'Macropus pavana' ????????? ??????1000 1141130110 130??????2
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'Macropus robustus' 0000002100 0002101010 1142130110
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0211120222 101101101

'Cookeroo bulwidarri' ?000001100 ?0????4010 004111000?
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2?1112020(12) 11??110??

'Cookeroo hortusensis' ?000001100 0000??4010 1041110000
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BEGIN ASSUMPTIONS;

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BEGIN NOTES;

[Taxon comments]

[Character comments]

[Character state comments]

[Attribute comments]

[Taxon pictures]

[Character pictures]

[Character state pictures]

[Attribute pictures]

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set root=outgroup outroot=monophyl criterion=parsimony;

BEGIN ASSUMPTIONS;

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