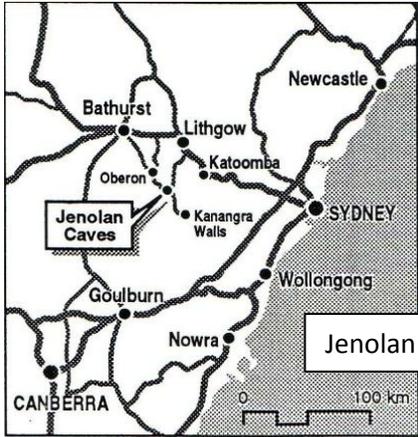


**Flora and Fauna of the
Jenolan Karst Conservation Reserve**

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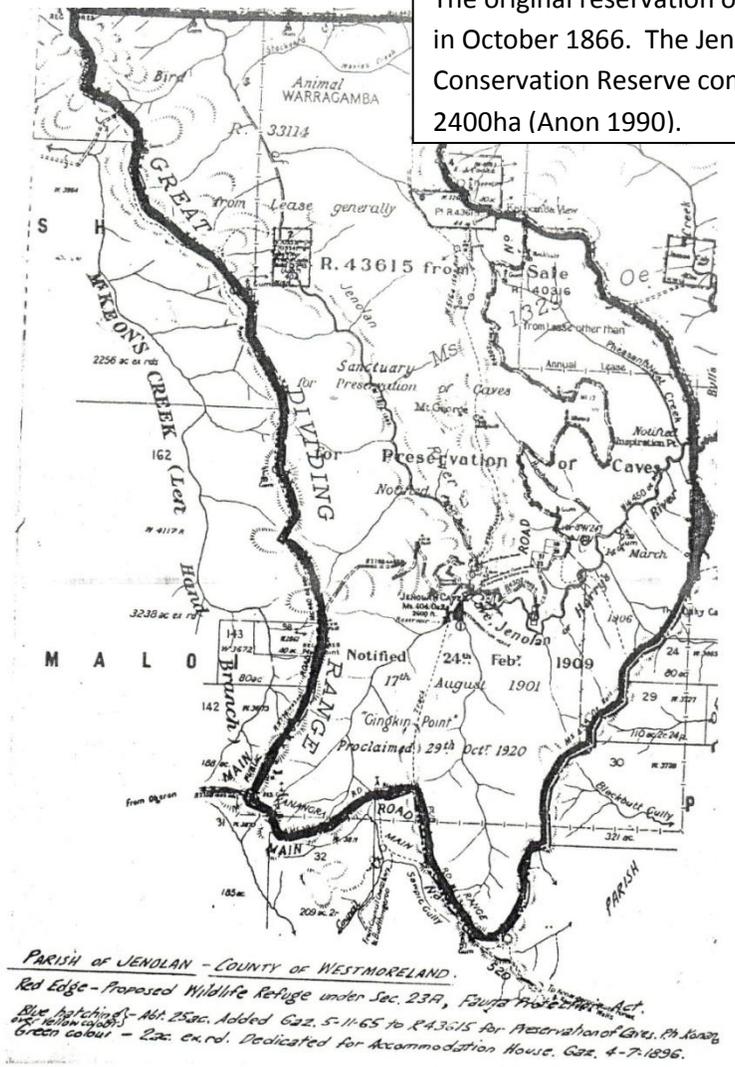
Cover is the earliest image of
The Grand Arch
Photo: King.

Jenolan Karst Conservation Reserve



Jenolan Caves are located 110km west of Sydney NSW.

The original reservation of the caves area was in October 1866. The Jenolan Karst Conservation Reserve comprises some 2400ha (Anon 1990).



Preamble

This document is a compilation of observations and records by numerous people of the Flora and Fauna on the Jenolan Karst Conservation Reserve. Intended for the guiding staff, it is potentially beneficial to anyone interested in the subjects contained within. It continues to be a work in progress. As recently as 2008, birds have been added to the list. In other cases, previous work had to be found as it had been stored, checked, updated and typed. The main reason for this list is that some extensive work was a copy of a copy and deteriorating, potentially lost forever.

It is important to remember that the species lists are of findings within the Reserve, so for example, Microbats include harp trap sites along the Jenolan River and McKeowns Valley, this does not mean that all the species listed are cave dwelling. Apart from the need to verify a common name record to a scientific name or name changes, records have been diligently noted as stated. Reference to the source is acknowledged where possible. The headings below are deliberately short, whereas the section headings deliberately include the words 'Jenolan Caves'. The information, is intended to be shared. The sections may be used or read as excerpts. If for example, someone wishes to study the bird list, it states that it is of 'Birds at Jenolan Caves'. Keys are included to describe the observed population densities. These are by no means scientific, simply estimates by myself, from personal observation, or in the case of microbats, estimated from the number of a species caught. When referencing this document please give credit to original authors and photographers. I accept full responsibility for any errors or omissions.

Thank you to all contributors, past and present.

First compilation, 2008. Ian Eddison - Guide since December 1996.

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Flora at Jenolan Caves

Mosses, Liverworts and Hornworts (Bryophytes) at Jenolan Caves

Alison Downing & Ron Oldfield of the Department of Biological Sciences, Macquarie University, provided the following introduction to this topic, an updated bryophyte species list for Jenolan Caves and accompanying photographs in July 2008.

First impressions of travellers visiting Jenolan are of dramatic limestone bluffs and awesome caves carved from the steep sided valleys. However, a closer look will reveal exquisite miniature landscapes of mosses and liverworts on soil, rocks, fallen logs, tree trunks, and even branches and twigs of trees and shrubs. In dry weather these small plants may not be conspicuous, often brown, grey, black, yellow or reddish, but when lightly moistened, by fog, mist or a light shower of rain, the leaves expand and open to reveal moss carpets encompassing many shades of green, yellow, gold and red, only matched by their great diversity in textures. In fact it is their capacity to recover so rapidly from dry conditions that makes mosses and liverworts ideal candidates to survive in the often hostile environments of limestone outcrops, where it can be extremely hot, exceedingly dry and with very high light levels. There are many different growth habits amongst mosses and liverworts, some growing as short turf with parallel, erect stems, others grow as cushions, with stems radiating from a central base, others in tight or loose interwoven mats, some look like miniature trees with tiny branches radiating from the top of a vertical stem and yet others grow in loose skeins pendant from shrub and tree branches.

Mosses and liverworts at Jenolan are particularly interesting. There is such a great variety in habitat, including differences in topography, in aspect (whether facing north, south, east or west), rock substrate, vegetation, climate and microclimate, all create an environment that supports a great diversity of bryophyte species. In the northern hemisphere it is well known that some plants grow only on limestone, others never. In Australia the situation is not quite so clear, but certainly at Jenolan there are mosses and liverworts that are found only in situations where there is a limestone substrate, others totally avoid the limestone. Thus the moss species that grow on limestone rock of the Carlotta Arch, for example, are very different from those species that grow on shale just a few metres uphill on the Six Foot Track. In fact there are many more species growing on limestone at Jenolan than are found on the sandstones of the nearby Blue Mountains.

Not all the mosses at Jenolan grow in exposed situations. Surprisingly, many rainforest moss and liverwort species can be found in moist, sheltered and shaded locations along gullies, at the entrances to caves, in crevices in rocks and in solution pools. The presence of these rainforest species at Jenolan and other limestone areas in south-eastern Australia, such as Wombeyan Caves and Bungonia Caves seems to indicate that limestone landscapes may act as refuges for rainforest species in the slowly but steadily drying environment of Australia. Moist air emanating from caves probably also assists the survival of some species by humidifying the air.

In contrast to the rainforest species, there are many moss species more usually associated with arid areas of southern Australia. These can be found in exposed situations, hot, dry and with high light levels, on rock and on soil, and occasionally growing as epiphytes on tree trunks and branches.

There are a surprising number of introduced (non-native) moss species at Jenolan, species that have been tracked in on tyres, building materials, shoes and boots, on hoofs of horses, and probably in soil of potted plants. For the most part these can be found in disturbed areas, in the various car parks, roadside cuttings, on tracks and trackside banks and in the gardens of Caves House. Another group includes species referred to as ‘cosmopolitans’, species that are widespread throughout the world.

Some species have particular relationships with animals, for example, *Gymnostomum calcareum* is known as the ‘bat moss’, as it thrives in areas with deposits of bat guano. Others that grow in cushions in solution pools in limestone rocks, such as *Tortula antarctica*, *Barbula crinita* and *Rosulabryum torquescens* are targeted by echidnas seeking out invertebrates living in the protection of the dense clumps of moss stems and leaves.

Limestone locations rich with mosses and liverworts include McKeowns Valley, the Grand Arch and the Devil’s Coach House. However, there is also considerable diversity of species on the metamorphic (non-limestone) rocks in the roadside cuttings leading back towards the Blue Mountains and along the Six Foot Track. On a hot, dry day, a light spray of water can, in seconds, transform a dull brown mat of dried vegetation, to a vibrant, colourful tapestry of mosses and liverworts.



Encalypta vulgaris is a moss that grows exclusively on calcareous substrates. At Jenolan, it grows in small cushions on moist soil or damp limestone rock in sheltered and shaded situations. It has been given the name ‘Candle Snuffer Moss’ because of the characteristic shape of the calyptra, which covers the spore-filled capsule. Photo: Alison Downing & Ron Oldfield Macquarie University.

Barbula crinita grows on calcareous rock and soil at Jenolan. Also common throughout the dry areas of semi-arid southern Australia, at Jenolan this moss thrives in exposed situations in full sun. Long, flexuous hairs at the tips of leaves act as capillary agents which can trap the smallest quantities of moisture from fogs, mist or dew.

Photo: Alison Downing & Ron Oldfield Macquarie University.



Mosses

Amphidium tortuosum
Anoetangium bellii
Atrichum androgynum
Barbula calycina
Barbula crinita (See Page 2)
Barbula luteola
Barbula unguiculata
Bartramia ithyphylla
Brachythecium rutabulum
Brachythecium salebrosum
Breutelia affinis
Breutelia pendula
Bryum argenteum
Calliergonella cuspidata
Campylopus clavatus
Campylopus incrassatus
Campylopus introflexus
Ceratodon purpureus
Conostomum pusillum var. *pusillum*
Dawsonia longiseta
Didymodon australasiae
Didymodon torquatus
Ditrichum difficile
Encalypta vulgaris var. *Vulgaris* (See Page 2)
Entosthodon apophysatus
Entosthodon muehlenbergii
Eucamptodon muelleri
Fabronia australis
Fabronia scottiae
Fissidens curvatus var. *curvatus*
Fissidens leptocladus
Fissidens linearis var. *linearis*
Fissidens megalotis (*F. vittatus*)
Fissidens rigidulus
Fissidens taylorii
Funaria hygrometrica
Gemmabryum preissianum (*Brachymenium preissianum*)
Gemmabryum clavatum
Gemmabryum dichotomum
Gemmabryum rubens
Gemmabryum sullivanii
Gigaspermum repens
Grimmia laevigata
Grimmia pulvinata var. *africana*
Grimmia trichophylla
Gymnostomum calcareum
Hedwigia ciliata
Hedwigidium integrifolium
Hypnum cupressiforme

Hypnum cupressiforme var. *lacunosum*
Hypopterygium tamarisci
Lembophyllum divulgatum
Lopidium concinnum
Macrocoma tenuis subsp. *tenuis*
Orthodontium lineare
Orthotrichum assimile
Orthotrichum cupulatum
Orthotrichum tasmanicum
Papillaria crocea
Papillaria flexicaulis
Philonotis scabrifolia
Philonotis tenuis
Plagiomnium novae-zealandiae
Pohlia nutans
Polytrichum commune
Polytrichum juniperinum
Pseudoscleropodium purum
Pseudoleskeopsis imbricata
Ptychomitrium australe
Ptychostomum creberrimum
Ptychostomum pseudotriquetrum
Racopilum cuspidigerum
Rhacocarpus purpurascens
Rhaphidorrhynchium amoenum
Rhynchostegium tenuifolium
Rosulabryum billarderi
Rosulabryum campylothecium
Rosulabryum torquescens
Schistidium apocarpum
Schizymenium bryoides
Sclerodontium pallidum subsp. *pallidum*
Tayloria octoblepharum
Thuidiopsis sparsa
Thuidium cymbifolium
Tortella dakinii
Tortula antarctica
Tortula atrovirens (*Desmatodon convolutes*)
Tortula muralis
Tortula pagorum
Tortula papillosa
Tortula recurvatus (*Desmatodon recurvatus*)
Tortula truncata (*Pottia truncata*)
Trichostomum brachydontium
Trichostomum eckelianum (*Tortella cirrhata*)
Triquetrella papillata
Weissia controversa
Weissia patula (*W. controversa* var. *gymnostoma*)
Zygodon intermedius

Liverworts

Asterella drummondii
Cephaloziella exiliflora
Chiloscyphus latifolius (*Lophocolea bidentata*)
Chiloscyphus novae-zelandiae (*Lophocolea novae-zelandiae*)
Chiloscyphus semiteres
Fossombronia pusilla
Fossombronia wondraczekii
Frullania falciloba
Frullania pentapleura
Frullania probosciphora
Frullania squarrosula
Heteroscyphus biciliatus (*Lophocolea biciliatus*)
Lunularia cruciata
Marchantia polymorpha var. *aquatica*
Metzgeria furcata
Plagiochasma rupestre
Porella crawfordii
Reboulia hemisphaerica (See below)
Riccia bifurca
Riccia crystallina
Targionia hypophylla



Reboulia hemisphaerica, a liverwort, can be found on damp, limey soil often overlying limestone rock, in moist, sheltered and shaded situations. Only rarely is it found on the sandstones and shales of the Blue Mountains.

Photo: Alison Downing & Ron Oldfield
Macquarie University.

Hornworts

Anthoceros punctatus
Phaeoceros laevis (See below)
Phaeoceros cf. *carolinianus*



Phaeoceros laevis is a hornwort, one of a group of plants often overlooked as their capsules are erect, needle shaped, green and succulent, resembling young grass shoots. At Jenolan, hornworts can be found on damp, deeply shaded, calcareous soils, often under overhanging trackside banks.

Photo: Alison Downing & Ron Oldfield
Macquarie University.

This following extensive flora list, “Preliminary Checklist of Flora of Jenolan Caves Area” (Based on Blakely and Wiburd [1899] and C. K. Ingram Collections) demonstrates the expectation that there is still more to be found and listed. In 1987 Ian Eddison analysed this list with current day botanical records to ascertain the rarest plants of the Jenolan Karst Conservation Reserve. This led to locating the rare *Geranium graniticola*. This plant is in gardens of homes in the Jenolan Karst Conservation Reserve and demonstrates how easy it is to overlook important plants of insignificant size and stature. Specimens of *Geranium graniticola* were provided by Ian to Keith Ingram for his herbarium which has since become part of the Mount Tomah Botanic Gardens herbarium. Ian was also able to acquire some old *Stemacantha australis* seed from Latrobe University via Neville Scarlett. These were then propagated and planted as part of a restoration project along parts of the Carlotta Track above the guides office. Neville Scarlet visited Jenolan Caves in search of *Praxaum anstrium*. Records he had showed this Dandelion type plant was once here.

Important flora species to be reported if located include:

Geranium graniticola; *Gonocarpus longifolius*; *Myoporum floribundum*;
Discaria pubescens; *Euphrasia scabra*; *Pseudanthus divaricatissimus*;
Ozothamnus adnatus; *Stemacantha australis*; *Praxaum anstrium*.

Ferns

Adiantaceae

<i>Adiantum aethiopicum</i>	Common Maidenhair
<i>Adiantum hispidulum</i>	Rough Maidenhair
<i>Adiantum formosum</i>	Giant Maidenhair

Aspleniaceae

<i>Asplenium trichomanes quadrivaiens</i>	
<i>Asplenium flabellifolium</i>	Necklace Fern
<i>Asplenium bulbiferum gracillimum</i>	Mother Spleenwort
<i>Asplenium flaccidum</i>	Weeping Spleenwort

Athyriaceae

<i>Diplazium australe</i>	
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Blechnaceae

<i>Blechnum patersonii</i>	Strap Water Fern
<i>Blechnum nudum</i>	Fishbone Water Fern
<i>Blechnum penna-marina</i>	Alpine Water Fern
<i>Blechnum cartilagineum</i>	Gristle Fern

Cyatheaceae

<i>Cyathea australis</i>	Rough Tree Fern
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Davalliaceae

<i>Davallia pyxidata</i>	Hare’s Foot Fern
<i>Rumohra adiantiformis</i>	

Dennstaedteaceae

Histiopteris incisa
Dennstaedtea davallioides
Hypolepsis glandulifera
Pteridium esculentum

Bat's Wing Fern
Lacy Ground Fern

Bracken

Dicksoniaceae

Dicksonia antarctica
Calochlaena dubia

Soft Tree Fern
Common Ground Fern

Dryopteridaceae

Polystichum proliferum
Lastreopsis decomposita
Lastreopsis acuminata

Mother Shield Fern
Trim Shield Fern
Shiny Shield Fern

Gleicheniaceae

Gleichenia microphylla

Hymenophyllaceae

Polyphlebium venosum
Hymenophyllum cupressiforme

Common Filmy Fern

Lindsaeaceae

Lindsaea microphylla

Lacy Wedge Fern

Osmundsaceae

Todea barbara

King Fern



Kangaroo Fern
Microsorium pustulatum,
Nettle Cave exit.
Photo: Ian Eddison.

Polypodiaceae

Pyrrosia rupestris
Microsorium scandens
Microsorium pustulatum

Rock Felt Fern
 Fragrant Fern
 Kangaroo Fern (See page 7)

Pteridaceae

Pteris tremula

Tender Brake

Sinopteridaceae

Cheilanthes austrotenuifolia
Cheilanthes distans
Pellaea falcata

Rock Fern
 Bristly Cloak Fern
 Sickle Fern

Dicotyledons**Amaranthaceae**

Amaranthus sp.

Apiaceae

Hydrocotyle laxiflora
Scandix pecten-veneris
Trachymene sanicullifolia
Platysace lanceolata
Eryngium vesiculosum
Daucus glochidiatus
Conium maculatum

Stinking Pennywort
 Shepherds' Needle
 Alpine Carrot

Blue Weevil
 Native Carrot
 Carrot Fern Hemlock

Araliaceae

Polycias sambucifolia

Elderberry Panax

Asclepiadaceae

Marsdenia rostrata
Marsdenia suaveolens

Common Milk Vine
 Scented Marsdenia

Asteraceae

Stemmacantha australis
Centaurea melitensis
Vernonia cinerea cinerea
Olearia rosmarinifolia
Olearia argophylla
Olearia myrsinoides
Olearia viscidula
Olearia ramulosa
Olearia erubescens
Vittadinia
Conyza bonariensis
Lagenifera stipitata
Brachycome diversifolia
Brachycome scapigera

Austral Cornflower
 Cockspur Thistle

Native Musk
 Blush Daisy Bush
 Wallaby Weed
 Water Cypress
 Silky Daisy Bush
 Silverweed
 Fleabane
 Blue Bottle Daisy
 Large Headed Daisy
 Mountain Daisy

<i>Brachycome angustifolia</i>	Field Daisy
<i>Brachycome decipiens</i>	Hill Daisy
<i>Brachycome aculeata</i>	Carrot Weed
<i>Cotula australis</i>	Alpine Cotula
<i>Cotula alpina</i>	Billy Buttons
<i>Craspedia</i>	Indian Weed
<i>Sigesbeckia orientalis</i>	Copper Wire Daisy
<i>Podolepis jaceoides</i>	Lanky Buttons
<i>Leptorhynchos elongatus</i>	Button Everlasting
<i>Helichrysum scorpiodes</i>	Pale Everlasting
<i>Helichrysum rutidolepis</i>	
<i>Helichrysum collinum</i>	Golden Everlasting
<i>Bracteantha bracteata</i>	Yellow Buttons
<i>Chrysocephalum apiculatum</i>	Clustered Everlasting
<i>Chrysocephalum semipapposum</i>	
<i>Ozothamnus adnatus</i>	
<i>Ozothamnus rosmarinifolius</i>	
<i>Ozothamnus rosmarinifolius var.</i>	
<i>Rhodanthe anthemoides</i>	
<i>Leucochrysum albicans</i>	
<i>Pseudognaphalium luteoalbum</i>	Jersey Cudweed
<i>Gnaphalium sp.</i>	Cudweed
<i>Senecio quadridentatus</i>	Cotton Fireweed
<i>Senecio macranthus</i>	
<i>Senecio lautus</i>	Groundsel
<i>Senecio linearifolius</i>	Fireweed
<i>Senecio sp</i>	
<i>Arrhenechthites mixta</i>	Purple Fireweed
<i>Cassinia longifolia</i>	Shining Cassinia
<i>Cymbonotus lawsonianus</i>	Bear's Ear
<i>Microseris lanceolata</i>	Yam
<i>Hypochaeris radicata</i>	Flatweed
<i>Anthemis cotula</i>	Stinking Mayweed
<i>Arctotheca calendula</i>	Capeweed
<i>Taraxacum officinale</i>	Dandelion
<i>Solenogyne gunnii</i>	

Bignoniaceae

<i>Pandorea pandorana</i>	Wonga Wonga Vine
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Boraginaceae

<i>Myosotis australis</i>	Aust. Forget Me Not
<i>Myostis exarrhena</i>	
<i>Austrocynoglossum latifollum</i>	
<i>Cynoglossum suaveolens</i>	Hounds Tongue
<i>Cynoglossum australe</i>	
<i>Echium plantagineum</i>	Pattersons Curse

Brassicaceae

<i>Rorippa palustris</i>	Marsh Water Cress
<i>Rorippa nasturtium aquaticum</i>	Water Cress
<i>Rorippa gigantea</i>	
<i>Turritis glabra</i>	Tower Mustard
<i>Capsella bursa pastoris</i>	Shepherds Purse
<i>Lepidium africanum</i>	Pepper Cress
<i>Sisymbrium officinale</i>	Hedge Mustard
<i>Cardamine sp.</i>	
<i>Hesperis matronalis</i>	Dame's Violet

Campanulaceae

<i>Wahlenbergia gracilis</i>	Bluebell
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Caprifoliaceae

<i>Sambucus australasica</i>	Native Elderberry
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Caryophyllaceae

<i>Silene gallica gallica</i>	French Catchfly
<i>Cerastium glomeratum</i>	Mouse Ear Chickweed
<i>Stellaria pungens</i>	Prickly Starwort
<i>Stellaria media</i>	Common Chickweed
<i>Arenaria leptoclados</i>	
<i>Scleranthus biflorus</i>	Knawel

Casuarinaceae

<i>Allocasuarina littoralis</i>	Black Sheoak
<i>Allocasuarina torulosa</i>	Forest Oak
<i>Casuarina cunninghamiana cunninghamiana</i>	River Oak

Celastraceae

<i>Celastrus australis</i>	Staff Climber
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Chenopodiaceae

<i>Einadia trigonos</i>	Fishweed
<i>Chenopodium pumilio</i>	Small Crumbweed

Clusiaceae

<i>Hypericum japonicum</i>	Japanese St John Wort
<i>Hypericum androsaemum</i>	Tutsan

Convolvulaceae

<i>Convolvulus erubescens</i>	Blushing Bindweed
<i>Calystegia marginata</i>	Forest Bindweed

Crassulaceae

<i>Crassula sieberana</i>	Australian Stonecrop
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Cunoniaceae

<i>Aphanopetalum resinosum</i>	Gum Vine
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Dilleniaceae

Hibbertia acicularis Guinea Flower
Hibbertia linearis Buttercup Bush

Droseraceae

Drosera auriculata Sundew

Elaeocarpaceae

Elaeocarpus reticulatus Blueberry Bush

Epacridaceae

Astroloma humifusum Native Cranberry
Brachyloma daphnoides
Lissanthe strigosa Peach Heath
Leucopogon lanceolatus Whitebeard
Leucopogon microphyllus
Leucopogon fraseri
Leucopogon juniperinus
Leucopogon sp.
Acrotriche aggregate
Acrotriche divaricata
Monotoca scoporia Prickly Broom Heath
Epacris robusta Wax Bells
Epacris paludosa Swamp Heath
Epacris reclinata Native Fuschia
Epacris calvertiana calvertiana
Epacris microphylla Coral Heath
Epacris coriacea
Epacris purpurascens onosmiflora
Epacris sp.
Srengelia incarnata

Ericaceae

Gaultheria appressa White Waxberry

Escalloniaceae

Quintinia sieberi Possum Wood

Euphorbiaceae

Euphorbia peplus Petty Spurge
Poranthera microphylla
Beyeria lasiocarpa Wallaby Bush
Phyllanthus hirtellus Thyme Spurge

Fabaceae

Oxylobium illicifolium Prickly Shaggy Pea
Gompholobium huegelii Pale Wedge Pea
Daviesia latifolia
Daviesia corymbosa
Daviesia ulicifolia Gorse Bitter Pea

<i>Pultenaea altissima</i>	
<i>Dillwynia retorta</i>	
<i>Dillwynia floribunda</i>	
<i>Bossiaea foliosa</i>	
<i>Bossiaea prostrata</i>	
<i>Hovea linearis</i>	
<i>Hovea longifolia</i>	
<i>Goodia lotifolia</i>	Golden Tips
<i>Indigofera australis</i>	Native Indigo (See below)
<i>Swainsonia galegifolia</i>	Smooth Darling Pea
<i>Desmodium brachypodum</i>	
<i>Desmodium varians</i>	Slender Tick Trefoil
<i>Glycine clandestine</i>	
<i>Hardenbergia violacea</i>	False Sarsparilla
<i>Trifolium arvense</i>	Haresfoot Clover
<i>Vicia satvia</i>	Common Vetch
<i>Acacia ulicifolia</i>	Prickly Moses
<i>Acacia penninervis</i>	Mountain Hickory
<i>Acacia elongata elongata</i>	
<i>Acacia melanoxylon</i>	Blackwood
<i>Acacia implexa</i>	Hickory Wattle
<i>Acacia longifolia</i>	Sydney Golden Wattle
<i>Acacia dealbata</i>	Mountain Silver Wattle



Native Indigo
Indigofera australis,
 Jenolan River.
 Photo: Ian Eddison.

Gentianaceae

Centaurium erythraea
Gentianella diamensis

Common Centaury

Geraniaceae

Geranium graniticola
Geranium potentilloides
Erodium cicutarium
Pelargonium inodorum

Wild Geranium
Common Crowfoot
Storksbill

Goodeniaceae

Velleia paradoxa
Goodenia bellidifolia
Goodenia ovata
Scaevola albida
Dampiera purpurea

Spur Velleia
Hop Goodenia
Left Hand Flower
Mountain Dampiera

Haloragaceae

Haloragis serra
Gonocarpus tetragynus

Raspwort
Raspwort

Lamiaceae

Plectranthus parviflorus
Mentha diemenica
Lycopus australis
Prunella vulgaris
Scutellaria humilis
Teucrium corymbosum
Ajuga australis

Cockspur Flower
Slender Mint
Australian Gypsywort
Self Heal
Dwarf Skullcap
Forest Germander
Australian Bugle

Lentibulariaceae

Utricularia dichotoma

Fairy Aprons

Lobeliaceae

Lobelia gibbosa
Pratia puberula
Isotoma axillaris

Tall Lobelia
Trailing Pratia
Showy Isotome

Loganaceae

Logania albiflora

Loranthaceae

Muellerina eucalyptoides
Muellerina celastroides
Amyema pendulum

Coast Mistletoe

Lythraceae

Lythrum salicaria

Purple Loosestrife

Malvaceae

<i>Gynatrix pulchela</i>	Hempbush
<i>Malva sp.</i>	
<i>Modiola caroliniana</i>	Red Flowered Mallow

Monimiaceae

<i>Doryphora sassafras</i>	Sassafras
<i>Hedycarya angustifolia</i>	Native Mulberry

Moraceae

<i>Ficus rubignosa</i>	Rusty Fig
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Myoporaceae

<i>Myoporum floribundum</i>	
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Myrsinaceae

<i>Rapanea howittiana</i>	Brush Muttonwood
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Myrtaceae

<i>Baeckea utilis</i>	Mountain Baeckea
<i>Leptospermum polygalifolium</i>	Tartoon
<i>Leptospermum lanigerum</i>	Wooly Teatree
<i>Callistemon ptyoides</i>	Alpine Bottlebrush
<i>Callistemon pallidus</i>	
<i>Melaleuca armillaris</i>	White Teatree
<i>Backhousia myrtifolia</i>	Grey Myrtle

It is important to note that the 'Jenolan Karst Conservation Reserve is part of the Greater Blue Mountains World Heritage Area, specifically due to the diversity of the Eucalypt woodland and the unique Cave Fauna present. Jenolan Caves is regarded as a hot spot for troglobitic fauna.' (Dr J. James. pers. comm.).

<i>Eucalyptus stellulata</i>	Black Sally
<i>Eucalyptus pulverulenta</i>	Silver Leafed Gum
<i>Eucalyptus pauciflora</i>	Snow Gum
<i>Eucalyptus sieberi</i>	Black Ash
<i>Eucalyptus radiata</i>	Narrow Leafed Peppermint
<i>Eucalyptus eugenioides</i>	Thin Leafed Stringy Bark
<i>Eucalyptus melliodora</i>	Yellow Box
<i>Eucalyptus fastigata</i>	Brown Barrel
<i>Eucalyptus dives</i>	Broad Leafed Peppermint
<i>Eucalyptus aggregata</i>	Black Gum
<i>Eucalyptus stricta</i>	Mallee Ash
<i>Eucalyptus bicostata</i>	Eurabbie
<i>Eucalyptus cypellocarpa</i>	Monkey Gum
<i>Eucalyptus viminalis</i>	Ribbon Gum
<i>Eucalyptus punctata</i>	Grey Gum
<i>Eucalyptus sp.</i>	Narrow Leafed Stringy Bark
<i>Eucalyptus ovata</i>	Swamp Gum

Oleaceae*Notelaea neglecta*

Native Olive

Onagraceae*Epilobium hirtigerum*

Willows Wort

Oenothera sp.

Evening Primrose

Oxalidaceae*Oxalis corniculata*

Yellow Wood Sorrel

Passifloraceae*Passiflora cinnabarina*

Passionfruit

Pittosporaceae*Pittosporum undulatum*

Pittosporum

Bursaria spinosa

Blackthorn

Billardiera scandens

Apple Dumplings

Plantaginaceae*Plantago varla*

Wild Sage

Plantago tauceolata

Lamb's Tongues

Polygalaceae*Comesperma volubile*

Love Creeper

Comesperma ericinum

Heath Milkwort

Polygonaceae*Persicaria decipiens*

Slender Knotweed

*Muehlenbeckia costata***Portulacaceae***Calandrinia sp.**Montia Fontana chendrosperma***Primulaceae***Anagallis arvensis*

Scarlet Pimpernel

Proteaceae*Petrophile pulchella*

Conesticks

Persoonia linearis

Narrow Leafed Geebung

*Persoonia mollis mollis**Persoonia acuminata*

Note that there is a tendency for these two spp. to hybridise in the Jenolan Caves area.

*Persoonia oxycoccokles**Persoonia laurina lelogyna**Grevillea arenaria canescens**Grevillea juniperina**Hakea salicifolia*

Willow Hakea

Hakea sericea

Needle Bush

Hakea macrocarpa

Small Fruited Hakea

Hakea dactyloides

<i>Telopea speciosissima</i>	Waratah
<i>Lomatia silaifolia</i>	Crinkle Bush
<i>Lomatia myricoides</i>	River Lomatia
<i>Banksia marginata</i>	
<i>Banksia spinulosa</i>	

Ranunculaceae

<i>Clematis glycinoides</i>	Headache Vine (See Below)
<i>Ranunculus lappaceus</i>	Common Buttercup
<i>Ranunculus pimpinellifolius</i>	
<i>Ranunculus sessiliflorus sessiliflorus</i>	



Old Man's Beard *Clematis glycinoides* (White flowers)
 Kangaroo Apple bush *Solanum aviculare* (Blue flowers)
 near the Grand Arch.
 Photo: Ian Eddison.

Rhamnaceae

<i>Pomadereis phyllicifolia ericoides</i>	
<i>Pomadereis aspera</i>	Hazel Pomadereis
<i>Pomadereis ferruginea</i>	
<i>Pomadereis andromedifolia</i>	
<i>Pomadereis betulina</i>	
<i>Discaria pubescens</i>	Australian Anchor Plant

Rosaceae

<i>Geum urbanum</i>	Wood Avens
<i>Rubus parvifolius</i>	Native Raspberry
<i>Acaena novea-zealandiae</i>	Biddy Biddy Burr
<i>Acaena sp. ovina or agnipila</i>	Sheeps Burr
<i>Rosa rubignosa</i>	Sweet Briar

Rubiaceae

<i>Coprosma quadrifida</i>	Prickly Currant Bush
<i>Coprosma hirtella</i>	Rough Coprosma
<i>Opercularia hispida</i>	Hairy Stinkweed
<i>Pomax umbellata</i>	
<i>Gallum propinquum</i>	Bedstraw
<i>Gallum tricornutum</i>	Tangled Bedstraw

Rutaceae

<i>Eriostemon myoporoides</i>	Waxflower
<i>Correa reflexa</i>	Native Fuschia

Santalaceae

<i>Choretrum</i>	Sour Bush
<i>Leptomeria acida</i>	Sour Currant Bush
<i>Omphacomera acerba</i>	
<i>Exocarpos cupressiformis</i>	Native Cherry
<i>Exocarpos strictus</i>	Dwarf Cherry

Sapindaceae

<i>Dodonaea viscosa spatulata</i>	
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Scrophulariaceae

<i>Gratiola peruviana</i>	
<i>Derwentia perfoliata</i>	Digger's Speedwell
<i>Derwentia derwentiana subglauca</i>	
<i>Veronica gracilis</i>	Slender Speedwell
<i>Euphrasia scabra</i>	
<i>Euphrasia collina speciosa</i>	
<i>Verbascum biattaria</i>	Moth Mullein
<i>Verbascum thapsus</i>	Blanket Weed

Simarubaceae

<i>Ailanthus altissima</i>	Tree of Heaven
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Solanaceae

<i>Solanum vescum</i>	
<i>Solanum aviculare</i>	Kangaroo Apple (See Page 16)
<i>Solanum pungetium</i>	Eastern Nightshade
<i>Solanum americanum</i>	Glossy Nightshade
<i>Solanum opacum</i>	Gooseberry Nightshade
<i>Nicotiana suaveolens</i>	Native Tobacco

Stackhousiaceae

<i>Stackhousia monogyna</i>	Creamy Candles
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Sterculiaceae

<i>Brachychiton populneus populneus</i>	Kurrajong
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Stylidiaceae

<i>Stylidium graminifolium</i>	Grass Triggerplant
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Thymeleaceae

Pimelea linifolia
Pimelea ligustrina

Wild May Granny's Bonnet
Tall Rice Flower

Urticaceae

Parietaria debilis
Urtica incisa

Native Pellitory
Stinging Nettle

Verbenaceae

Verbena officinalis

Common Verbena

Violaceae

Viola betonicifolia
Viola hederacea
Hybanthus monopetalus
Hymenanchera dentata

Mountains Violet
Ivy Leafed Violet
Ladies Slipper, Slender Violet Bush
Tree Violet

Monocotyledons**Alliaceae**

Nothoscordum borbonicum

Onion Weed

Antheriaceae

Thysanotus tuberosus
Arthropodium milleflorum

Common Fringe Lily
Vanilla Lily

Asphodeliaceae

Bulbine bulbosa

Bulbine Lily (See Page 19)

Cyperaceae

Cyperus sanguinolentus
Cyperus sp.
Eleocharis sphacelata
Scripus polystachyus
Lepidosperma laterale
Lepidosperma filiforme
Gahnia melanocarpa
Gahnia grandis
Carex appressa
Carex fascicularis

Tall Spike Rush

Saw Sedge

Tassle Sedge

Eriocaulaceae

Eriocaulon scariosum

Hypoxidaceae

Hypoxis hygrometrica

Golden Weather Grass

Iridaceae

Libertia paniculata

Flag Grass

Bulbine Lily
Bulbine bulbosa,
Jenolan River.
Photo: Ian Eddison.



Juncaceae

<i>Luzula sp.</i>	Field Woodrush
<i>Juncus bufonius</i>	Toad Rush
<i>Juncus sp. laeviusculus/phaeanthus?</i>	
<i>Juncus planifolius</i>	Broad Leafed Rush

Lomandraceae

<i>Lomandra longifolia</i>	Spiny Mat Rush
<i>Lomandra filiformis</i>	Iron Grass, Wattle Mat Rush
<i>Lomandra micrantha tuberculata</i>	

Luzuriagaceae

<i>Eustraphus latifolius</i>	Wombat Berry, Blackfellows Oranges
<i>Geltonoplesium cymosum</i>	Scrambling Lily

Orchidaceae

<i>Liparis reflexa</i>	
<i>Dendrobium speciosum</i>	Rock Lily
<i>Dendrobium fairfaxii</i>	Rats Tail Orchid
<i>Dendrobim striolatum</i>	
<i>Dipodium</i>	Hyacinth Orchid
<i>Gastrodia</i>	Potato Orchid
<i>Spiranthes sinensis</i>	Ladies Tresses
<i>Diuris lanceolata</i>	Golden Moths
<i>Diuris sp.</i>	
<i>Prasophyllum brevilabre</i>	Short Lipped Leek Orchid
<i>Prasophyllum odoratum</i>	Scented Leek Orchid
<i>Prasophyllum elatum</i>	Tall Leek Orchid
<i>Corybas fimbriatus</i>	Fringed Helmet Orchid
<i>Aclanthus exsertus</i>	Mosquito Orchid
<i>Pterosylis nutans</i>	Nodding Greenhood Orchid
<i>Pterosylis curta</i>	Green Goblins
<i>Pterosylis coccina</i>	
<i>Eriochilus cucullatus</i>	Parson's Bands
<i>Cyrtostylis reniformis</i>	Gnat Orchid
<i>Caladenia sp phaeoclavia or testaculata</i>	
<i>Caladenia caerulea</i>	Blue Fairy
<i>Caladenia clavigera</i>	
<i>Glossodia major</i>	Waxlip Orchid
<i>Cymbidium suave</i>	Snake Orchid

Phormiaceae

<i>Dianella revolute</i>	Flax Lily
<i>Stypandra glauca</i>	Nodding Blue Lily
<i>Thelionema umbellatum</i>	

Poaceae

<i>Digitaria sanguinalis</i>	Summer Grass
<i>Digitaria sp.</i>	
<i>Paspalidium garacile</i>	Slender Panic Grass
<i>Dichantieum sericuem</i>	Q. Bluegrass
<i>Imperata cylindrical major</i>	Blady Grass
<i>Sorghum leiocladum</i>	Wild Sorghum
<i>Themeda australis</i>	Kangaroo Grass
<i>Aristida vagans</i>	Three Awned Spear Grass
<i>Stipa pubescens</i>	
<i>Deyeuxia imbricate</i>	
<i>Agrostis aemula</i>	Blowngrass
<i>Dichelachne crinita</i>	Longhair Plume Grass
<i>Dichelachne micrantha</i>	Shorthair Plume Grass
<i>Dichelachne rara</i>	
<i>Holcus lanatus</i>	Yorkshire Fog
<i>Echinopogon ovatus</i>	Forest Hedgehog Grass
<i>Poa annua</i>	Winter Grass
<i>Poa tenera</i>	
<i>Poa lablardieri</i>	Tussock Grass
<i>Poa induta</i>	
<i>Briza minor</i>	Shivery Grass
<i>Bromus hordeaceus</i>	Soft Brome Grass
<i>Bromus cartharticus</i>	Prairie Grass
<i>Vulpia bromoides</i>	Squirrel Tail Fescue
<i>Elymus scaber</i>	Common Wheat Grass
<i>Phelum pratense</i>	Timothy Grass
<i>Phalaris canariensis</i>	Canary Grass
<i>Plinthanthesis paradoxa</i>	Wallaby Grass
<i>Anthoxanthum odoratum</i>	Sweet Vernal Grass
<i>Danthonia monticola</i>	
<i>Danthonia vickeryi</i>	

Restoniaceae

Lepyrodia scarlosa

Xanthoreaceae

Xanthorea sp. Grass Tree

Fauna at Jenolan Caves

Cave Fauna at Jenolan Caves

This very specialist area is wide open for further identification and more species findings. Stephan Eberhard and Andy Spate included Jenolan's Cave Fauna in their Atlas of Cave Fauna of NSW in 1995. Halliday, R. B. contributed to the Australian Journal of Entomology on Mite Fauna of Jenolan Caves in 2001. Hills N, Hose G. C., Cantlay A. J, and Murray, B. R. Wrote for the Austral Ecology journal on Cave invertebrate assemblages differ between native and exotic leaf litter. Excerpts of these follow for your further knowledge.

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Organic matter such as leaf litter, dead bats and their guano as well as Welcome Swallow *Hirundo neoxena* nests are food sources for some very small cave fauna. The transportation of this organic matter, deeper into caves can be either by alluvial or troglobitic activity. Photos: Ian Eddison.

Cave Invertebrate Survey: “**Towards an Atlas of NSW Cave Fauna**” Eberhard & Spate 1995. Excerpt from APPENDIX 3 : RECORDS OF TAXA BY KARST AREA 93. This appendix, lists the taxa recorded. It can be used as a quick reference guide.

Numerous surveys eg Gray (1973), Gibian et al. (1988), Eberhard (1993a) (67 taxa)

Suborder Paludicola

Family and genus undetermined, Tb?

Suborder Terricola

Family and genus undetermined, Ac

Terrestrial Oligochaeta

Families and genera undetermined

Camaenidae

Meridolum depressum Hedley

Strongesta sp.

Cycloctenus abyssinus Urquhart, Tp

Badumna socialis (Rainbow), Tp

Forsterina sp., Tp

Gradungulidae

Kaiya terama Gray, Tp

Linyphiidae

Laetesia wiburdi (Urquhart), Tp

Laetesia species undetermined

Linyphiidae

Ostearius melanophygius Cambridge

Linyphiidae, new genus and species, Tb

Metidae

Orsinome sp.

Micropholcomma longissima (Butler), Tp

Micropholcommatidae

Genus and species undetermined

Mimetus maculosus Rainbow, Tp

Australomimetus species undetermined

Mysmenidae

Genus and species undetermined

Orsolobidae

Tasmanoonops species undetermined, Ac

Stiphidion facetum Simon, Tp

Achaearanea vericulata

Achaearanea species undetermined, Tp

Theridiidae

Enophlognatha species undetermined
Icona sp., Tp & Tb

Theridiosomatidae

Baalzebub species undetermined, Tp
Theridiosomatidae, new genus and species

Uloboridae

Philiponela pantherinus (Keyserling)
Uloboridae *Philiponela* species undetermined
Uloboridae, genus and species undetermined
Holonuncia cavernicola Forster, Tp

Megalopsalididae

Spinicrus sp., Ac
Sathrochthonius tuena Chamberlin, Tp2

Ostracoda

Family and genus undetermined

Copepoda

Family and genus undetermined
Psammaspides sp. nov., Tb

Amphipoda

Family and genus undetermined

Oniscidea

Genus and species undetermined, Tb
Phreatoicidea Genus and species undetermined, Tp?

Diplopoda

Families and genera undetermined

Chilopoda

Genus and species undetermined

Protura

Family and genus undetermined, Ac

Entomobryidae

Coecobrya sp. nr *hoefti* Schaffer, Tb?

Hypogastruridae

Mesogastrura libycus, Tp
Hypogastruridae Genus and species undetermined

Isotomidae

Folsomia candida Willem, Tp
Isotomidae *Folsomia* sp.

Oncopoduridae

Oncopodura sp. Tb?

Onychiuridae Genus and species undetermined

Sminthuridae

Adelphoderia sp.

Blattodea

Family and genus undetermined

Cavernotettix species undetermined, Tp

Coccoidea

Genus and species undetermined

Hemiptera

Superfamilies and families undetermined (but including dipsocorids)

Psocoptera

Family and genus undetermined

Carabidae

Trechimorphus diemenensis (Bates), Tp1

Carabidae *Meonis convexus* Sloane

Pselaphidae

Tyromorphus speciosus (King), Tp1

Pselaphidae Genus and species undetermined

Ptinidae

Ptinus exulans Erichson, Tp1

Staphylinidae

Myotyphlus jansoni (Mathews), Tp1

Chironomidae

Genus and species undetermined

Sciaridae

Genus and species undetermined

Tipulidae

Genus and species undetermined

Tineidae *Monopis* sp., Tp2

Oecophoridae

Hofmannophila pseudospretella (Stainton)

Formicidae

Genus and species undetermined

Mia Thurgate, former Scientific Officer for the Jenolan Caves Reserve Trust, compiled the following **Fauna - Cave Invertebrate** table. It incorporates the above list by Eberhard and Spate.

Fauna - Cave Invertebrate

Date of Sighting	Site	GPS Co-ord	Common Name	Species Name	Habitat	Indig/ Intro	Sources
06-May-1996	Jenolan	Chifley Cave (J2)	e.g.'s of Order: Beetles; Fire-flies; Weevils; Wood-borers; etc.	Phylum: Arthropoda Class: Insecta Order: Coleoptera Family: Pselaphidae	Terrestrial	Indigenous	Gibian et al. (1988)
06-May-1996	Jenolan	?	Harvestmen	Phylum: Arthropoda Class: Arachnida Order: Opiliones (Phalangida) Family: Triaenonychidae Genus: Holonuncia Species: cavernicola (Forster)	Terrestrial	Indigenous	Hunt (1992)
06-May-1996	Jenolan	Mammoth Cave (J13)	Harvestmen	Phylum: Arthropoda Class: Arachnida Order: Opiliones (Phalangida) Family: Megalopsalididae Genus: Spinicrus	Terrestrial	Indigenous	Eberhard (1993b)
06-May-1996	Jenolan	The Imperial Cave (J4m)	Scorpion (Pseudo)	Phylum: Arthropoda Class: Arachnida Order: Pseudoscorpionidae Family: Chthoniidae Genus: Sathrochthonius Species: tuena (Chamberlin)	Terrestrial 2nd level troglophile	Indigenous	Gibian et al. (1988)
14-Jan-1990	Jenolan		Yabbie (Yabby) (Freshwater Crayfish)	Phylum: Arthropoda Class: crustacea Order: ? Family: ? Genus: Cherax	Terrestrial Freshwater	Indigenous	Oberon files
06-May-1996	Jenolan	multiple caves (caves in the Southern Limestone)	Scorpion (Pseudo)	Phylum: Arthropoda Class: Arachnida Order: Pseudoscorpionidae Family: Chthoniidae Genus: Sathrochthonius Species: tuena (Chamberlin)	Terrestrial 2nd level troglophile	Indigenous	Hamilton-Smith (1967)
06-May-1996	Jenolan	Hennings Cave (J76)	Millipede	Phylum: Arthropoda Class: Diploda	Terrestrial	Indigenous	Gibian et al. (1988)
06-May-1996	Jenolan	Elder Cave (J1)	e.g.'s of Order: Beetles; Fire-flies; Weevils; Wood-borers; etc.	Phylum: Arthropoda Class: Insecta Order: Coleoptera Family: Pselaphidae	Terrestrial	Indigenous	Gibian et al. (1988)
06-May-1996	Jenolan	The Imperial Cave (J4m)	Springtail	Phylum: Arthropoda Class: Insecta Order: Collembola Family: Isotomidae Genus: Folsomia Species: candida (Willem)	Terrestrial troglophile	Indigenous	Eberhard [unpubl]
06-May-1996	Jenolan	The Imperial Cave (J4m)	Springtail	Phylum: Arthropoda Class: Insecta Order: Collembola Family: Oncopoduridae Genus: Oncopodura	Terrestrial	Indigenous	Eberhard [unpubl]
06-May-1996	Jenolan	The Imperial Cave (J4m)	Springtail	Phylum: Arthropoda Class: Insecta Order: Collembola Family: Sminthuridae Genus: Adelphoderia	Terrestrial (assumed troglobite)	Indigenous	Eberhard [unpubl]

06-May-1996	Jenolan	(JS-2')	Crustacean	Phylum: Arthropoda Class: Crustacea SubClass: Malacostraca Division: Pericarida Order: Amphipoda Family: Eusiridae Genus: Pseudomoera Species: fontana	Marine & Freshwater forms	Indigenous	?
06-May-1996	Jenolan	(R1-1')	Crustacean	Phylum: Arthropoda Class: Crustacea SubClass: Malacostraca Division: Pericarida Order: Amphipoda Family: Eusiridae Genus: Pseudomoera Species: fontana	Marine & Freshwater forms	Indigenous	?
06-May-1996	Jenolan	(J84 - vial 4)	Crustacean	Phylum: Arthropoda Class: Crustacea SubClass: Malacostraca Division: Pericarida Order: Amphipoda Family: ?Neoniphargidae Genus: NEW Species: NEW	Marine & Freshwater forms	Indigenous	Gibian et al. (1988) Bradbury (pers comm)
06-May-1996	Jenolan	Hennings Cave (J76 - vial 3)	e.g.'s: Butterflies & Moths	Phylum: Arthropoda Class: Insecta Order: Lepidoptera	Terrestrial	Indigenous	Eberhard & Spate (1995)
06-May-1996	Jenolan	Hennings Cave (J76)	Wood Lice	Phylum: Arthropoda Class: Crustacea SubClass: Malacostraca Division: Pericarida Order: Isopoda SubOrder: Oniscidae Family: Styloniscidae	Terrestrial (assumed troglobite)	Indigenous	Gibian et al. (1988)
06-May-1996	Jenolan	Lucas Cave (J7 - vial 67)	Wood Lice	Phylum: Arthropoda Class: Crustacea SubClass: Malacostraca Division: Pericarida Order: Isopoda SubOrder: Oniscidae	Terrestrial	Indigenous	Eberhard & Spate (1995)
06-May-1996	Jenolan	Arch Cave (J6)	Booklice	Phylum: Arthropoda Class: Insecta Order: Psocoptera	Terrestrial	Indigenous	Gibian et al. (1988)
06-May-1996	Jenolan	Elder Cave (J1)	e.g.'s of Order: Flies; Mosquitoes; Midges.	Phylum: Arthropoda Class: Insecta Order: Diptera Family: Sciaridae	Terrestrial & Freshwater	Indigenous	Gibian et al. (1988)
06-May-1996	Jenolan	Mammoth Cave (J13 - vial 8)	microscopic free-living forms e.g. cylops	Phylum: Arthropoda Class: Crustacea SubClass: Copepoda Division: Syncarida Order: Anaspidae	Marine & Freshwater forms	Indigenous	Eberhard & Spate (1995)
06-May-1996	Jenolan	Mammoth Cave (J13)	e.g.'s of Order: Wasps; Ants; Bees.	Phylum: Arthropoda Class: Insecta Order: Hymenoptera Family: Formicidae	Terrestrial	Indigenous	Gibian et al. (1988)
06-May-1996	Jenolan	Elder Cave (J1)	Millipede	Phylum: Arthropoda Class: Diploda	Terrestrial	Indigenous	Gibian et al. (1988)
06-May-1996	Jenolan	Paradox Cave (J48)	Millipede	Phylum: Arthropoda Class: Diploda	Terrestrial	Indigenous	Gibian et al. (1988)
06-May-1996	Jenolan	Paradox Cave (J48)	Crustacean	Phylum: Arthropoda Class: Crustacea SubClass: Malacostraca Division: Pericarida Order: Isopoda SubOrder: Phreatoicidae Family: (indet) Genus: Crenoicus	Terrestrial, Marine & Freshwater forms troglobite	Indigenous	Eberhard (1993a, 1993b) G. Wilson (pers comm)

06-May-1996	Jenolan	Paradox Cave (J48 - vial 8)	Worm	Phylum: Annelida Class: Oligochaeta	Terrestrial	Indigenous	Eberhard & Spate (1995)
06-May-1996	Jenolan	Hennings Cave (J39)	e.g.'s of Order: Flies; Mosquitoes; Midges.	Phylum: Arthropoda Class: Insecta Order: Diptera Family: Tipulidae	Terrestrial & Freshwater	Indigenous	Gibian et al. (1988)
06-May-1996	Jenolan	Hennings Cave (J39)	e.g.'s of Order: Flies; Mosquitoes; Midges.	Phylum: Arthropoda Class: Insecta Order: Diptera Family: Sciaridae	Terrestrial & Freshwater	Indigenous	Gibian et al. (1988)
06-May-1996	Jenolan	Hennings Cave (J39)	e.g.'s of Order: Flies; Mosquitoes; Midges.	Phylum: Arthropoda Class: Insecta Order: Diptera Family: Chironomidae	Terrestrial & Freshwater	Indigenous	Gibian et al. (1988)
06-May-1996	Jenolan	Hennings Cave (J39)	e.g.'s of Order: Beetles; Fire-flies; Weevils; Wood-borers;	Phylum: Arthropoda Class: Insecta Order: Coleoptera Family: Pselaphidae	Terrestrial	Indigenous	Gibian et al. (1988)
06-May-1996	Jenolan	Mammoth Cave (J13 - vial 7)	Mayfly	Phylum: Arthropoda Class: Insecta Order: Ephemeroptera	Terrestrial	Indigenous	Eberhard & Spate (1995)
06-May-1996	Jenolan	Mammoth Cave (J13)	Cockroach	Phylum: Arthropoda Class: Insecta Order: Blattodea	Terrestrial	Indigenous	Gibian et al. (1988)
06-May-1996	Jenolan	Mammoth Cave (J13 - vial 6)	e.g.'s of Order: Beetles; Fire-flies; Weevils; Wood-borers; etc.	Phylum: Arthropoda Class: Insecta Order: Coleoptera (water beetles)	Freshwater	Indigenous	Eberhard & Spate (1995)
06-May-1996	Jenolan	Mammoth Cave (J13)	e.g.'s of Order: Beetles; Fire-flies; Weevils; Wood-borers; etc.	Phylum: Arthropoda Class: Insecta Order: Coleoptera Family: Pselaphidae	Terrestrial	Indigenous	Gibian et al. (1988)
06-May-1996	Jenolan	Mammoth Cave (J13 - vial 2)	e.g.'s of Order: Beetles; Fire-flies; Weevils; Wood-borers; etc.	Phylum: Arthropoda Class: Insecta Order: Coleoptera Family: Carabidae	Terrestrial	Indigenous	Eberhard & Spate (1995)
	Jenolan	The Imperial (J4)	Spider	Phylum: Arthropoda Class: Arachnida Order: Araneae Family: Linyphiidae Genus: NEW Species: NEW	Terrestrial troglobite	Indigenous	Gray (1973)
07-Aug-1996	Jenolan	cave in the Southern Limestone		Subclass Malacostraca Division Syncarida Order Coleoptera Family Ptinidae		Indigenous	Eberhard & Spate (1995)
07-Aug-1996	Jenolan	Elder Cave (J1)		Subclass Malacostraca Division Syncarida Order Coleoptera Family Ptinidae		Indigenous	Eberhard & Spate (1995)
07-Aug-1996	Jenolan	Chifley Cave (J2)		Subclass Malacostraca Division Syncarida Order Coleoptera Family Ptinidae		Indigenous	Eberhard & Spate (1995)

07-Aug-1996	Jenolan	unidentified cave		Subclass Malacostraca Division Syncarida Order Lepidoptera Family Oecophoridae		Indigenous	Eberhard & Spate (1995)
07-Aug-1996	Jenolan	Mammoth Cave (J13)		Subclass Malacostraca Division Syncarida Order Coleoptera Family Carabidae		Indigenous	Eberhard & Spate (1995)
01-Aug-1994	Jenolan	Grand Arch	Dermestid Beetle	Phylum: Arthropoda Class: Insecta Order: Coleoptera Family: Dermistidae	Terrestrial	Indigenous	Hose (B Sc. Hons 1994)
25-Oct-1987	Jenolan	Chifley Cave	e.g.'s of Order: Flies; Mosquitoes; Midges.	Phylum: Arthropoda Class: Insecta Order: Diptera Family: Sciaridae Genus: Corynoptera sp.	Wood fragments in gravel	Indigenous	Draft list 1987 E. Holm. (Det. P. Granston; Coll. P. Greenslade)
25-Oct-1987	Jenolan	Lucas Cave - Exhibition Chamber	e.g.'s of Order: Flies; Mosquitoes; Midges.	Phylum: Arthropoda Class: Insecta Order: Diptera Family: Sciaridae Genus: Chaetosciara	Terrestrial & Freshwater	Indigenous	Draft list 1987 E. Holm. (Det. P. Granston; Coll. P. Greenslade)
25-Oct-1987	Jenolan	Lucas Cave - Exhibition Chamber	Mite or Tick	Phylum: Arthropoda Class: Arachnida Order: Acarina (Acari) Family: Laelapidae	Cave & bat guano	Indigenous	Draft list 1987 E. Holm.
01-Aug-1994	Jenolan	Grand Arch	Spider	Phylum: Arthropoda Class: Arachnida Order: Araneae Family: Desidae Genus: Badumna Species: insignis	Terrestrial	Indigenous	Hose (B Sc. Hons 1994)
01-Aug-1994	Jenolan	Grand Arch	Spider	Phylum: Arthropoda Class: Arachnida Order: Araneae Family: Desidae Genus: Badumna Species: candida	Terrestrial	Indigenous	Hose (B Sc. Hons 1994)
01-Aug-1994	Jenolan	Grand Arch	orb-weaver spider	(cf. Araneus transmarinus)		Indigenous	Hose (B Sc. Hons 1994)
01-Aug-1994	Jenolan	Grand Arch	Butterflies & Moths	Phylum: Arthropoda Class: Insecta Order: Lepidoptera	Terrestrial	Indigenous	Hose (B Sc. Hons 1994)
06-May-1996	Jenolan	Bow Cave (J16)	e.g.'s of Order: Flies; Mosquitoes; Midges.	Phylum: Arthropoda Class: Insecta Order: Diptera Family: Sciaridae	Terrestrial & Freshwater	Indigenous	Gibian et al. (1988)
07-Aug-1996	Jenolan	Wiburds Cave (J58)		Subclass Malacostraca Division Syncarida Order Diptera Family Tipulidae		Indigenous	Eberhard & Spate (1995)
06-May-1996	Jenolan	Mammoth Cave (J13 - vial 4)	e.g.'s: Flies; Mosquitoes; Midges.	Phylum: Arthropoda Class: Insecta Order: Diptera	Terrestrial & Freshwater	Indigenous	Eberhard & Spate (1995)
06-May-1996	Jenolan	Mammoth Cave (J13 - vial 11)	e.g.'s: Flies; Mosquitoes; Midges.	Phylum: Arthropoda Class: Insecta Order: Diptera	Terrestrial & Freshwater	Indigenous	Eberhard & Spate (1995)
06-May-1996	Jenolan	Mammoth Cave (J13)	e.g.'s of Order: Flies; Mosquitoes; Midges.	Phylum: Arthropoda Class: Insecta Order: Diptera Family: Sciaridae	Terrestrial & Freshwater	Indigenous	Gibian et al. (1988)

01-Aug-1994	Jenolan	Grand Arch	e.g.'s: Wasps; Ants; Bees; Sawflies.	Phylum: Arthropoda Class: Insecta Order: Hymenoptera	Terrestrial	Indigenous	Hose (B Sc. Hons 1994)
25-Oct-1987	Jenolan	Arch Cave	e.g.'s of Order: Flies; Mosquitoes; Midges.	Phylum: Arthropoda Class: Insecta Order: Diptera Family: Sciaridae	Cave wall & bat guano	Indigenous	Draft list 1987 E. Holm.
01-Aug-1994	Jenolan	Grand Arch	Spider	Phylum: Arthropoda Class: Arachnida Order: Araneae Family: Stiphidiidae Genus: Stiphidion Species: facetum	Damp & shaded places(Mar ples 1959)/unrestricted to substrate	Indigenous	Hose (B Sc. Hons 1994)
01-Aug-1996	Jenolan	Mammoth Cave (J13)		Subclass Malacostraca Division Syncarida Order Anaspidacea Family Psammaspididae		Indigenous	Eberhard & Spate (1995)
02-Aug-1996	Jenolan	Imperial Cave		Subclass Malacostraca Division Syncarida Order Anaspidacea Family Talitridae Genus and species undetermined		Indigenous	Eberhard & Spate (1995)
06-May-1996	Jenolan	Mammoth Cave (J13)	Spider	Phylum: Arthropoda Class: Arachnida Order: Araneae Family: Theridiosomatidae Genus: Baalzebub	Terrestrial troglophile	Indigenous	Gibian et al. (1988)
07-Aug-1996	Jenolan	Lucas Cave		Subclass Malacostraca Division Syncarida Order Collembola Family Paronellidae		Indigenous	Eberhard & Spate (1995)
06-Aug-1996	Jenolan	Mammoth Cave (J13)		Subclass Malacostraca Division Syncarida Order Collembola Family Isotomidae		Indigenous	Eberhard & Spate (1995)
07-Aug-1996	Jenolan	Imperial Cave		Subclass Malacostraca Division Syncarida Order Collembola Family Isotomidae		Indigenous	Eberhard & Spate (1995)
07-Aug-1996	Jenolan	Paradox Cave (J48)		Subclass Malacostraca Division Syncarida Order Collembola Family Isotomidae		Indigenous	Eberhard & Spate (1995)
07-Aug-1996	Jenolan	Mammoth Cave (J13)		Subclass Malacostraca Division Syncarida Order Collembola Family Oncopoduridae		Indigenous	Eberhard & Spate (1995)
07-Aug-1996	Jenolan	Hennings Cave (J48)		Subclass Malacostraca Division Syncarida Order Collembola Family Onychiuridae		Indigenous	Eberhard & Spate (1995)
06-Aug-1996	Jenolan	Imperial Cave		Subclass Malacostraca Division Syncarida Order Collembola Family Hypogastruridae		Indigenous	Eberhard & Spate (1995)
07-Aug-1996	Jenolan	Imperial Cave		Subclass Malacostraca Division Syncarida Order Collembola Family Onychiuridae		Indigenous	Eberhard & Spate (1995)
07-Aug-1996	Jenolan	Wiburds Cave (J92)		Subclass Malacostraca Division Syncarida Order Collembola Family Oncopoduridae		Indigenous	Eberhard & Spate (1995)

06-May-1996	Jenolan	Hennings Cave (J76)	Spider	Phylum: Arthropoda Class: Arachnida Order: Araneae Family: Orsolobidae Genus: Tasmanoonops Ac (Accidental)	Terrestrial	Indigenous	Gibian (1988)
06-May-1996	Jenolan	The Grand Arch (J164a)	Spider	Phylum: Arthropoda Class: Arachnida Order: Araneae Family: Stiphidiidae Genus: Stiphidion Species: facetum (Simon)	Terrestrial troglophile	Indigenous	Gibian et al. (1988)
06-May-1996	Jenolan	Paradox Cave (J48)	Spider	Phylum: Arthropoda Class: Arachnida Order: Araneae Family: Gradungulidae Genus: Kaiya Species: terama (Gray)	Terrestrial troglophile	Indigenous	Gibian et al. (1988)
25-Oct-1987	Jenolan	Imperial Cave	Butterflies & Moths	Phylum: Arthropoda Class: Insecta Order: Lepidoptera Family: Tineidae Genus: Monopis Species: crocicapitella (Clemens 1859)	Cave wall by the river	Indigenous	Draft list 1987 E. Holm. (Det. E. Nielsen)
06-May-1996	Jenolan	Mammoth Cave (J13)	Spider	Phylum: Arthropoda Class: Arachnida Order: Araneae Family: Gradungulidae Genus: Kaiya Species: terama (Gray)	Terrestrial troglophile	Indigenous	Gibian et al. (1988)
06-May-1996	Jenolan	Serpentine Cave (J72)	Spider	Phylum: Arthropoda Class: Arachnida Order: Araneae Family: Desidae Genus: Fosterina	Terrestrial troglophile	Indigenous	Gibian et al. (1988)
06-May-1996	Jenolan	Hennings Cave (J76)	Spider	Phylum: Arthropoda Class: Arachnida Order: Araneae Family: Gradungulidae Genus: Kaiya Species: terama (Gray)	Terrestrial troglophile	Indigenous	Gibian et al. (1988)
07-Aug-1996	Jenolan	Hennings Cave (J48)		Subclass: Malacostraca Division: Syncarida Order: Protura		Indigenous	Eberhard & Spate (1995)
07-Aug-1996	Jenolan	Imperial Cave		Subclass: Malacostraca Division: Syncarida Order: Protura		Indigenous	Eberhard & Spate (1995)
07-Aug-1996	Jenolan	Lucas Cave		Subclass: Malacostraca Division: Syncarida Order: Protura		Indigenous	Eberhard & Spate (1995)

Additional journals for further reading:

Mia E. Thurgate, Jane S. Gough, Arthur K. Clarke, Peter Serov and A. Spate. (2001) *Stygofauna diversity and distribution in Eastern Australian cave and karst areas*. Records of the Western Australian Museum Supplement No 64: 37-47 (2001)

M.E. Thurgate, J.S. Gough, A. Spate and S.M. Eberhard. (2001) *Subterranean biodiversity in New South Wales: from rags to riches* Records of the Western Australian Museum Supplement No 64: 37-47 (2001)

“Mite Fauna of Jenolan Caves” Halliday, R. B. The Australian Journal of Entomology, 2001.

Abstract:

The present study shows the results of a survey of the mesostigmatid mites found in and around the Jenolan Caves. Five new species are described: *Proctolaelaps holmi* (Ascidae), *Athiasella caverna*, *Athiasella stefani*, *Geogamasus fornix* (Ologamasidae) and *Pachylaelaps hades* (Pachylaelapidae). Four species are recorded from Australia for the first time: *Geholaspis mandibularis* (Berlese) (Macrochelidae), *Pachyseius humeralis* Berlese (Pachylaelapidae), *Veigaia pusilla* (Berlese) and *Veigaia serrata* Willmann (Veigaiidae). These four species did not occur in apparently suitable habitats outside the Caves. It is possible that they were introduced into Australia by human activities. Eleven other species previously known from Australia are also recorded. None of these species show any special morphological adaptations to the cave habitat.

“Cave invertebrate assemblages differ between native and exotic leaf litter”

Hills N, Hose G. C., Cantlay A. J, and Murray B. R., wrote for the Austral Ecology journal on in 2008.

Abstract:

Allochthonous leaf litter is an important source of energy and nutrients for invertebrates in cave ecosystems. A change to the quality or quantity of litter entering caves has the potential to disrupt the structure and function of cave communities. In this study, we adopted an experimental approach to examine rates of leaf litter decomposition and the invertebrate assemblages colonizing native and exotic leaf litter in limestone caves in the Jenolan Karst Conservation Reserve, New South Wales, Australia. We deployed traps containing leaf litter from exotic sycamore (*Acer pseudoplatanus*) and radiata pine (*Pinus radiata*) trees and native eucalypts (*Eucalyptus* spp.) in twilight zones (near the cave entrance) and areas deep within the caves for 3 months. Thirty-two invertebrate morphospecies were recorded from the litter traps, with greater richness and abundance evident in the samples from the twilight zone compared with areas deep within the cave. Sycamore litter had significantly greater richness and abundance of invertebrates compared with eucalypt and pine litter in samples from the twilight zone, but there was no difference in richness or abundance among litter samples placed deep within the cave. Relative rates of decay of the three litters sycamore, eucalypt & pine. We discuss the potential for the higher decomposition rates and specific leaf area in sycamores to explain their higher invertebrate diversity and abundance. Our findings have important implications for the management of exotic plants and the contribution of their leaf litter to subterranean ecosystems.



Cave Spider in Nettle Cave.
Photo: Ian Eddison



Cave Cricket in Pump House.
Photo: Ian Eddison



Millipede in Lucas / River Cave
connection.
Photo: Sasa Kennedy



Stick Insect or Phasmid.
Acrophylla sp.
Photo: Ian Eddison

Insects at Jenolan Caves

This field is wide open for identification of species on the Jenolan Caves Reserve. The ecosystems of the area seem to be very healthy with insects of many type, in large numbers, at differing times, particularly in the Summer. The Common Brown Butterfly *Heteronympha merope merope* can be quite numerous, most Summers, near the Carpark 3 behind Caves House. Ford Burton suggests that the White Cedar *Melia azaderach* on the East side of the Carpark 3 is an important flora species for the Common Brown Butterfly as he has sighted many ‘Caterpillar Conga Lines’ in this vicinity. Several times, in past decades, Jenolan Caves Reserve and other parts of the Blue Mountains region have had large numbers of Phasmid, *Acrophylla sp.* (See above) devour the Eucalypts of the region, leaving the canopy bare. These are commonly known as a stick insect and several species do, occasionally reach plague proportions. Ted Taylor observed the Mountain Katydid, Family TETTIGONIDAE, *Acripeza reticulata* (See Page 35) near the caretakers cottage of Jenolan Caves Cottages 2008.

Butterflies and Moths at Jenolan Caves

Common Brown Butterfly *Heteronympha merope merope*

Note: The Bathurst Copper-wing Butterfly *Paralucia spinifera* typical habitat is present at Jenolan Caves but sightings of this species of Butterfly are unconfirmed.

Mountain Katydid *Acripeza reticulata*



Mountain Katydid.
Acripeza reticulata
Female top left and bottom.
Male top right.
Photos: Ted Taylor.



Freshwater Fish

Short finned Eel

Anguilla australis

S

The Jenolan River has long had Brown and Rainbow Trout released in it. It could still be home to native freshwater fish and work on this subject should be done. The Short finned Eel has not only been seen in the Jenolan River but it has travelled overland past the Blue Lake Dam and been sighted in the River Styx and Imperial River sections (Underground). Yabbies are likely but not numerous in the Jenolan River. Alan Oliver of A & S Bushcare has found the illegal use of yabby traps in the Jenolan River with trapped, drowned Platypus.

In addition to the Jenolan River, the Camp Ck and Surveyors Ck confluence as well as the far North of McKeowns Valley stream sinks, include many life forms. These are mainly invertebrates such as insect larvae, nematodes and worms. These are often the ultimate food sources for Fish, Eels, Yabbies and Platypus in the Jenolan River.

Stephan Eberhard's 'Survey of Fauna and Human Impacts in the Jenolan Caves Reserve' April 1993, is the basis for this list of stream bugs.

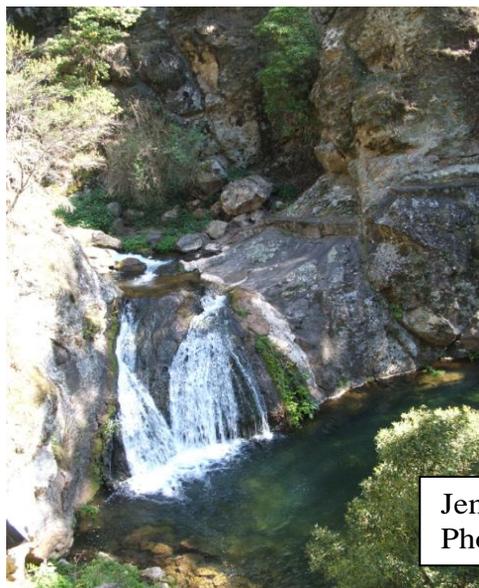
Stoneflies	Limpits	Watermites
Dragonflies	Copepods	Nematodes
Mayflies	Pond Skaters	Oligochaetes
Cadisflies	Flatworms	
Planarians	Amphipods	

Tortoise at Jenolan Caves

Eastern long necked Turtle

Chelodina longicollis

S



Jenolan River.
Photo: Ian Eddison.

Frogs at Jenolan Caves



Green leaf Tree Frog,
Litoria phyllochroa,
doing traffic control above.
Photo: Margaret Commins.
Guarding the Pumphouse below
Photo: David Rowling.





Verreaux's Tree Frog,
Litoria verreauxii
Photo: Ian Eddison.



Lesueur's Frog,
Litoria lesueuri
Photo: IanEddison.



Pobblebonk or Eastern Banjo
Frog, *Limnodynastes dumerilii*
Photo: Ian Eddison.

This list is largely based on observations by Ian Eddison, other personal communication by Ford Burton, as well as a frog search with Scott Melton, Ted Matthews and John Brotchie. In the late 1980's Lyn Schwarzkopf with Peter Culley (Pers. Comm.) and Ian Guyer located the very rare Corroboree Frog off Burmah Rd.

Blue Mountains Tree Frog	<i>Litoria citropa</i>	N
Crinia	<i>Crinia signifera</i>	N
Green leaf Tree Frog	<i>Litoria phyllochroa</i>	N (See Page 37)
Verreaux's Tree Frog	<i>Litoria verreauxii</i>	N (See Page 38)
Lesueur's Frog	<i>Litoria lesueuri</i>	N (See Page 38)
Pobble Bonk	<i>Limnodynastes dumerilii</i>	N (See above)
Corroboree Frog	<i>Pseudophryne corroboree</i>	U

2008 is the international year of the Frog. More work in identifying species is required in this field.

Reptiles at Jenolan Caves



Golden Crowned Snake, *Cacophis squamulosus* released after having slithered into a staff bag in the Guides Office! (Head obscured).
Photo: Ted Matthews.



Newborn Eastern Brown Snakes, *Pseudonaja textilis* Hydro Cottage.
Photo: Gordon Mills.



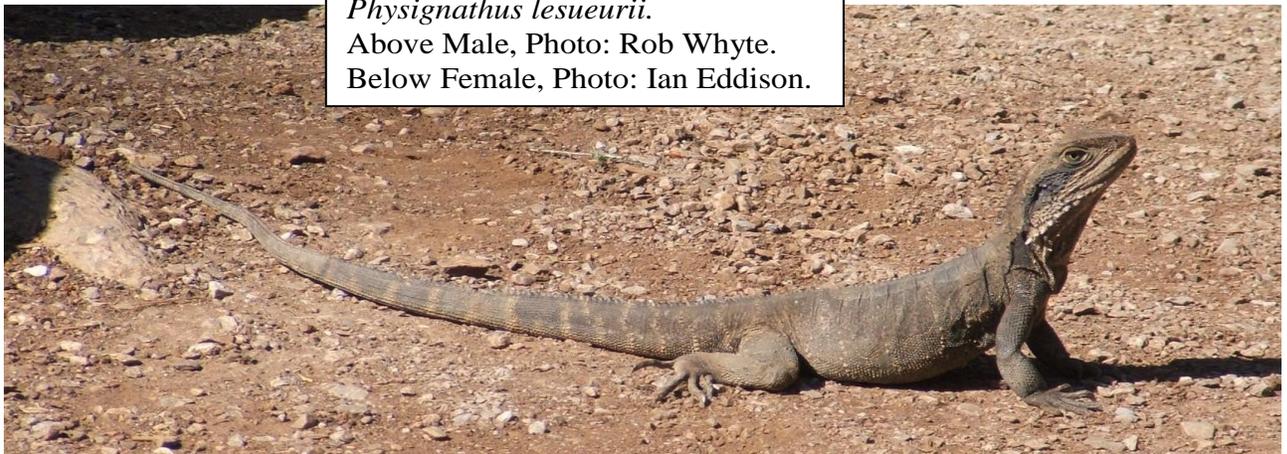
Red Bellied Black Snake,
Pseudechis porphyriacus
near the Gatehouse.
Photo: Horrie Lewis.



Eastern Brown Snake
Pseudonaja textilis
in Elder Cave.
Photo: Steve Roy.



Eastern Water Dragon
Physignathus lesueurii.
Above Male, Photo: Rob Whyte.
Below Female, Photo: Ian Eddison.



Reptiles at Jenolan Caves

This list is largely based on observations by Ian Eddison, other personal communication with Peter Culley, Scott Melton, Ted Matthews, Ford Burton, Colin Tyrrell, Sasa Kennedy.

Leaf Tailed Gecko	<i>Phyllurus platurus</i>	S
Common Garden Skink	<i>Lampropholis guichenoti</i>	N
Copper Tailed Skink	<i>Ctenotus taeniolatus</i>	S
Cunningham Skink	<i>Egernia cunninghami</i>	N
Eastern Water Skink	<i>Eulamprus quoyii</i>	N
Blue Tongue Lizard	<i>Tiliqua scincoides</i>	S
Eastern Water Dragon	<i>Physignathus lesueurii</i>	N (See Page 41)
Lace Monitor	<i>Varanus varius</i>	S
Eastern Brown Snake	<i>Pseudonaja textilis</i>	N (See Pages 40 & 41)
Red Bellied Black Snake	<i>Pseudechis porphyriacus</i>	N (See Page 41)
Tiger Snake	<i>Notechis scutatus</i>	N
Highland Copper Head Snake	<i>Austrelaps ramsayi</i>	S (See below)
Golden Crowned Snake	<i>Cacophis squamulosus</i>	N (See Page 40)
Eastern Masters Snake	<i>Drysdalia rhodogaster</i>	S
Bandy Bandy	<i>Vermicella annulata</i>	S

Report any sightings of:

Golden Crowned Snake
Bandy Bandy Snake

The Golden Crowned Snake, which is often mistaken for a Whip Snake or the Copper Head Snake, has been sighted numerous times by Ian Eddison, Ted Matthews and Graham Cummings. Graham Cummings removed a Golden Crowned Snake from the Elder Cave and Anita Eddison had an Imperial Cave tour cornered at the exit by a Golden Crowned Snake. Peter Culley states numerous Masters snakes had been sighted over the years and Colin Tyrrell had a sighting in 2007 on the Binoomea track as well as in the Elder Cave in 2008. Sasa Kennedy sighted a Bandy Bandy in 2007.

More work should be done on the reptiles as there are likely to be more skink species than that listed.



Highland Copperhead
Austrelaps ramsayi.
Burmah Rd staff cottages.
Photo: Phyllis Calvert.

Birds at Jenolan Caves



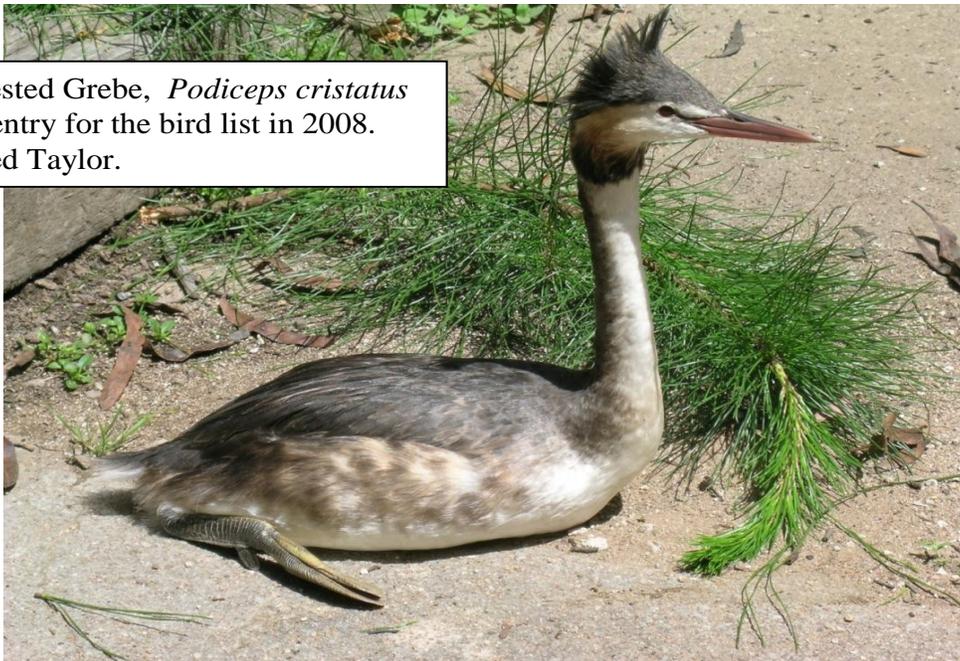
Kookaburra, *Dacelo gigas*,
overlooking McKeown's Valley.
Photo: Peter Walsh.



Superb Lyrebird, male,
Menura novaehollandiae.
Photo: Rob Whyte.



The Pacific Black Duck *Anas superciliosa* is the most common waterbird at Jenolan Caves. Photo: Ian Eddison.



Great Crested Grebe, *Podiceps cristatus* is a new entry for the bird list in 2008. Photo: Ted Taylor.

Birds at Jenolan Caves

This list is largely based on J.R. Kinghorn D. Sc.* personal notes from the 1930s to 1970s and added to by Ian Eddison. Ford Burton, Ted Taylor, Sasa and Richard Kennedy have also made invaluable contributions.

Key: R = Resident S = Seasonal U = Uncommon X = Locally Extinct

Grebes	Podicipedidae	
Great Crested Grebe	<i>Podiceps cristatus</i>	U (See Page 44)
Cormorants	Phalacrocoracidae	
Black Cormorant	<i>Phalacrocorax carbo</i>	S U
Hérons	Ardeidae	
White Faced Heron*	<i>Ardea pacifica</i>	S U
Nankeen Night Heron*	<i>Nycticorax caledonicus</i>	U
Swans, Ducks	Anatidae	
Black Swan*	<i>Cygnus atratus</i>	X
Black Duck	<i>Anus superciliosa</i>	R (See Page 44)
Grey Teal*	<i>Anus gibberifrons</i>	S U
Chestnut Teal	<i>Anus castanea</i>	S U
Australian Wood Duck	<i>Chenonetta jubata</i>	R U
Kites, Eagles, Harriers, Falcons	Pandionidae	
Black shouldered Kite*	<i>Elanus notatus</i>	U
Whistling Kite*	<i>Haliastur sphenurus</i>	U
Australian Goshawk*	<i>Accipiter fasciatus</i>	R
Collared Sparrowhawk*	<i>Accipiter cirrhocephalus</i>	U
Grey Falcon*	<i>Falco hypoleucos</i>	U
Brown Falcon*	<i>Falco berigora</i>	R
Nankeen Kestrel*	<i>Falco cenchroides</i>	R
Grey Goshawk*	<i>Accipiter novaehollandiae</i>	R U
Wedge Tailed Eagle*	<i>Aquila audax</i>	R
Spotted Harrier	<i>Circus assimilis</i>	R
Peregrine Falcon*	<i>Falco peregrinus</i>	R
Little Falcon*	<i>Falco longipennis</i>	R
Plains Wanderers	Pedionomidae	
Brown Quail	<i>Coturnix chinensis</i>	U
Painted Button Quail*	<i>Turnix varia</i>	R
Plovers	Charadriidae	
Masked Plover*	<i>Vanellus miles</i>	S
Pigeons, Doves	Columbidae	
Peaceful Dove*	<i>Geopelia striata</i>	X
Green winged Pigeon*	<i>Chalcophaps indica</i>	X
Common Bronzewing Pigeon*	<i>Phaps chalcoptera</i>	R
Wonga Pigeon*	<i>Leucosarcia melanoleuca</i>	R

Cockatoos

Gang Gang Cockatoo*
 Galah
 Sulphur Crested Cockatoo*
 Red tailed Black Cockatoo*
 Glossy Black Cockatoo
 Yellow tailed Black Cockatoo*

Lorikeets

Rainbow Lorikeet*
 Scaly breasted Lorikeet*
 Musk Lorikeet*

Longtailed Parrots

King Parrot*

Broadtailed Parrots

Swift Parrot
 Crimson Rosella*
 Eastern Rosella*

Cuckoos

Pallid Cuckoo*
 Fan tailed Cuckoo*
 Horsfields Bronze Cuckoo*
 Shining Bronze Cuckoo
 Koel*
 Channel billed Cuckoo*

Cacatuidae

Callocephalon fimbriatum R
Cacatua roseicapilla U
Cacatua galerita R
Calyptorhynchus magnificus U
Calyptorhynchus lathami U
Calyptorhynchus funereus R

Loriidae

Trichoglossus haematodus U
Trichoglossus chlorolepidotus U
Glossopsitta concinna U

Polytelitidae

Alisterus scapularis R

Platycteridae

Lathamus discolor U
Platycercus elegans R
Platycercus eximius U

Cuculidae

Cuculus pallidus S
Cuculus pyrrhophanus S
Chrysococcyx basalis S
Chrysococcyx lucidus U
Eudynamys scolopacea S
Scythrops novaehollandiae S



Sooty Owl, *Tyto tenebricosa*
 in Nettle Cave.
 Photo: Rob Whyte.

Owls

Powerful Owl
 Boobook Owl*
 Barn Owl*
 Sooty Owl

Strigidae, Tytonidae

Ninox strenua R U
Ninox novaeseelandiae R
Tyto alba R U
Tyto tenebricosa R (Above)

Frogmouths	Podargidae	
Tawny Frogmouth*	<i>Podargus papuensis</i>	R
Owlet Nightjars	Aegothelidae	
Owlet Nightjar*	<i>Aegotheles cristatus</i>	R U
Kingfishers	Alcedinidae	
Azure Kingfisher	<i>Ceyx azureus</i>	U
Laughing Kookaburra*	<i>Dacelo gigas</i>	R (See Page 43)
Sacred Kingfisher*	<i>Halcyon sancta</i>	U
Bee Eaters	Meropidae	
Rainbow Bee Eater*	<i>Merops ornatus</i>	U
Rollers	Coraciidae	
Dollar Bird*	<i>Eurystomus orientalis</i>	U
Lyrebird	Menuridae	
Superb Lyrebird*	<i>Menura novaehollandiae</i>	R (See Page 43)
Swallows, Martins	Hirundinidae	
White backed Swallow*	<i>Cheramoeca leucosternum</i>	U
Welcome Swallow*	<i>Hirundo neoxena</i>	R
Tree Martin*	<i>Cecropis nigricans</i>	S
Fairy Martin*	<i>Cecropis ariel</i>	S
Cuckoo Shrikes	Campephagidae	
Black faced Cuckoo Shrike	<i>Coracina novaehollandiae</i>	R
Cicadabird	<i>Coracina tenuirostris</i>	U
Robins, Whistlers, Flycatchers,	Muscicapidae	
English Blackbird	<i>Turdus merula</i>	R
Rose Robin*	<i>Petroica rosea</i>	S U
Flame Robin*	<i>Petroica phonicea</i>	R
Scarlet Robin*	<i>Petroica multicolour</i>	S U
Red capped Robin*	<i>Petroica goodenovii</i>	R
Hooded Robin*	<i>Melanodryas cucullate</i>	U
Eastern Yellow Robin*	<i>Eopsaltria australis</i>	R
Jacky Winter*	<i>Microeca leucophaea</i>	U
Crested Shrike Tit*	<i>Falcunculus frontatus</i>	R
Golden Whistler*	<i>Pachycephala pectoralis</i>	R
Rufous Whistler*	<i>Pachycephala rufiventris</i>	U
Grey Shrike Thrush*	<i>Colluricincla harmonica</i>	R
Black faced Monarch Flycatcher*	<i>Monarcha melanopsis</i>	U
Satin Flycatcher*	<i>Myiagra cyanoleuca</i>	R
Restless Flycatcher*	<i>Myiagra inquieta</i>	R
Rufous Fantail*	<i>Rhipidura rufifrons</i>	R
Grey Fantail*	<i>Rhipidura fuliginosa</i>	R
Willy Wagtail*	<i>Rhipidura leucophrys</i>	R

Quail Thrushes	Orthonychidae	
Eastern Whipbird*	<i>Psophodes olivaceus</i>	R
Spotted Quail Thrush*	<i>Cinclosoma punctatum</i>	R
Old World Warblers	Sylviidae	
Little Grassbird	<i>Megalurus gramineus</i>	S
Warblers, Wrens	Maluridae	
Superb Blue Wren*	<i>Malurus cyaneus</i>	R
Variigated Wren	<i>Malurus lamberti</i>	U
Red backed Wren*	<i>Malurus melanocephalus</i>	X
Scrubwrens, Fairy Warblers, Thornbills	Acanthizidae	
Pilotbird*	<i>Pycnoptilus floccosus</i>	U
Rock Warbler*	<i>Origma solitaria</i>	R
Large billed Scrub Wren*	<i>Sericornis magnirostris</i>	U
Yellow throated Scrubwren*	<i>Sericornis citreogularis</i>	U
White browed Scrub Wren*	<i>Sericornis frontalis</i>	R
Speckled Warbler*	<i>Chthonicola sagittatus</i>	U
Weebill	<i>Smicrornis brevirostris</i>	U
Brown Warbler*	<i>Gerygone mouki</i>	U
White throated Warbler*	<i>Gerygone olivacea</i>	U
Brown Thornbill*	<i>Acanthiza pusilla</i>	U
Buff rumped Thornbill*	<i>Acanthiza reguloides</i>	U
Yellow rumped Thornbill*	<i>Acanthiza chrysorrhoa</i>	U
Yellow Thornbill*	<i>Acanthiza nana</i>	U
Striated Thornbill*	<i>Acanthiza lineata</i>	R
Sittellas	Neosittidae	
Varied Sittella*	<i>Daphoenositta chrysoptera</i>	SU
Tree Creepers	Climacteridae	
White throated Tree Creeper*	<i>Climacteris leucophaea</i>	R
Red browed Tree Creeper*	<i>Climacteris erythroptera</i>	R
Honeyeaters	Meliphagidae	
Red Wattlebird*	<i>Anthochaera carunculata</i>	S
Striped Honeyeater*	<i>Plectorhyncha lanceolata</i>	U
Noisy Friarbird*	<i>Philemon corniculatus</i>	S
Regent Honeyeater*	<i>Xanthomyza phrygia</i>	SU
Bell Miner	<i>Manorina melanophrys</i>	R
Lewin Honeyeater*	<i>Meliphaga lewinii</i>	SU
Yellow faced Honeyeater*	<i>Lichenostomus chrysops</i>	S
Singing Honeyeater*	<i>Lichenostomus virescens</i>	U
Yellow Tufted Honeyeater*	<i>Lichenostomus melanops</i>	U
White eared Honeyeater*	<i>Lichenostomus leucotis</i>	U
White Plumed Honeyeater*	<i>Lichenostomus penicillatus</i>	U
White naped Honeyeater*	<i>Melithreptus lunatus</i>	S
Crescent Honeyeater*	<i>Phylidonyris pyrrhoptera</i>	U
Eastern Spinebill Honeyeater*	<i>Acanthorhynchus tenuirostris</i>	S
Scarlet Honeyeater*	<i>Myzomela sanguinolenta</i>	U

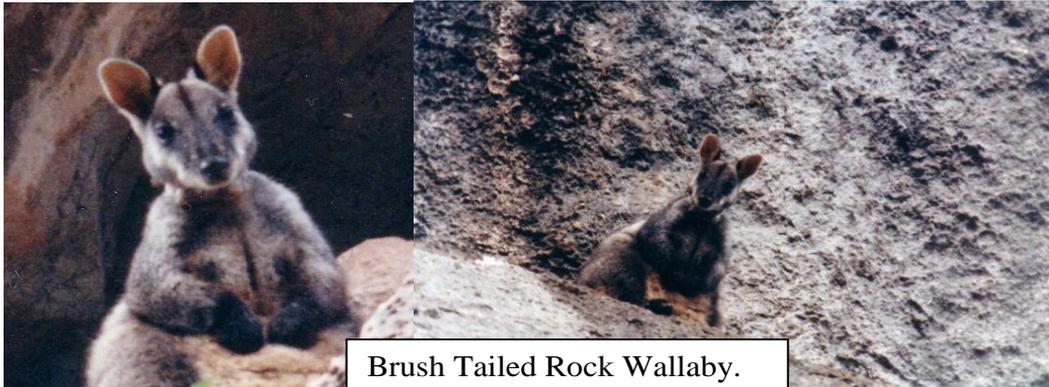
Chats	Ephthianuridae	
White Fronted Chat*	<i>Ephthianura albifrons</i>	X
Flowerpeckers	Dicaeidae	
Mistletoe Bird*	<i>Dicaeum hirundinaceum</i>	R
Pardalotes	Pardalotidae	
Spotted Pardalote*	<i>Pardolotus punctatus</i>	S
Eastern Striated Pardalote*	<i>Pardolotus striatus Ssp. Ornatus</i>	S
White Eyes	Zosteropidae	
Grey breasted White Eye*	<i>Zosterops lateralis</i>	S
Grassfinches	Ploceidae	
Red browed Firetail Finch*	<i>Emblema temporalis</i>	R
Beautiful Firetail Finch*	<i>Emblema bella</i>	X
Diamond Firetail Finch*	<i>Emblema guttata</i>	U
Orioles	Oriolidae	
Olive backed Oriole*	<i>Oriolus sagittatus</i>	U
Birds of Paradise	Paradisaeidae	
Satin Bower Bird*	<i>Ptilonorhynchus violaceus</i>	R
Green Catbird*	<i>Ailuroedus crassirostris</i>	U
Woodswallows	Artamidae	
Masked Woodswallow*	<i>Artamus personatus</i>	S
White browed Woodswallow*	<i>Artamus superciliosus</i>	S
Dusky Woodswallow	<i>Artamus cyanopterus</i>	S
Magpie Larks	Grallinidae	
Magpie Lark*	<i>Grallina cyanoleuca</i>	S
Mud Nesters	Corcoracidae	
Apostlebird*	<i>Struthidea cinerea</i>	U
White winged Chough*	<i>Corcorax melanorhamphos</i>	R
Magpies, Butcherbirds, Currawongs	Cracticidae	
Pied Currawong*	<i>Strepera graculina</i>	R
Grey Currawong	<i>Strepera versicolor</i>	RU
Grey Butcherbird*	<i>Cracticus torquatus</i>	R
Australian Magpie*	<i>Gymnorhina tibicen</i>	R
Australian Magpie	<i>Gymnorhina tibicen race hypoleuca</i>	U
Australian Raven	<i>Corvus coronoides</i>	U
Little Raven*	<i>Corvus mellori</i>	U

More research on the numbers of birds and their annual visitation needs to be done.

Report any sightings of:

Rock Warbler; Beautiful Firetail Finch; Diamond Firetail Finch; Peaceful Dove;
Green winged Pigeon; Red-backed Wren; White-fronted Chat; Barn Owl;
Powerful Owl; Sooty Owl; Peregrine Falcon.

Mammals at Jenolan Caves



Brush Tailed Rock Wallaby.
Petrogale penicillata.
Photos: Peter Culley.

‘Genetic analysis of a population crash in brush-tailed rock-wallabies (*Petrogale penicillata*) from Jenolan Caves, south-eastern Australia’

ELDRIDGE Mark D. B. ; RUMMERY Catherine ; BRAY Cherylin ; ZENGER Kyall R. ; BROWNING Teena L. ; CLOSE Robert L.;

Journal: Wildlife research ISSN 1035-3712 Source: 2004, vol. 31, n^o3, pp. 229-240 [12 page(s) (article)] Publisher: CSIRO (1991).

Abstract

Although the theoretical effects of a severe reduction in effective population size (i.e. a bottleneck) are well known, relatively few empirical studies of bottlenecks have been based on extensive temporally spaced samples of a population both before and after a bottleneck. Here we describe the results of one such study, utilising the Jenolan Caves (JC) population of the brush-tailed rock-wallaby (*Petrogale penicillata*). When first sampled in 1985 ($n = 20$) the JC population comprised ~ 90 individuals. Subsequently the population crashed, and by 1992 only seven individuals remained. In 1996 the entire population ($n = 10$) was again sampled. Genetic diversity in the pre- and post-crash JC population was compared using 11 polymorphic microsatellite loci and PCR-SSCP analysis of the mitochondrial DNA control region. Only a single unique control region haplotype was detected in the pre- and post-crash JC population, although variant haplotypes were present in other *P. penicillata* populations. Of the 35 microsatellite alleles present in the pre-crash population, nine (26%) were lost during the bottleneck. The average number of rare alleles declined by 72%, allelic diversity was reduced by 30% and average heterozygosity declined by 10%. These observations are consistent with theoretical predictions. Additional analyses revealed that a *P. penicillata* female at Wombeyan Caves was the only survivor of a 1990/91 reintroduction attempt using animals from JC. Of the microsatellite alleles detected in this female, 21% (4/19) were no longer present in the post-crash JC population. Furthermore, the genetic profiles of animals from the recently discovered Taralga population indicate that they are not derived from JC stock, but represent a threatened remnant of a hitherto undetected natural *P. penicillata* population.



Swamp Wallaby.
Wallabia bicolor.
Photo: Anita Eddison.



Eastern Grey Kangaroo,
Macropus giganteus
Female and demanding Joey.
Photo: Rob Whyte.

Mammals at Jenolan Caves

This list is largely based on observations by Ian Eddison, other personal communication by Peter Culley, Ernst Holland, Scott Melton, Steve Reilly, Ford Burton, Chris Smith, John Callaghan, Phyllis Calvert, Michaela Jones. Microbats are from a January 2000 study by Alexander Herr and Mia Thurgate, checked with assistance from Andy Spate in 2008. A mammal survey in May 1991* by Deborah Morris also has been referenced.

Key: N = numerous S = Sometimes

Wombat	<i>Vombatus Ursinus*</i>	N
Eastern Wallaroo	<i>Macropus robustus*</i>	S
Eastern Grey Kangaroo	<i>Macropus giganteus*</i>	N (See Page 51)
Swamp Wallaby	<i>Wallabia bicolor*</i>	N (See Page 51)
Red necked Wallaby	<i>Macropus rufogriseus</i>	N
Brush tailed Rock Wallaby	<i>Petrogale penicillata*</i>	S (See Page 50)
Red necked Pademelon	<i>Thylogale thetis</i>	S These could be
Long nosed Potaroo	<i>Potorous tridactylus</i>	S the same animal.
Ringtail Possum	<i>Pseudocheirus peregrines*</i>	N
Brush tailed Possum	<i>Trichosurus vulpecular*</i>	N
Eastern Pygmy Possum	<i>Cercartetus nanus</i>	?
Greater Glider	<i>Petaroides volans*</i>	N
Yellow bellied Glider	<i>Petaurus australis</i>	S
Sugar Glider	<i>Petaurus breviceps*</i>	N
Feather tailed Glider	<i>Acrobates pygmaeus</i>	S
Phascogale	<i>Phascogale tapoatafa</i>	S
Spotted tailed Quoll	<i>Dasyurus maculatus</i>	S
Dingo	<i>Canis lupus dingo</i>	S
Brown Antichinus	<i>Antichinus stuartii*</i>	N
Dusky Antichinus	<i>Antichinus swainsonii*</i>	N
Bush Rat	<i>Rattus fuscipes*</i>	N
Black Rat	<i>Rattus rattus*</i>	N
Brown Rat	<i>Rattus norvegicus*</i>	N
House Mouse	<i>Mus musculus*</i>	N
European Rabbit	<i>Oryctolagus cuniculus*</i>	N
Grey headed Flying Fox	<i>Pteropus poliocephalus</i>	S
Eastern Horseshoe Bat	<i>Rhinolophus megaphylus</i>	N
Eastern Bentwing Bat	<i>Miniopterus schreibersii oceanensis</i>	N
Little Mastiff Bat	<i>Mormopterus planiceps</i>	S
Large Forest Bat	<i>Vespadelus darlingtoni</i>	N
Little Forest Bat	<i>Vespadelus vulturnus</i>	N
King River Bat	<i>Vespadelus regulus</i>	N
Greater broad nosed Bat	<i>Scoteanax rupellii</i>	S
Western broad nosed Bat	<i>Scotorepens balstoni</i>	S
Eastern broad nosed Bat	<i>Scotorepens orion</i>	S
? Little Bentwing Bat	<i>Miniopterus australis</i>	S
Little Pied Bat	<i>Chalinolobus picatus</i>	S
Large eared Pied Bat	<i>Chalinolobus dwyeri</i>	S
Chocolate Wattle Bat	<i>Chalinolobus morio</i>	N
Gould's Wattled Bat	<i>Chalinolobus gouldii</i>	N
Gould's long eared Bat	<i>Nyctophilus gouldi</i>	N
Lesser long eared Bat	<i>Nyctophilus geoffreyi</i>	S
White Striped Freetail Bat	<i>Tadarida australis</i>	S
Eastern False Pipistrelle	<i>Falsistrellus tasmaniensis</i>	S

In 2008, the NPWS left the Brush Tailed Rock Wallaby breeding enclosure open as animals had been previously locked out when fence repairs were done (M. Jones Pers Comm.). The Brush Tailed Rock Wallabies return to the enclosure regularly. An extensive fox baiting and cat trapping program has been done and continues to be carried out. The CSIRO expresses scientific concerns for the long term viability of our Brush Tailed Rock Wallaby colony because of the limited diversity in the gene pool.

The Dingo are not usually pure, but wild dog cross-bred animals. As such, they are often considered feral. Ian Eddison is aware of at least 4 different animals from 1996 to 2007.

A Pademelon is a recent observation by Ford Burton, Graham Cummings, John Callaghan and Phyllis Calvert. It appears to be only one specimen, or very rare. Ford notes that all sightings are after 9 pm near the head of Pheasants Nest Ck along the 5 Mile and suggests the herbaceous layers should be studied for preferred feeding by this animal. John Callaghan and Phyllis Calvert have seen this animal near Deburghs Bridge in front of the Grand Arch. Graham Cummings had a recent sighting on the Edith Rd just above the Guides Office. Ted Taylor states scats of this species are on the Black Range. Ian Eddison suggests these sightings may be a Long nosed Potaroo.

Ford Burton saved a baby Feather tail Glider *Acrobates pygmaeus* from certain death, it was treated, raised and released where it was found on Burmah Rd.

Steve Reilly reported sightings of *Phascogale* near the Jenolan Caves Cottages Caretakers residence. Ford Burton has sighted *Phascogale* in Brown Barrel *Eucalyptus fastigata* on Burmah Rd.

The Grey Headed Flying Fox *Pteropus poliocephalus* passes through the region and rarely stops although sightings include feeding on *Ficus rubignosa* and occasionally they are injured or exhausted. Ian Eddison treated and released a Grey Headed Flying Fox, presumably which hit powerlines high above the Cambridge car park in 1998.

More research should be done on small mammals as there are likely to be more species. Especially to determine the presence of the Hastings River Mouse *Pseudomys oralis*, Eastern Pygmy Possum *Cercartetus nanus*, Red necked Pademelon *Thylogale thetis* or Long nosed Potaroo *Potorus tridactylus*. More research on the numbers of microbats and their annual visitation needs to be monitored.

Report any sightings of:

Brush tailed Rock Wallaby
Koala
Yellow bellied Glider
Eastern Pygmy Possum
Phascogale
Spotted tailed Quoll
Pademelon or Potaroo

Monotremes at Jenolan Caves



Echidna
Tachyglossus aculeatus
Photo: Margaret Commins.



Echidna
Tachyglossus aculeatus
Photo: Horrie Lewis.



Platypus in the Blue Lake,
Ornithoryncus anatinus
Photo: Rob Whyte.

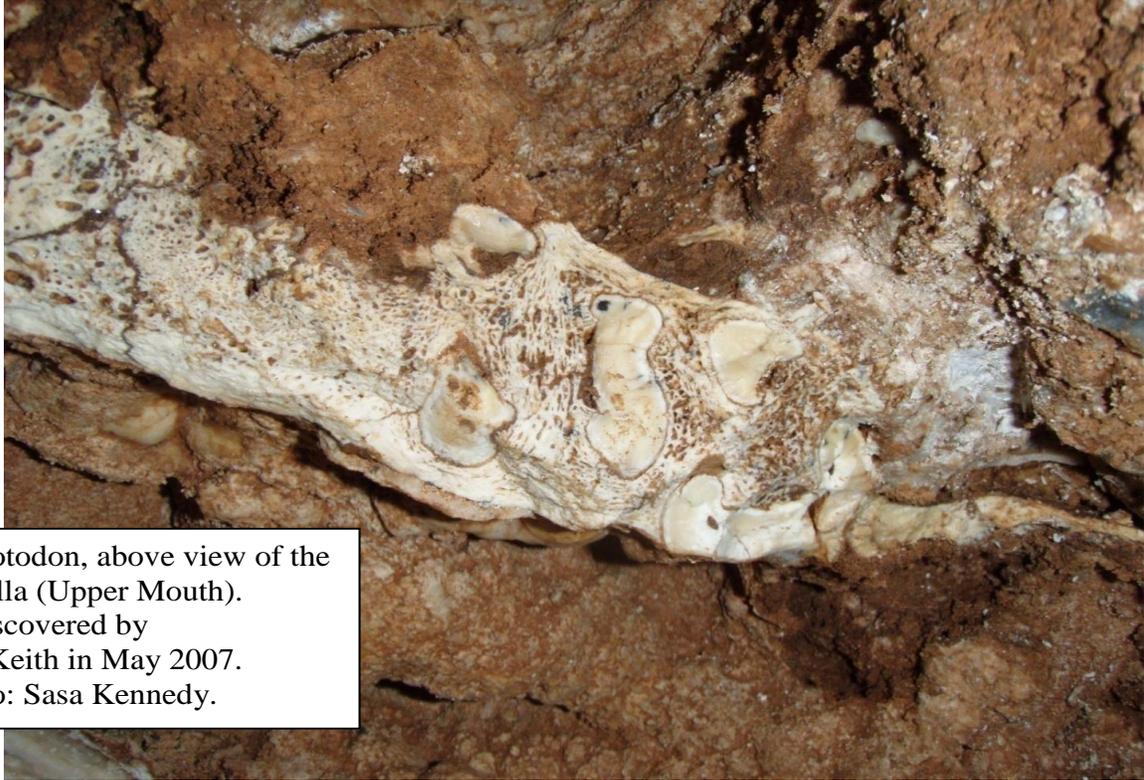
Both Monotremes are found at Jenolan Caves.

These are regularly sighted by staff and visitors.

One of the most interesting sights is an Echidna train in Autumn, when a group of males follow a female during the breeding time.

Platypus	<i>Ornithoryncus anatinus</i>	N (See above)
Echidna	<i>Tachyglossus aculeatus</i>	N (See above)

Bones of Extinct Species at Jenolan Caves



Diprotodon, above view of the maxilla (Upper Mouth). Rediscovered by Jeff Keith in May 2007. Photo: Sasa Kennedy.

Bones of Extinct Species

Caves become pit traps for animals. Over time they become time capsules, a small window to view species that roamed the area, some time long ago. The deposits of bones at Jenolan Caves include many current day species. This short list of extinct species includes recent verifications by Ross Pogson and Robert Jones of the Australian Museum through guide Ted Matthews, following Jeff Keith's rediscovery of the Diprotodon on 12th May 2007. A one line mention of 'Diprotodon being found by Jeremiah Wilson' is in a brief, one page annual report by Oliver Trickett to the Department of Mines in 1899. It is likely that Vic Eberton had also stumbled across the Diprotodon during his time at Jenolan in the 1940s, graffiti above the Diprotodon is arguably his initials. A vertebra of a Mihirung, was found by Ted Matthews and Ross Pogson below the Diprotodon while it was initially being identified in 2007. A Sooty Owl, *Tyto tenebricosa*, pellet dig in Nettle Cave, by Deborah Morris in 1991* revealed many species of mammal, many of these are extant or locally extinct including the Mountain Pygmy Possum.

Key: X = Extinct

*Sooty Owl, pellet dig 1991 by Deborah Morris.

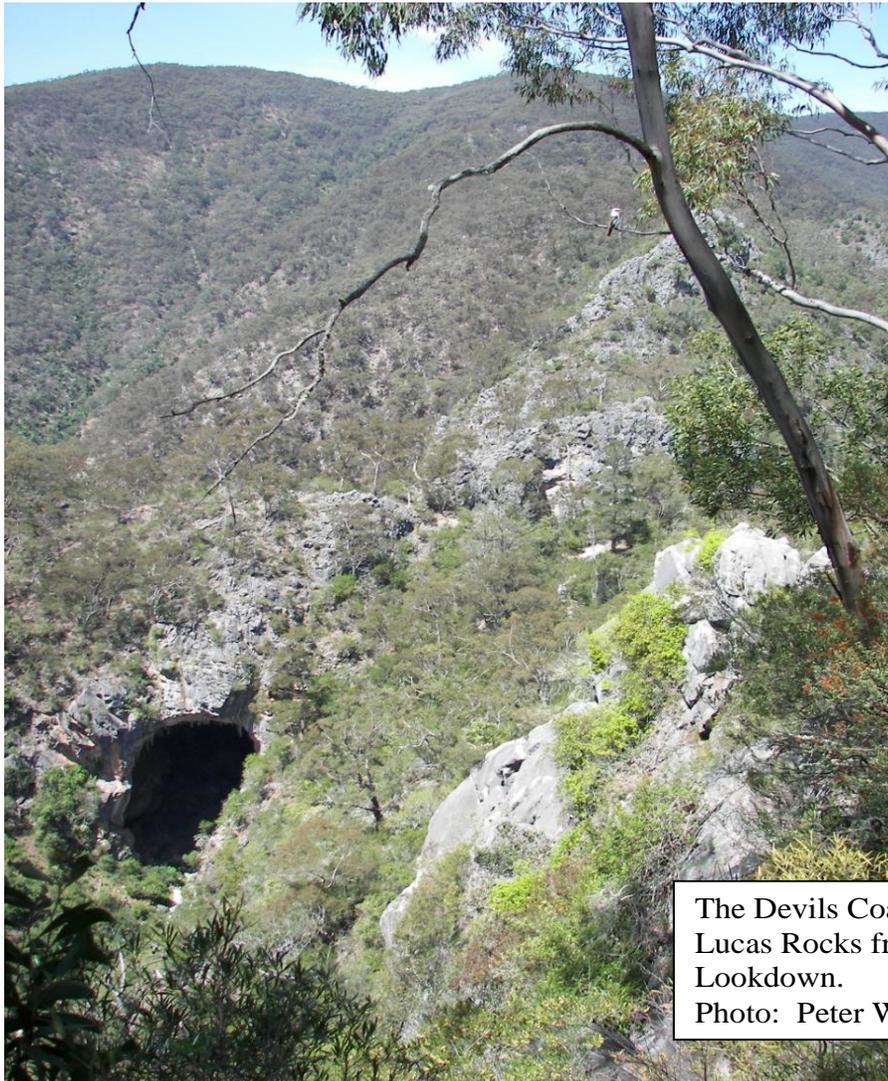
Koala	<i>Phascolarctos cinereus</i>	X (Locally extinct, regionally rare)
Yellow footed Antichinus	<i>Antichinus flavipes</i> *	X (Locally extinct) Nettle Cave
Pygmy Possum sp.	<i>Cercartetus Lepidus</i> *	X (Locally extinct) Nettle Cave
Mountain Pygmy Possum	<i>Burramys parvus</i> *	X (Locally extinct) Nettle Cave
Bettong sp.	<i>Bettongia sp.</i> *	X (Locally extinct) Nettle Cave
Hastings River Mouse	<i>Pseudomys oralis</i> *	X (Locally extinct) Nettle Cave
Eastern Chestnut Mouse	<i>Pseudomys gracilicaudatus</i> *	X (Locally extinct) Nettle Cave
Plains Rat	<i>Pseudomys australis</i> *	X (Locally extinct) Nettle Cave
Rat sp.	<i>Pseudomys novaeholliandiae</i> *	X (Locally extinct) Nettle Cave
Common Dunnart	<i>Sminthopsis murina</i> *	X (Locally extinct) Nettle Cave
Broad toothed Rat	<i>Mastacomys fuscus</i> *	X (Locally extinct) Nettle Cave
Southern Brown Bandicoot	<i>Isodrom obesulus</i> *	X (Locally extinct) Nettle Cave
Long nosed Bandicoot	<i>Perameles nasuta</i> *	X (Locally extinct) Nettle Cave
Red necked Pademelon	<i>Thylogale thetis</i> *	X (Locally extinct?) Nettle Cave
Eastern Quoll	<i>Dasyurus viverrinus</i> *	X (Mainland extinct) Nettle Cave
Tasmanian Devil	<i>Sarcophilus harrisii</i>	X (Mainland extinct) Imperial Cave
Tree Rat sp.	<i>Conilurus albipes</i> *	X Nettle Cave
Tasmanian Tiger	<i>Thylacinus cynocephalus</i>	X Jersey Cave
Diprotodon (Wombat ancestor as large as a hippopotamus)		X Chifley Cave (Page 55)
Mihirung (Duck like bird as big as an Ostrich)		X Chifley Cave (See Below)



Vertebra of Mihirung.
Photo: Ted Matthews.

Synopsis

Some changes to flora and fauna densities may have occurred due to fire regimes of the Gundungara people. How much it differed over thousands of years is arguable. The most dramatic changes would be due to changes in climate. 'Climatic conditions during the late Pleistocene were colder and drier than at present. Conditions became warmer and wetter in the Holocene. The apparent abrupt extinction of *Burramys parvus* and the rapid decline in the abundance of *Mastacomys fuscus* is attributed to a brief humid period that occurred in southeastern Australia at around 15,000 to 14,000 BP.' D. Morris (1991). Since the Europeans came, some areas have changed forever. Infrastructure in the form of tracks, then roads for horses, bullock teams, hikers, cyclists and motor vehicles and all the amenities required to accommodate the needs of all those visitors has meant a significant change to habitat has occurred. Yet within short walking distances from the main precinct of Jenolan Caves there remains much intact natural habitat, easy enough to be dangerous for the average visitor and search and rescues required.

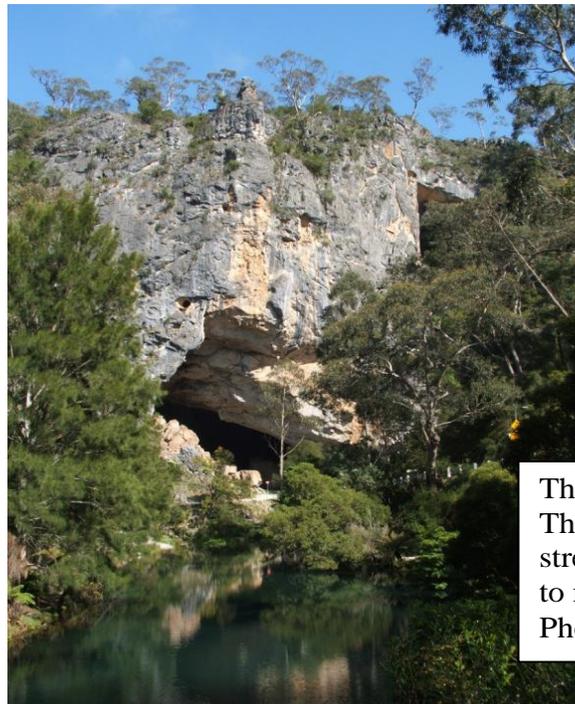


The Devils Coach House and Lucas Rocks from the Lookdown.
Photo: Peter Walsh.

As I type this for you, a creature is scratching in the ceiling above me, reminding me to remind you that habitat has changed and in many cases wildlife has adapted to the changes too. Only yesterday, while I was in the ticket office, a Brush Tailed Possum was sitting on top of a garbage bin, beside the window, eating a discarded apple. The same creature possibly that is now scratching in the ceiling above me.

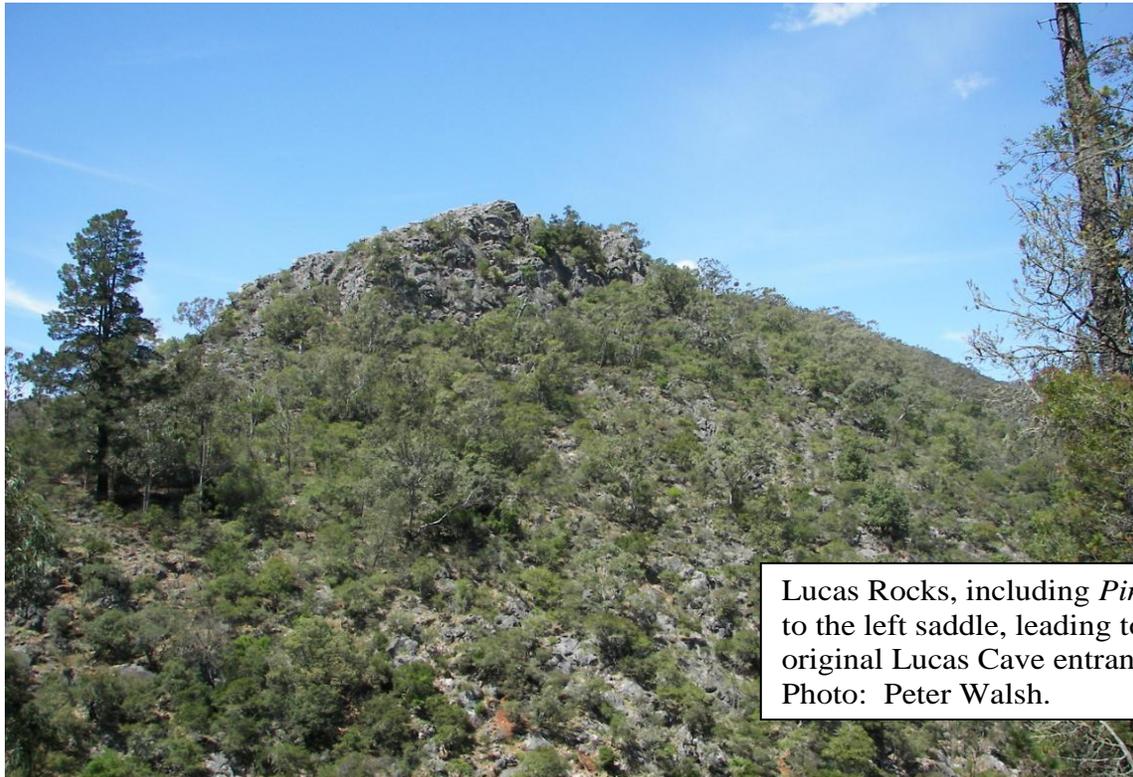
The earliest photographs of the area show a fairly dense floristic habitat within the valley. The cover photograph is the best representation of this as it has long had tracks, a road and bus parking area constructed in the scene photographed. Most photographs however, show very open woodland surrounding the Caves House area but one should consider that for breakfast, lunch and dinner and any washing, meant a fire was required and water boiled. Hence the depletion of the nearby timber and opening up of the hillsides had occurred. With the lack of firewood collection due to modernisation, some of the vegetation is quite dense again. It has however become dense with both native and introduced plants. Typically, introduced plants and animals had become and continue to be, problematic for the management of the Jenolan Karst Conservation Reserve.

The purpose of this document is to provide you with some ease of reference, the wonderful work of numerous people over many years, listing the Flora and Fauna of the Jenolan Karst Conservation Reserve. Some of this information was on the brink of being lost forever. Copies of copies were faded and hidden caches of information stored by well-meaning people, out of reach of the guides' office meant that visitors asking questions about birds or bats could not always get the facts. 'Where will I find an Origma?' 'What bats live here?' are simple questions, not easily answered by the average guide. Imagine the keen botanist's despair, when curious about the local Fabaceae family of plants! With this document you do not have to have the answers to all questions, but you can find references to the Origma or Rock Warbler, the common Bat species and a list of Fabaceae plants on the reserve.



The Blue Lake and Grand Arch. The woodlands, caves and streamways of Jenolan are home to many unique species. Photo: Ian Eddison.

This document is a work in progress. I am certain more is yet to be found, identified and listed. Expansions on the species list, is quite possible and I have mentioned in numerous places throughout this document where you may want to specialise in identifying species not already listed. Micro biology in Jenolan Caves is currently being studied by Cindy Mann of the Blue Mountains Speleological Society. Other subjects that need work are Fungi and Invertebrates.



Lucas Rocks, including *Pinus radiata* to the left saddle, leading to the original Lucas Cave entrance.
Photo: Peter Walsh.

Please share your findings as well as responsibly protect them. Store them electronically and in print form and in more than one location. Be careful too, as to who you share your information with. For example a nest of Wrens could easily be lost if too many over inquisitive people know of its presence. Share the information judiciously and be prepared to interpret the bird nest, the species of bird, the species of nesting materials and the shrub it is in, the food it will feed its chicks, how many eggs are in a clutch, its predators etc. There is much more to share of the flora and fauna than what is seen at a glance. Collectively these are our local ecosystems and they are inextricably interlinked.

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