D'harawal
DREAMING STORIES

Frances Bodkin
Gawaian Bodkin-Andrews
illustrated by Lorraine Robertson

Burra'gorang
The Giant Kangaroo

www.dharawalstories.com

Burra’gorang The Giant Kangaroo

Frances Bodkin
Gawaian Bodkin-Andrews
illustrated by Lorraine Robertson

www.dharawalstories.com

Foreword

Throughout the past two hundred years, society has come to regard the Koori Dreaming stories as something akin to the fairy stories they were told as children.

However, for thousands upon thousands of years, the stories in this book were used as a teaching tool to impart to the youngest members of the clans the laws which governed the cultural behaviour of clan members. The successive attempts to destroy the Koori culture and assimilate The People into the Euro-centric population were unsuccessful, and the Dreaming Stories were able to continue in their disguise as charming legends where animals became the heroes and the heroines.

Historians and anthropologists have studied the Koori culture since they first arrived on this continent, and have come to the conclusion that the D'harawal culture is dead. Of, course, this has been done without reference to the descendants of that culture, and without even asking the proper questions. The D'harawal culture is not dead, it is a strong, living, vital culture of the Sydney and South Coast regions that just had to go underground for a while to be able to survive. Now that the right questions have been asked, we have the key to unlock a vast wealth of knowledge of this part of the country in which we live.

It is difficult to explain to a society based on commerce fuelled by the profit motive, that D'harawal culture is not based on the ownership of tangible things like land and dwellings and possessions, but it does have a very strong sense of ownership of information. That information, particularly in story form, was not traded, but could be given, and given freely, but its ownership was respected, those stories were not told or passed on by those to whom they had been given, but the knowledge in them was used by the receiver whilst ever they walked in the Land of the D'harawals, This Land.

It is hoped that our present society is now mature enough to be able to accept the Koori Dreaming stories as they were, as they are, and as they were always destined to be; tools to teach the Children of The People about living with Earth, the Mother, in peac
e and harmony.

Each story contains several layers of knowledge, the first of which are the secrets. Which can only be passed on or discussed with persons of the same level of knowledge or higher than the story teller. These secrets are never told within a legend, but are remembered separately from the legend itself. These are very important components of any legend, and it is the knowledge of the secrets which determines the level of the person's worthiness to ownership of that story.

The next layer of knowledge within the stories was the law, or laws, to be obeyed. The laws of the stories were told and often repeated after the telling of each story, after which the laws were discussed and their application in life demonstrated in a variety of ways.

The third layer of knowledge contained in each story was the lessons which could be learned from the story and the lessons were taught to all members of the group as well as visitors. These lessons introduced Peoples to the means to live in harmony with each other, and the land and its resources.

In this series of D'harawal Law Legends, there are many lessons to be learned. The D'harawals believed that children learned better and more quickly when they were encouraged to work through a problem, rather than be told the answer. By sharing the stories of our ancestors with you, it is hoped that not only will you recognise and learn the lessons and laws of the Peoples of This Land, but you will also come to understand and respect the culture of The People and our feelings and relationship with the land.

The stories do not in themselves act as an instruction manual - rather they point the way and encourage The People to think, to learn and to live. It is hoped that by sharing our stories, you too may be able to think, to learn and to live in This Land.

With understanding and respect for each other we can learn to more easily share This Land and live together in peace and harmony.

Frances Bodkin

A very long time ago, there lived in This Land a giant Kangaroo, or Burra'gorang. This Burra'gorang did not hop around like the Kangaroo we know today. It walked around on its hind legs, and had teeth as long as a man's fingers, and as sharp as a shark's teeth.

The Burra'gorang had a growl that could be heard almost all over the entire Wirrimbirra, and which would send a chill through the hearts of all who lived in This Land.

This giant Kangaroo had a very large appetite, and ate many different kinds of birds and animals, but it particularly liked the taste of The People.

The D'harawals were very, very afraid of this animal, and would travel only along the base of the cliffs where there were caves in which they could hide. But, even then, the Burra'gorang would hunt them down, and wait silently and patiently until they came out of the cave for food, and then he would grab them and devour them.

Then, one day, whilst the D'harawals were hiding in a cave, one of the men, a warrior named Gawaian, looked at his People, with their shoulders hunched over and their eyes full of fear.

Gawaian loved his aunts and uncles, his brothers and sisters, and cousins, and his nieces and nephews, and realised that he did not want them to live in fear.

Gawaian climbed out of a small opening in the cave and looked down at the Burra'gorang waiting outside the cave where his People were hiding. As he studied the giant Kangaroo,

he realised that the monster did not like climbing up steep slopes, and would not scale cliffs.

An idea began to form in his head, but he realised that he would need help, and not just help from The People, but also help from the birds and animals.

He called to Mananga, the wedge tailed eagle, and asked him to call everyone to a meeting on top of a hill where they would discuss the means to get rid of the Burra'gorang.

Mananga circled above Gawaian, then sped off to alert all the animals of This Land.

The wallabies were the first to arrive on the hill, followed by their larger cousins, the Burrans. Then came Dina'gowi, the native cat, and Barrugin, the echidna. The Wai-ali, the possums came next, just before Wubin, the pygmy possum.

Burraga, the bandicoot arrived at night with Wombat, and Yabun'aru, the yellow bellied sugar glider arrived with Marri'eh'gang, the tiger cat.

Bin'nit the tawny frogmouth owl, and Wai'gon, the Raven, rode on the back of Tjindawala, the lace monitor lizard, but Wi'bung, the honey eater and Gulu'ngaga, the finch kept out of the reach of Mun'dah the red bellied black snake.

Kirra'wee, the Sulphur Crested Cockatoo, Bundelook, the rainbow lorikeet, and Guri'yay'il, the Rosella, settled down beside Dyar'amak, the Kingfisher.

The knowledgeholders of the D'harawal were waiting for them as they arrived, and greeted each one, inviting them to sit around the fire, and when all birds and animals of This Land were represented, they began their meeting.

Gawaian told them that he did not like to see his People bowed down with fear, and he did not want the birds and animals to live in fear of this creature. He told them of his observations of the habits of the Burra'gorang, and Managa agreed with him, saying that he, too had been watching the giant kangaroo.

Gawaian then told them of the plan that he had devised to rid This Land of the Burra'gorang, but he told them that he would not be able to do it alone. He would need help.

Some of the animals shrank away from the fire, unwilling to be seen, in case they would be asked to help. But surprisingly, Mun'dah came forward.

"I know that we have not always been good friends, Warrior, but I will offer you my help, because I do not want my children to live in fear." She said.

D'haramoor, Gawaian's brother, came forward. "We are brothers, Gawaian, I will follow you wherever you go."

The Marri'eh'gang, the Tiger Cat was the next to step forward. "My teeth are sharp." Said Marri'eh'gang. "And my claws are strong. I will help."

Wombat, slow and fat, waddled forward. "I will also come with you." He said. "I have strong legs which can dig deep holes in the ground."

Diru'wan, the Magpie was the next to offer her services. "I can swoop down and peck at his eyes when he is not looking." She said.

Gawaian's heart felt great pride and tears filled his eyes as they offered their help.

He felt a tug at his toe. He looked down to see Barrugin, the Echidna, and Wugatjin, the Bull Ant. "Although we are traditional enemies, Gawaian, we will work together to help you get rid of this Burra'gorang." They said.

"Tomorrow we will prepare ourselves for the battle, and when the sun sets, we will set the trap." Gawaian said.

He then thanked all the animals, birds and insects, and set off to ask the Spirits of This Land to help him.

Gawaian's mother, who was one of the D'harawal knowledgeholders, felt great pride for her son. But she knew, deep in her heart, that she would never see her son again.

As she turned away from the fire, a group of animals came up to her. "We admire the bravery of your sons, but we are going to the Miwa Gawaian to ask for the help of the Spirit

Woman." Said Werombi, the tiny black bat, "We would be honoured if you would accompany us."

Tears came to her eyes, and she followed them.

At sunset the next day, Gawaian and D'haramoor and their unusual army set out for the mouth of the valley where the river known as Nattai now flows.

There Wombat and Barrugin began to dig tunnels across the valley, tunnels that would hold the weight of a man, but would collapse under the weight of the Burra'gorang.

The others helped D'haramoor to build up great piles of dry branches across the entrance to the valley, whilst Gawaian sought out the Burra'gorang to entice him into the valley.

Shortly after sunrise, Mananga swooped down low over the valley. "Ready yourselves" he cried. Gawaian comes and the Burra'gorang follows him."

D'haramoor hid himself between two boulders, Tjarra'wunang flew into the tallest tree, and Wugatjin situated himself on the leaf of a tree. Wombat and Barrugin finished their burrowing, and took shelter beneath a low rock shelf.

Pretty soon, the ground started to shake and the trees began to tremble as the giant kangaroo chased the Warrior through the bush.

Behind the Burra'gorang came the fleet footed Marri'eh'gang, the Tiger Cat, nipping at the huge tail of the monster, causing it to roar deafeningly with pain.

It chased the Warrior through the piles of dead branches at the mouth of the valley. Gawaian ran swiftly across the tunnels of Wombat and Barrugin. And the Burra'gorang could not watch where he placed his feet, because Diruwan was flying around its head, pecking at its eyes.

With a great thud, Burra'gorang fell into a hole as the tunnel dug by Wombat and Barrugin collapsed under his weight.

Mananga swooped down and raked his long talons the whole length of Burra'gorang's side as Diruwan pecked at his eyes.

The giant kangaroo got to his feet and looked around, blinking. Never before had these puny creatures ever hurt him. He did not like it and became very angry.

He felt pain, and plucked a spear from his side. He looked up and saw the Warrior, Gawaian, fixing another spear to his woomera.

The Burra'gorang got to his feet and stumbling and tripping over Wombat and Barrugin's tunnels, tried to chase after Gawaian, but Marri'eh'gang had fastened on to his half chewed tail again.

He fell again, with a great thud that shook the earth, and Mun'dah, the red bellied black snake struck at his tongue, while Wugatjin, the bull ant took this opportunity to jump from her leaf into the ear of the Burra'gorang.

D'haramoor watched from the mouth of the valley. He wanted to help his brother, but he had been told that no matter what happened, he must stay until he heard Gawaian's cry to light the fires.

The giant kangaroo chased the Warrior up the valley until they could go no further. Gawaian climbed up onto a rock ledge, higher than Burra'gorang, and began to throw his spears at the monster.

In a blind rage, the Burra'gorang swung his massive tail around to rid himself of Marri'eh'gang, and hit the rock upon which Gawaian was standing.

Marri'eh'gang was killed instantly, and the rock shelf came tumbling down, with Gawaian on it, right into the claws of the giant kangaroo.

Burra'gorang picked the luckless Warrior up and flung him into the cliff face.

Then, several things happened. The Spirit Woman, Korrobori, appeared, her face grim with grief at the death of her favourite Warrior.

D’haramoor, hearing the cry of his dying brother, left the piles of wood and ran into the valley.

And Wugatjin bit as hard as she could inside the ear of the Burra’gorang.

Blindly, the giant kangaroo attacked the Spirit Woman, and a great battle ensued as Korrobori chased the Burra’gorang out of the valley and into the next valley where runs the river now known as Wollondilly.

There, the two fought for several days, flattening out the valley floor, and pushing back the mountains and cliffs. All this time Wugatjin remained in the ear of the giant kangaroo, biting him, whilst Mananga and Diruwan swooped down pecking at his eyes.

At sunset on the third day, the Burragorang died. As Wugatjin climbed out of his ear, the Spirit Woman, who was sorely wounded picked her up.

“I thank you, little friend.” She said, then she looked up at Diruwan and Mananga, and all the other animals that had helped. “And you, my friends. I could not have defeated the beast without your help.”

She then turned to D’haramoor. “I need to heal myself.” She said, “and I need your fire to keep me warm. Will you tend to the fires while I sleep?”

D’haramoor, still grieving for his brother, looked up at his Creator Spirit. “Yes, I will keep you warm, and see that you are not disturbed.”

She smiled, and gently touched his face. “Your brother is not dead.” She said. “Like the caterpillar that turns into the beautiful butterfly, your brother has changed. Do not look for his body, you will not find it. When I return to my land, I will take your brother with me.”

She skinned the Burra’gorang, and covered herself with the skin. “Then she cut up the flesh of the giant kangaroo, and gave pieces of it to each of the D’harawals. “Take this and each bury it in a secret place. Do not tell anyone where you have buried it. We do not want this beast to be able to return.”

For many, many days, the Spirit Woman slept on a bed of sand at the entrance to the Nattai Valley. D'haramoor built fires around her, and kept them burning as he had promised.

When Korrobori awoke, healed, she looked around her to see D'haramoor seated nearby, watching over her as he had promised.

She was pleased, because D'haramoor had done as she had requested and her wounds had healed.

Thus she rewarded him by teaching him the secrets of fire, and showing him a particular rock that burns, a rock that could be found in the valleys and the cliffs of the Wirrimbirra, and which she called Woron, warning him that it should never be used to make fire in a cave.

She told Gawaian's mother that the place where the Warrior's body had fallen was now a spring of clear, sweet water. Water that was to be used for healing and for special ceremonies. Water that was the tears of the Earth Mother mourning her favourite son.

When she returned to her Land she took with her the Spirit Of Gawaian, where he lives to this day, and from where, it is hoped, he will one day return and once again join the People of This Land.

And that is the story of how the Burragorang Valley came to be so wide.

And why, Diruwan and Mananga swoop to attack their enemies. And why Wombat and Barrugin are both such good diggers.

And why Wugatjin has such a fierce bite.

And it shows that even the worst enemies can work together to rid This Land of fear.

FACTS ABOUT THE ANIMALS IN THE STORY:

Bin’nit *Bih-neet* Tawny Frogmouth Owl

Scientific Name: *Podargus strigoides*

The general plumage of the Tawny Frogmouth is silver-grey, slightly paler below, streaked and mottled with black and rufous, with a yellow eye and an olive-grey heavy bill. Some birds are russet-red. Frogmouth feathers are fringed to allow for silent flight.

The Tawny Frogmouth is found throughout Australia, including Tasmania and they inhabit all areas except the denser rainforests and treeless deserts. South-eastern birds are larger than birds from the north.

They are nocturnal birds (night birds) and during the day they perch on tree branches, often low down, camouflaged as part of the tree. With their nocturnal habit and owl-like appearance, Tawny Frogmouths are often confused with owls, but are actually more closely related to the nightjars. Their feet are weak however, and lack the curved talons of owls.

The Tawny Frogmouth eats nocturnal insects, worms, slugs and snails, small mammals, reptiles, frogs and birds which caught by pouncing to the ground from a tree or other elevated perch and some prey items, such as moths, are caught in flight.

Tawny Frogmouths have a regular breeding season. The nest is a loose platform of sticks, which is usually placed on a horizontal forked tree branch. The male sits on the eggs during the day, but both share sitting at night. Normally only one brood is raised in a season.

Their call is a soft, deep, continuous, 'ooo-ooo-ooo' sound.

http://www.birdsinbackyards.net

Bundalook *Bun-dee-look* Rainbow Lorikeet

Scientific Name: *Trichoglossus haematodus*

The Rainbow Lorikeet has a bright red beak and colourful plumage - blue head and belly, green wings, tail and back, and an orange/yellow breast. Both sexes look alike and they are often seen in communal roosts at dusk or flying in loud and fast-moving flocks. The related Scaly-breasted Lorikeet is similar in size and shape, but can be distinguished by its all-green head and body.

The y are found in coastal regions across northern and eastern Australia.

The Rainbow Lorikeet inhabits rainforest, woodlands and well-treed urban areas. They are largely sedentary with some nomadic movements in response to seasonal flowering or fruiting of plants.

They feed on nectar and pollen from flowers of shrubs or trees, but also eat fruits, seeds and some insects.

The Rainbow Lorikeet nests usually in a hollow limb of a eucalypt tree and the eggs are laid on chewed, decayed wood. Both sexes prepare the nest cavity and feed the young, but only the female sits on the eggs.

http://www.birdsinbackyards.net

Burran *Buh-rahn* Eastern Grey Kangaroo

Scientific name: *Macropus giganteus*

The Eastern Grey Kangaroo is an iconic marsupial mammal. They live in mobs of 10 or more in a home range of up to 5km in eastern Australia.

Eastern Grey Kangaroo, *Macropus giganteus*, is a marsupial mammal that belongs to a small group called macropods. They have hind legs that are larger than their forelimbs. Their hind feet are also large and powerful. Their long muscular tail is used for balance when hopping and as a fifth limb when movements are slow. The fur is a light grey woolly colour except the face which is darker. A dark tip of fur is also found on the tail.

Males: body length to 1.3m, tail to 1m; females: body length to 1m, tail to 0.84m

Size range: 0.84m - 1.3m

Distribution: Grey Kangaroos have wide and almost continuous distribution between the inland plains and the coast where the annual rainfall is more than 250mm. The Eastern Grey Kangaroo is found over most of the eastern states including Tasmania. They are also found at all altitudes in woodlands up to subalpine areas.

Habitat: They are found in habitats ranging from semi-arid mallee scrub through to woodlands, some farmland areas with remnant vegetation and forest. They tend to favour denser scrubs and forests.

Feeding and Diet: The Eastern Grey Kangaroo is predominantly a grazing animal with specific food preferences. They are herbivorous, favouring grasses but will eat a range of plants, including in some cases, fungi. With the grasses they prefer to eat young green shoots high in protein. Dry grass is difficult for them to digest. Being nocturnal, large ‘mobs’ will gather at dusk to feed where food is most abundant.

They usually rest in the shade or shelter of trees or scrubs moving out to graze from late afternoon to early morning when they will congregate in the open. This is avoiding the hottest part of the day. They communi-

cate via a series of clucking sounds. Aggressive males and alarmed individuals of both sexes give vent to a guttural cough.

The tendons in the legs of kangaroos act like sprung ropes and help propel the animal at fast speed with minimum effort. The highest recorded speed was set by a female Eastern Grey Kangaroo at 64km/hr.

Mating and reproduction: Breeding is continuous throughout the year and reaches a peak in summer. The newborn 'joey' which weighs less than one gram is born thirty six days after mating. It climbs unaided into the pouch and shortly afterwards attaches to one of the four teats. The young kangaroo is raised in the pouch until it can survive outside. At about 9 months the joey will begin to leave the pouch but continues to suckle from time to time. A joey becomes independent at about 18 months of age.

Conservation Status: The Eastern Grey Kangaroo is protected by law. For thousands of years, though, indigenous peoples have hunted the kangaroo for food and skins. When Europeans arrived in the eighteenth century, they too hunted the kangaroo. There are now rules in place in all Australian states and Territories to protect kangaroos. The Eastern Grey Kangaroo is among 4 abundant species that can be commercially harvested for export. This can only be done by licensed hunters. None of these 4 species is threatened or endangered. Kangaroo meat is now being looked at as an alternative source of meat to beef. The soft feet of kangaroos are more preferable to the hard hoofs of cattle in erosion prone areas.

http://australianmuseum.net.au/eastern-grey-kangaroo#sthash.kfDkm6lx.dpuf

Barraga Southern Brown Bandicoot

Scientific name: *Isoodon obesulus*

The Southern Brown Bandicoot is listed as an endangered species in New South Wales and is known from only two areas.

Size range: 28 cm - 36 cm

The Southern Brown Bandicoot is found in northern Queensland, New South Wales, Victoria, southern Western Australia and Tasmania. In New South Wales, one population is found on the south coast and the other just north of Sydney.

Habitat: The Southern Brown Bandicoot prefers scrubby habitats with plenty of low ground cover and shelter, particularly areas recovering from the effects of bushfire.

Feeding and Diet: By day, the Southern Brown Bandicoot sleeps in a nest made from grasses and other plant material, and at night emerges to feed on a variety of insects, earthworms and plants.

Other behaviours and adaptations: The Southern Brown Bandicoot is solitary. Males and females establish home ranges, which vary considerably in size depending on the habitat and the individual.

Conservation Status:The distribution of the Southern Brown Bandicoot has decreased significantly since European settlement mainly as a result of vegetation clearing, introduced foxes and cats, and changes to the frequency of bushfires.The Southern Brown Bandicoot is listed as an endangered species in New South Wales and is known from only two areas.

http://australianmuseum.net.au/southern-brown-bandicoot#sthash.A5ZLijeJ.dpuf

Burruagin *Buh-roo-gin* Short-beaked Echidna

Scientific Name: *Tachyglossus aculeatus*

The Short-beaked Echidna is easily recognised by its sharp spines, short legs and long snout.

Size range - 40-55 cm

The Short-beaked Echidna is found throughout Australia, including Tasmania. Although it is found all over Australia, it is not as common in Sydney as it once was.

Habitat: The Short-beaked Echidna lives in forests and woodlands, heath, grasslands and arid environments.

Feeding and Diet: Using its pointed snout and sharp claws, the Short-beaked Echidna breaks into ant and termite nests and catches its prey by flicking its long sticky tongue in and out. It also catches a lot of dirt in the process and this is expelled in the droppings.

Life cycle: Like the Platypus, the Short-beaked Echidna is an egg-laying mammal or monotreme and lays one egg at a time. The eggs hatch after about 10 days and the young, emerge blind and hairless. Clinging to hairs inside the mother's pouch, the young echidna suckles for two or three months. Once it develops spines and becomes too prickly, the mother removes it from her pouch and builds a burrow for it. It continues to suckle for the next six months.

The Short-beaked Echidna has few natural enemies, but it may be killed by cars, dogs, foxes and occasionally goannas, and cats may take the young.

http://australianmuseum.net.au/short-beaked-echidna#sthash.Ja6Y9Gcx.dpuf

D’haramoor Bronze-wing pigeon *Dhar-rr-rah-moy*

Scientific Name: *Phaps chalcoptera*

Common Bronzewings are medium-sized, heavily built pigeons. The male has a yellow-white forehead and pink breast. Both sexes have a clear white line below and around the eye and patches of green, blue and red in the wing, characteristic of all bronzewings. The Common Bronzewing is a cautious pigeon, and rarely allows close approach. If startled, it flies away with a clatter, keeping low to the ground while moving in a steady, direct manner. Young Common Bronzewings are duller and browner than the adults. The metallic wing patch is absent or not easily seen.

Common Bronzewings are one of the most plentiful and commonly seen pigeons in Australia and are found in almost every habitat type, with the exception of the most barren areas and densest rainforests. Common Bronzewings are normally seen alone, in pairs or in small flocks, and are rarely found far from water.

The Common Bronzewing feeds on seeds and other vegetable matter. The birds feed on the ground and in small parties. These small groups need to drink frequently, and visit waterholes during either the day or night.

Breeding: Common Bronzewings build an untidy nest of sticks and twigs. It is normally placed low down in a tree or bush, but may be up to 20 m above the ground. The creamy-white eggs are incubated by both parents. Both adults also share the care of the young birds, which are born naked and helpless and are completely dependent on their parents. Bronzewings, like other pigeons, secrete a special milk-like substance from their crop, which is fed to the young chicks.

http://www.birdsinbackyards.net/species/Phaps-chalcoptera

Dina’gowi Native Cat

Scientific name: *Thylacoleo carnifex*

The Pleistocene Marsupial Lion, the largest carnivorous Australian mammal known, may have hunted other Pleistocene megafauna like the giant Diprotodon. Thylacoleo was one of the first fossil mammals described from Australia, discovered not long after European settlement. It may have been an ambush predator or scavenger, and had enormous slicing cheek teeth, large stabbing incisor teeth (replacements for the canine teeth of other carnivorous mammals) and a huge thumb claw that may have been used to disembowel its prey.

Identification: Thylacoleo carnifex is the last and largest member of the Thylacoleonidae ('marsupial lions'). Distinguishing features of thylacoleonids include enlarged cheek teeth (the third premolars) that formed long

shearing blades. These were developed at the expense of posterior molar teeth, which were either reduced in size or absent.

Thylacoleo carnifex had a wide, heavy, short-snouted skull with a bony bar (postorbital bar), as in primates, behind the orbits. It has the longest shearing tooth of the thylacoleonids as well as large, serrated, canine-like upper incisors and horizontally oriented lower incisors (replacements for the canine teeth of other carnivorous mammals). Thylacoleo also had an enlarged thumb claw encased in a sheath (as in cats) that may have been used to disembowel its prey.

Limb proportions of Thylacoleo suggest that it was cursorial (adapted for running) but not swift. Forelimb proportions are similar to those of some arboreal/saltatorial animals. Its clawed forelimb may have been used to reach out and bring food towards its mouth. Its pseudo-opposable thumb suggests that Thylacoleo may have also been at least partly scansorial (adapted for climbing). Western Australian and Tasmanian specimens are smaller than eastern Australian specimens, and sexual dimorphism (where one sex is larger than the other) is reported. The weight of Thylacoleo is estimated to have ranged from 90-160 kilograms.

Size range: 1.5 m long (head-tail) and 75 cm tall at the shoulder

Thylacoleo carnifex was widely distributed across Australia during the Pleistocene. It has been found in all Australian states as well as the Northern Territory, including the Darling Downs (Queensland), Wellington Caves (New South Wales), Naracoorte Caves (South Australia) and Thylacoleo Cave on the Nullarbor Plain (Western Australia).

Habitat: Most of the sites where Thylacoleo fossils have been found are interpreted as dry, open forest habitat (e.g., the Darling Downs and the Wellington, Naracoorte and Nullarbor caves.

Feeding and Diet: The diet of Thylacoleo has been the subject of much debate. Thylacoleo has been described as a carnivore, a bone crusher, a scavenger or perhaps even an herbivore. It was first described by Sir Richard Owen as 'one of the fellest and most destructive of predatory beasts' (Owen 1859). Its unusual teeth and herbivorous ancestry, however, prompted further suggestions, including crocodile eggs, carrion, meat and bone marrow. The suggested diet raising the most eyebrows, however, is that of cycad nuts or native cucumbers (dubbed the 'melon-muncher' hypothesis). Palaeontologist Robert Broom had earlier pointed out that since Thylacoleo had no grinding teeth to process plant matter, it could not have included much plant food in its diet.

Most scientists today believe that Thylacoleo was carnivorous. Its teeth seem clearly designed for slicing flesh, and its powerful forearms and large, retractable thumb claws suggest a fierce, powerful predator. A study of the skull and jaw found that Thylacoleo had a head shape typical of carnivores, similar to the skulls of other carnivores except for the reduced canines, the use of incisors as stabbing teeth, and co-opting of a premolar rather than molar as a 'carnassial' tooth (a tooth specialized for carnivory). Further study on its 'bite strength' finds that Thylacoleo had the most powerful bite of any mammalian predator, living or extinct, and that it could have taken prey much larger than itself (such as subadult Diprotodon).

Life cycle: Little has been found in the fossil record to give us direct information about the lifestyle of Thylacoleo. However, three individuals from Moree, NSW shed some light on the raising of young. An adult female adult with a very young baby ('pouch-young') and a second, older juvenile ('young-at-foot') were found in association, almost certainly a family group. The adult is represented by a complete skeleton, the baby by an incomplete lower jaw and the juvenile by a skull, all held in the fossil collection of the Australian Museum.

Fossils: For about 100 years after its discovery, Thylacoleo carnifex was known only from fragmentary remains (teeth, partial skulls and jaws, and some postcranial fossils). The first complete skull of Thylacoleo was described in 1956, and the first near-complete skeleton (lacking a foot and tail) was found at Moree, NSW in 1966 (the mother with young described above). Much material has been recovered from Naracoorte Caves in South Australia, and several complete individuals have been discovered in Thylacoleo Cave on the Nullarbor Plain, Western Australia.

Evolutionary Relationships: Most palaeontologists think that the ancestors of thylacoleonids were herbivores, an unusual occurrence since most carnivores evolved from other carnivorous lineages. One proposal suggests that thylacoleonids evolved from a possum ancestor (Phalangeroidea) based on dental formula, the skull of the cuscus Phalanger, and on a phalangerid-like musculature. Alternatively, evidence from certain skull features may show that thylacoleonids branched off the vombatiform line, the lineage that includes wombats and koalas.

http://australianmuseum.net.au/thylacoleo-carnifex#sthash.1gvp0xdB.dpuf

Diru'wan *Dee-roo-wan* Australian Magpie

Scientific Name: *Cracticus tibicen*

The Australian Magpie is black and white. Its nape, upper tail and shoulder are white in males, grey in females and the remainder of the body is black. The eye is chestnut brown.

Australian Magpies live in groups of up to 24 birds year round in a territory wherever there is a combination of trees and adjacent open areas, including parks and playing fields. This territory is actively defended and used for feeding, roosting and nesting.

They inhabit most of Australia, absent only from the densest forests and arid deserts.

The Australian Magpie walks along the ground searching for insects and their larvae. Birds will also take handouts from humans and although the Australian Magpie is generally quite tame, during the breeding season some individuals become aggressive towards any intruders which venture too close to their nest sites.

The nest is a platform of sticks and twigs with a small interior bowl lined with grass and hair, constructed in the outer branches of a tree, up to 15 m above the ground.

The Australian Magpie has one of the world's most complex bird songs. It is a loud musical flute-like song, often performed as a duet or by groups. An alternative name for the Australian Magpie is Flute Bird.

http://www.birdsinbackyards.net

Dyar'amak *Dee-yah-rah-mak* Sacred Kingfisher

Scientific Name: Todiramphus sanctus.

The Sacred Kingfisher is a medium sized kingfisher. It has a turquoise back, turquoise blue rump and tail, buff-white underparts and a broad cream collar. There is a broad black eye stripe extending from bill to nape of neck. Both sexes are similar, although the female is generally lighter with duller upper parts. Young birds are similar to the female, but have varying amounts of rusty-brown edging to feathers on the collar and under-parts, and buff edges on the wing coverts.

Size range: 19 cm to 24 cm

The Sacred Kingfisher is common and familiar throughout the coastal regions of mainland Australia and less common throughout Tasmania. The species is also found on islands from Australasia to Indonesia and New Zealand.

Habitat: The Sacred Kingfisher inhabits woodlands, mangroves and paperbark forests, tall open eucalypt for-est and melaleuca forest.

In Australia, Sacred Kingfishers spend the winter in the north of their range and return south in the spring to breed.

Feeding and Diet: Sacred Kingfishers forage mainly on the land, only occasionally capturing prey in the water. They feed on crustaceans, reptiles, insects and their larvae and, infrequently, fish. The birds perch on low ex-posed branch on the lookout for prey. Once prey is located, the Sacred Kingfisher swoops down and grasps it in its bill, returning to the perch to eat it.

Communication: The voice of the Sacred Kingfisher is a loud "ek ek ek ek" repeated continuously throughout breeding season. Birds also give a "kee kee kee" in excitement and a series of chirring, scolding notes when alarmed.

Mating and reproduction:For most of the year Sacred Kingfishers are mainly solitary, pairing only for the breeding season. Usually two clutches are laid in a season. Both sexes excavate the nest, which is normally a burrow in a termite mound, hollow branch or river bank. The nest chamber is unlined and can be up to 20m above the ground. Both sexes also incubate the eggs and care for the young.

Breeding Season: September to December; occasionally extended to March, if conditions are favourable

http://australianmuseum.net.au/sacred-kingfisher-todiramphus-sanctus#sthash.vlFjYHHu.dpuf

Gulu’ngaga Zebra Finch

Scientific Name: *Taeniopygia guttat*

Zebra Finches are mainly grey, with characteristic black 'tear drop' eye stripes and 'zebra like' black and white barring on the rump and upper tail. The throat and upper breast are pale grey, with fine black barring, and there is a broad black band on upper chest. The sides of the belly are chestnut with many white spots. The remainder of the belly and the undertail are white. The male is distinguished from the female by its chestnut cheek patches, a character that gave the species the alternative name of Chestnut-eared Finch. Both sexes have red eyes and bill. The legs and feet are orange yellow. Young are similar in plumage to the female, except that the clear black and white markings of the head are absent. The eyes are grey-brown and the bill is black.

Zebra Finches are the most common and widespread of Australia's grassfinches, found across the Australian mainland, with the exception of Cape York Peninsula and some coastal areas. They are also found in Timor and the Lesser Sunda Islands.

Habitat: Zebra Finches are most commonly found in the drier areas of Australia, living year round in social flocks of up to 100 or more birds. They can be found in a variety of habitats, mainly dry wooded grasslands, bordering watercourses.

Feeding: Zebra Finches feed in large flocks on fallen or ripening grass seeds. Insects may be taken at any time of the year, but are particularly favoured when feeding young. Feeding takes place on the ground, and, unlike some other grassfinches, birds never pull seed heads down with their feet.

Breeding: Zebra Finches pair for life. The female alone selects the nest site, but both birds care for the eggs and young. The male gathers almost all the nesting material, with which the female constructs the loose dome-shaped nest. Birds have also been reported to nest in hollows in the ground, although this behaviour is uncommon.

Living with us: The introduction of artificial dams and water tanks has actually increased the Zebra Finch's natural range, as the birds need to drink on a regular basis.

Guri’yay’il Eastern Rosella

Scientific name: *Platycercus eximius*

Description: Eastern Rosellas are medium-sized colourful parrots with distinctive white cheek patches. It has a red head, neck and breast, with yellowish to greenish upper parts, a yellow underbody and a yellow-green to blue-green rump, with a red undertail. The shoulders are bright blue. Females are usually similar to males, but sometimes duller and young birds are even duller and can be aged by their bill colour, which is yellow or orange, changing to off-white when mature.

The Eastern Rosella is found throughout south-eastern Australia, from Queensland to Victoria and south-eastern South Australia. Also found in eastern Tasmania. Has been introduced to New Zealand.

Habitat: The Eastern Rosella is found in open woodlands, grasslands, farmlands and remnant bushland. Often found in urban habitats such as parks, gardens and golf courses. Sedentary.

Feeding: The Eastern Rosella mainly feeds on the ground, especially amongst grasses in lawns, pastures and other clearings. Also feeds in trees and bushes. Main dietary items include: seeds, fruits, buds, flowers, nectar and insects. The Eastern Rosella uses one of its feet (usually the right foot) to hold food when eating on the ground or perched on a tree.

Calls: A sharp repeated 'chut-chit-chut' in flight and a high-pitched 'pee-pt-eee' or 'kwink kwink' when perched.

Breeding: Eastern Rosellas mate for life. The female chooses and prepares the nesting site, usually a hollow in a eucalypt tree (but will sometimes use a nest-box or other artificial site). Eggs are laid on a decayed wood bed and the female incubates the eggs while the male regularly feeds her. The young may be fed for a while after they fledge.

Living with us: Eastern Rosellas may damage fruit and other crops, and have been trapped for the aviculture trade in large numbers. Compete with introduced birds, e.g. Common Starlings, for suitable nest hollows, and are sometimes caught by domestic pets.

http://www.birdsinbackyards.net/species/Platycercus-eximius

Kirra’wee *Gah-rah-why* Sulphur Crested Cockatoo

Scientific name: *Cacatua galerita*

One of Australia's most popular and iconic birds, the Sulphur-crested Cockatoo, has been known to live up to eighty years of age in captivity.

The Sulphur-crested Cockatoo is a large white parrot. It has a dark grey-black bill, a distinctive sulphur-yellow crest and a yellow wash on the underside of the wings. Sexes are similar, although the female can be separated at close range by its red-brown eye (darker brown in the male). This is a noisy and conspicuous cockatoo, both at rest and in flight. Young Sulphur-crested Cockatoos resemble the adults.

Size range: 45 cm to 50 cm

The Sulphur-crested Cockatoo's range extends throughout the northern and eastern mainland, and Tasmania. A small population has become established around Perth, Western Australia. The species also occurs in New Guinea and the Aru Islands, and has been introduced into New Zealand and Indonesia.

Habitat: Sulphur-crested Cockatoos are found in a variety of timbered habitats and are common around human settlements. The birds stay in the same area all year round.

Feeding and Diet: The Sulphur-crested Cockatoo's normal diet consists of berries, seeds, nuts and roots. It also takes handouts from humans. Feeding normally takes place in small to large groups, with one or more members of the group watching for danger from a nearby perch. When not feeding, birds will bite off smaller branches and leaves from trees. These items are not eaten, however. The activity may help to keep the bill trimmed and from growing too large.

Communication: The most common call is a distinctive loud screech, ending with a slight upward inflection.

Mating and reproduction: The eggs are laid in a suitable tree hollow, which is prepared by both sexes. Both birds also incubate and care for the chicks. The chicks remain with the parents all year round and family groups will stay together indefinitely.

Breeding Season: August to January in the south; May to September in the north

Clutch size: 1 to 3

Incubation: 30 days

Time in nest: 65 days

The popularity of the Sulphur-crested Cockatoo as a cage bird has increased its range, as these birds either escape or are released deliberately in areas where they do not already occur. The species has become a pest around urban areas, where it uses its powerful bill to destroy timber decking and panelling on houses.

http://australianmuseum.net.au/sulphur-crested-cockatoo#sthash.RyE0ObCK.dpuf

Mananga Wedge-tailed Eagle

Scientific Name: *Aquila audax*

The Wedge-tailed Eagle has long wings (wingspan 2.3 m), a characteristic long, wedge-shaped tail, and legs that are feathered all the way to the base of the toes. The bill is pale pink to cream, the eye brown to dark brown, and the feet off-white. Young Wedge-tailed Eagles are mid brown in colour with reddish-brown heads and wings. They become progressively blacker for at least the first ten years of their lives; adults are mostly dark blackish-brown. The only difference in plumage between the sexes is that a female adult is generally slightly paler than her mate. Females (4.2 kg - 5.3 kg) are also larger and heavier than males (3.2 kg up to 4.0 kg). Wedge-tailed Eagles are Australia's largest raptors (birds of prey). The Tasmanian subspecies (Aquila audax fleayi) is listed federally as endangered.

The Wedge-tailed Eagle is found throughout mainland Australia, Tasmania and southern New Guinea, from sea level to alpine regions in the mountains, but prefers wooded and forested land and open country, generally avoiding rainforest and coastal heaths. Eagles can be seen perched on trees or poles or soaring overhead to altitudes of up to 2000 m. Wedge-tailed Eagles build their nest in a prominent location with a good view of the surrounding countryside. It may be built in either a live or dead tree, but usually the tallest one in the territory. In some parts of Australia, where tall trees are absent, small trees, shrubs, cliff faces or even the ground may be used. The density of active nests depends on the abundance of prey and other resources. In most years, nests are usually 2.5 km - 4 km apart. If conditions are particularly good, the distances apart may be less than 1 km because the birds require smaller areas to find sufficient food.

Wedge-tailed Eagles eat both live prey and carrion. Their diet reflects the available prey, but the most important live items are rabbits and hares. Rabbits usually comprise about 30-70% of the diet. Other food items include lizards, birds (weighing over 100 g) and mammals (usually weighing over 500 g). Wedge-tailed Eagles will kill lambs, but these make up only a small percentage of their total prey.

Carrion is a major food source; roadkills and other carcasses are readily eaten. Many of the reports of predation on lambs result from birds scavenging already dead animals. Up to 20 birds may attend a carcass, although only two or three feed at any one time.

Wedge-tailed Eagles may hunt singly, in pairs or in larger groups. Working together, a group of eagles can attack and kill animals as large as adult kangaroos. This explains the scientific name of the Wedge-tailed Eagle

which means 'bold eagle'. Under ideal conditions, an eagle can lift about 50% of its body weight. Often, eagles may cache food items on a branch near the nest area.

Wedge-tailed Eagles are monogamous and apparently mate for life. If one bird of a pair is killed, the survivor will find a new mate. Established breeding pairs are territorial and live in the one area throughout the year, defending around their nest sites from other Wedge-tailed Eagles. (They are also known on occasion to attack intruding model airplanes, hang gliders, gliders, fixed-wing aircraft and helicopters.) Surrounding the territories are large home ranges in which the birds hunt for food but do not defend. There is usually overlap between the home ranges of two or more breeding pairs and of non-breeding birds.

The nest is a large structure of dead sticks, usually reused for years, often reaching considerable size. Nests 1.8 m across, 3 m deep and weighing about 400 kg are known. Nests have a shallow cup on the top, lined with fresh twigs and leaves. Sticks are added by a bird while it stands in the nest. If these sticks are dropped outside the nest, no effort is made to retrieve them. Piles of dropped sticks 1.8 m high have been recorded under the nest trees.

The timing of breeding may vary from location to location and from year to year according to the local availability of food. Both parents share in the duties of nest building, incubation and feeding of the young.

A clutch consists of white eggs measuring 73 mm x 59 mm with varying amounts of reddish brown spots and blotches. These are laid at intervals of two to four days. Incubation starts with the laying of the first egg. Because of the intervals between laying, the eggs do not hatch simultaneously. The first chick hatches larger than the second, which in turn is larger than the third. Survival rates of the chicks vary considerably depending on local conditions, including prey abundance and the amount of disturbance. A breeding pair usually rears only one young per clutch, although in a good year, two chicks may fledge in some nests. Because of the differences in size, the oldest and largest chick has the best chance of surviving. If food is scarce, it will kill and eat its smaller nest mates.

Chicks hatch covered with a white down. For the first five weeks or so, the adults must deliver food to their mouths. After this time they are able to recognise bits of food on the floor of the nest and can feed themselves. The young acquire their first feathers during the second week after hatching. If threatened by predators, the chicks lie flat in the nest, but will defend themselves if required. The adults, in contrast, make little defence of the young. The juveniles remain with the adults for about 11 weeks after leaving the nest. Young and non-breeding birds disperse, moving to wherever conditions are suitable. Juveniles are known to have moved over 850 km in a seven to eight month period.

http://www.birdsinbackyards.net

Marri’eh’gang Tiger Cat

Scientific name: *Dasyurus maculatus*

The Spotted-tailed Quoll is the second largest carnivorous marsupial in Australia after the Tasmanian Devil.

There are four species of quolls in Australia and all have the characteristic pointed snout, well-developed canines and hairy tail. As their name suggests, the Spotted-tailed Quoll is the only species where the pattern of white spots on the body continues to the tail.

Size range: 35 cm - 75 cm

The Spotted-tailed Quoll is found in Queensland, New South Wales, Victoria and Tasmania.

Habitat: Spotted-tailed Quolls live in forests and woodlands and heath.

Feeding and Diet: At night, this solitary animal hunts and feeds on a variety of prey including birds, medium-sized mammals and reptiles, which it attacks by biting the back of the skull or neck.

During the day, the Spotted-tailed Quoll shelters in caves, rock crevices or hollow logs.

Conservation Status: The Spotted-tailed Quoll population is seriously threatened throughout mainland Australia and these marsupials are rarely seen in Sydney. The introduction of feral animals such as foxes, cats and dogs, as well as diseases and the destruction of their forest habitats, have greatly reduced their numbers.

http://australianmuseum.net.au/spotted-tailed-quoll#sthash.z91tGWTg.dpuf

Mun’dah *Muhn-dah* Red-bellied Black Snake

Scientific name: *Pseudechis porphyriacus*

This beautiful serpent shares our love of sunshine and water, and is a familiar sight to many outdoor adventurers in eastern Australia. Attitudes towards these largely inoffensive snakes are slowly changing, however they are still often seen as a dangerous menace and unjustly persecuted.

A medium-sized snake, with a moderate to robust build and head barely distinct from the neck. Dorsal head and body colour is uniform black, except for the snout which is often pale brown. The lowest lateral scale rows and the outer edge of the ventral scales are bright crimson, fading to duller red, orange or pink in the middle of the belly. In the north of the range the ventral colour may be greyish-pink to white. The underside of

the tail is black. Body scales are smooth and glossy. Eyes are medium size and shadowed by an obvious brow-ridge. The iris is very dark, and the pupil is round.

Midbody scales in 17 rows, ventrals 170-215, anal scale divided, anterior subcaudals single, posterior divided (occasionally all single).

May be confused with the related Blue-bellied (or Spotted) Black Snake Pseudechis guttatus, Small-eyed Snake Cryptophis nigrescens, and Copperhead Austrelaps spp.

Size range: Average adult size 1.5 - 2m, with males growing slightly larger than females (among mature specimens in museum collections the range and mean for snout-vent length was 725-1440mm and 1059mm (males), and 734-1117mm and 939mm (females)). The largest specimen in an Australian museum collection was a male with a snout-vent length of 1440mm, however reliable sources have reported a maximum total length of about 2540mm (eight feet and four inches) for the species.

Habitat: This species is usually associated with moist habitat, primarily streams, swamps and lagoons (although they may also be found well away from such areas), within forests, woodlands and grasslands. They also inhabit disturbed areas and rural properties, and are often encountered around drainage canals and farm dams. The snakes shelter in thick grass clumps, logs, mammal burrows and dreys, and under large rocks. Individual snakes appear to maintain a number of preferred shelter sites within their home range.

Seasonality: During the spring breeding season males actively search for females and consequently spend more time in the open and travel further than females generally do (up to 1220m in a single day). As the breeding season winds down males reduce their activity and by summer there is no significant difference between males and females in the amount of time spent in the open, either basking or moving, and both sexes bask less and become less active than they were in spring.

Feeding and Diet: Red-bellied Black Snakes feed on a variety of vertebrates including fish, tadpoles, frogs, lizards, snakes (including its own species) and mammals. They search widely for prey on land and in water, and are known to climb to several metres. When hunting in water the snake may forage with only its head under or submerge itself fully. Prey captured under water may be taken to the surface or else swallowed while still submerged. Snakes have been observed deliberately stirring up underwater sediment as they hunt, presumably to flush out hidden prey.

In captivity, RBBS readily accept a diet of rats and mice, and are described as being voracious feeders. They are even known to eat fillets of fish, raw chicken and canned dog food. Once grasped by the snake the prey is often consumed rapidly, sometimes even before the venom has taken full effect. Captured individuals have been known to regurgitate live frogs, which may also suggest that venom was not used or that the frogs may have some resistance to the venom.

Other behaviours and adaptations: In the wild, active Red-bellied Black Snakes maintain a body temperature in the range 28 to 31° C during the day by shuttling between sunny and shady spots. The rate of heating in

the morning is more rapid than the rate of cooling in the evening, an indication of their ability to control their temperature by behavioural (e.g. shuttling, body posture) and/or physiological means (e.g. by regulating blood flow to different parts of the body). RBBS are primarily diurnal however they can remain active well into the late evening if temperature permits. When fleeing a terrestrial predator, RBBS may enter water and stay submerged with just their head showing, or else dive under completely for as long as 23 minutes.

Life cycle: Courtship and mating among wild Red-bellied Black Snakes occurs primarily in spring (early October to November), although it may begin as early as late winter as suggested by the observation of blood residues around a female's cloaca in late August (mating can cause the female to bleed from her vent, presumably due to spines present on the male hemipenes). Males travel widely in search of receptive females and will engage in combat with any rival male that they encounter. Combat involves the two combatants spreading their necks and rearing up their forebodies, and hooking their necks around one another with a twisting motion that leads to the bodies becoming intertwined. After the initial engagement, they lie outstretched along the ground, but in some cases the forebodies remain raised. The object of the combat seems to be to push and hold the opponent down, and during the struggle the snakes may hiss and even bite each other (the biting is not serious as the snakes are largely immune to their species' venom). In the wild, the bouts may last from only a few minutes for up to half and hour, and in captivity, the same two snakes may engage in intermittent bouts over several days. During these bouts the snakes can become so pre-occupied that they are totally oblivious to their surroundings. Eventually a "winner" is determined and the snakes part ways, with the defeated male then leaving the area.

When courting a female, the male will approach and begin to rub his chin around and over her body, and as he progresses he may twitch excitedly and even hiss and bite the female. If the female is curled and receptive she indicates her willingness to mate by stretching out and allowing the male to align with her.

In the wild, females begin to develop yolking follicles in early spring and are gravid anytime between mid spring to late summer. Gravid females in some areas are known to gather in small groups (up to 6 individuals) towards the end of their pregnancies. These females bask together and will share the same night-time retreat. The reasons for these aggregations are unknown, although perhaps it allows for greater protection against predators. During late pregnancy females do not feed and stay close to their retreat. Four to five months after mating the female gives birth to between 5 and18 young that are born enclosed in a membranous sac. They emerge from the sac soon after birth (although they can remain inside for up to two days), and measure around 28cm in total length. Red-bellied Black Snakes are the only species in the genus Pseudechis that have live young (the other species all being egg-layers), and this ability gives them an advantage in cooler climates by allowing the female to have greater control over the temperatures at which her young develop.

Red-bellied Black Snakes reach sexual maturity in 2-3 years, although there is a record of one male that was mature at only 19 months of age.

During long periods of drought, reproduction may be limited or even cease altogether.

The only recorded predators of adult RBBS, aside from humans, are feral cats, although presumably they would fall prey to other known ophidiophages, e.g. brown falcons and other raptors. Newborn and juvenile snakes face predation by smaller carnivorous birds, e.g. kookaburras, other snakes, frogs, and even invertebrates such as red-backed spiders.

Red-bellied Black Snake are susceptible to the toxin of Cane Toads (Bufo marinus), and rapidly die from ingesting or even just mouthing them. Their decline in parts of Queensland and northern NSW is thought to be due to the presence of toads, although there are signs that their numbers are recovering in some areas.

http://australianmuseum.net.au/red-bellied-black-snake#sthash.evGKKkbq.dpuf

Tjindawala Lace Monitor Lizard

Scientific Name: *Varanus varius*

The lace monitor grows to between 1.5 and 2 metres in length, it is a dark steel grey above with pale yellow or cream bands or rows of spots. The underside is cream. The jaws and snout are usually strongly barred with yellow and dark grey. A second colour form known as Bell's phase occurs in some areas of Queensland which has strong dark grey and yellow bands all along the body. The toes are equipped with long, strong claws, which are used for climbing. The tongue is long and forked like a snake . Monitors are the only lizards that have a forked tongue.

Habitat: The lace monitor lives in eastern Australian forests and coastal tablelands. Much of its time is spent up fairly large trees, although they usually come down to the ground to forage for food. When disturbed it sprints to the nearest tree and climbs to safety with great speed and agility.

Diet: The lace monitor has a broad and varied diet including birds, insects, bird eggs, reptiles and small mammals. They will readily feed on carrion, including road kills, gorging themselves when the opportunity arises. After a large feed they are able to go for many weeks without feeding again.

In certain areas lace monitors have learned to find food around picnic areas, scavenging around tables and in rubbish bins. Some have even become so tame they can be hand fed.

Reproduction: Lace monitors lay between 6 to 12 eggs each year. These are usually laid in termite mounds, particularly those found in trees. The female excavates a hole on the side of the termite mound, lays the eggs and then leaves the termites to reseal the eggs inside the nest. It is believed that the mother is aware of when the eggs are due to hatch and she will return to the nest and opens it up with her strong claws to allow the baby monitors to escape.

http://www.reptilepark.com.au/animalprofile.asp?id=88

Wai’ali Brush Tail Possum

The Common Brushtail Possum is probably the best known of the possums in Sydney because it has adapted to urban living and often comes into contact with people.

Size range: 55 cm

Habitat: Common Brushtail Possums live in urban areas, forests and woodlands and heath.

Feeding and Diet: In the wild, the Common Brushtail Possum's diet consists of leaves, blossoms and fruits, but in suburbia it will eat almost anything.

The Common Brushtail Possum is nocturnal and, during the day, retreats to a hollow log, branch, tree trunk or any dark area, even inside house roofs.

Communication: The Common Brushtail Possum is a social animal and remains in contact with its group through sounds and scents. At times, particularly during the breeding season, it makes piercing screeches in the middle of the night to establish territories and warn of danger.

The Common Brushtail Possum's main predators include Dingoes, pythons, foxes and cats.

The Common Brushtail Possum was introduced to New Zealand in the 1830s where it has now become a pest species.In Australia, it is a protected species.

http://australianmuseum.net.au/common-brushtail-possum#sthash.5nnF6l59.dpuf

Wai’gon *Woo-gan* Australian Raven

Alternative Name: Crow

Australian Ravens are black with white eyes in adults. The feathers on the throat (hackles) are longer than in other species, and a bird tends to extend these when calling, while holding its head and body in a horizontal position. Australian Ravens are usually seen in pairs. Another aid to identification of this species is the absence of wing-flicking while calling. Young birds resemble the adults, but have dark eyes, shorter throat hackles and often the presence of a pink, fleshy gape. This species is sometimes called a crow.

The Australian Raven is found in eastern, southern and central Australia.

Habitat: The Australian Raven is found in all habitat types, with the exception of the more arid areas of Western Australia.

Feeding and Diet: The Family Corvidae has a wide-ranging diet that may consist of grains, fruits, insects, small animals, eggs, refuse and carrion; however, the Australian Raven is mainly carnivorous.

Communication: The territorial call is a slow, rather high 'ah-ah-ah-aaaah' with the last note drawn out.

Mating and reproduction: Australian Ravens construct a large untidy nest, normally consisting of bowl or platform of sticks, lined with grasses, bark and feathers. Both sexes construct the nest and feed the young. The incubation of the eggs is performed solely by the female, and only one brood is raised in a year.

http://australianmuseum.net.au/australian-raven#sthash.9pTz48nj.dpuf

Werombi Tiny Black Bat

Scientific name: *Microchiroptera*

Microbats are mammals and belong to the family order called *Microchiroptera* meaning “little hand-wing”. Like humans, microbats are warm-blooded placental animals and are covered with fur and they nourish their young with milk produced by the mothers. Bats share the same sense as we do in smelling, hearing, seeing and feeling, they have the added benefit of flight and an exceptional system of navigation and prey detection called echolocation. Bats are the only mammals capable of sustained flight. Although their body plan is similar to other mammals their body has been modified for flight. Their wings are hands the same as our hands only the bones have elongated and are connected by a membrane which is made up of two layers of skin enclosing elastic fibres, blood vessels and nerves.

Microbats eat many pest insects including lawn grub moths, weevils, beetles, midges, flying termites, disease carrying mosquitoes, and many more. Some microbats also eat frogs and small fish. A recent survey in a major grain-growing region of Australia, found 100% of a microbats diet were grain weevils. So for crop protection and by helping to limit the use of pesticide, by encouraging microbats we could save our economy as well as our health. Yet we humans are mostly unaware of the benefits of living with bats in our neighbourhood.

There are nearly 1,000 kinds of bats in the world, which account for almost 1/4 of all mammal species; they are highly beneficial to our economies and to our health in consuming vast quantities of pest and disease carrying insects also by pollinating and dispersing the seeds of plants. Their populations are suffering devastating declines due to habitat loss and a lack of worth.

Contrary to popular belief, bats are not blind and do not become entangled in human hair. Bats use echolocation to help them find food. Microbats make a high-frequency noise from their mouth or nose as they fly; these noises strike objects and bounce back as echoes. The bat can then tell if the object is a tasty insect or a brick wall. Objects as fine as a human hair can be detected in total darkness. This navigational system allows them to see pictures of sound much the same as our vision allows us to see. It also explains their large and unusual ear and nose shapes.

http://www.bats.org.au/about-bats/microbats.php

Wi’bung honey eater

Honeyeaters are a diverse group of Australian birds belonging to the family Meliphagidae. One of their special characteristics is a 'brush-tipped' tongue, with which they take up nectar from flowers. However, nectar is only one of their foods. Most honeyeaters also eat insects, and some eat more insects than nectar. Many honeyeaters also feed on pollen, berries and sugary exudates (e.g. sap) of plants as well as the sugary secretions of plant bugs (e.g. psyllids).

Many honeyeaters are highly mobile, searching out seasonal nectar sources. Mass-flowering eucalypts are particularly popular with these nomadic honeyeaters (e.g. Yellow-faced Honeyeater, Yellow-tufted Honeyeater, White-naped Honeyeater). Other species are sedentary (e.g. Little Wattlebird, Eastern Spinebill) and some species are strongly territorial (e.g. New Holland Honeyeater, Noisy Miner).

Several different species of honeyeater often compete for plant resources in the same area, but the larger species tend to win the battles for access to flowers (e.g. Red Wattlebirds and Noisy Miners). However, some smaller species (e.g. Eastern Spinebills) can coexist with the large species because they don't need as much food and can 'sneak' into flowering plants if there is enough foliage cover for them to hide in.

Because gardeners tend to grow plants with large and long-lasting floral displays, urban areas can provide plenty of food for honeyeaters. However, it is often the large honeyeaters that dominate gardens. This is probably because there is often not enough dense shrubbery in gardens to provide cover for small species

Some Honeyeaters include:

Wirrgan ***Wee-rr-gan*** **Noisy Miner**

Scientific Name: *Manorina melanocephala*

Despite their moderate size, Noisy Miners aggressively attack larger birds such as hawks and kookaburras. These attacks may be so vigorous that most other birds are excluded from an area occupied by Noisy Miners. Their call is a loud 'pwee pwee pwee' and a piping 'pee pee pee' when alarmed.

The Noisy Miner is a bold and curious bird. It is identified by its mostly grey body and black crown and cheeks. The bill is yellow, as are the legs and the naked skin behind the eye. The name is well suited as the common calls are uttered repeatedly by the members of the colony.

Noisy Miners range from northern Queensland along the eastern coast to South Australia and Tasmania.

Noisy Miners are found in woodlands and open forests. They have also become well adapted to suburban situations and are a common sight in parks and gardens.

The Noisy Miner feeds on nectar, fruits and insects. Very occasionally they will eat small reptiles and amphibians. Food is either taken from trees or on the ground. In keeping with its highly social nature, the Noisy Miner usually feeds in large groups.

Noisy Miners breed in small to large colonies and several broods may be reared during a single season. The female constructs the nest and incubates the eggs alone, but both sexes will care for and feed the young birds. Additional 'helpers' usually also feed the young. Interestingly, these helpers are almost always male birds.

Lewin's Honeyeater

Scientific Name: *Meliphaga lewinii*

The Lewin's Honeyeater is small to medium in size. It is dark greenish grey in colour, with a creamy yellow gape (fleshy corners of the mouth). It has large, yellowish crescent-shaped ear patches. In flight, the pale yellow edges of the flight feathers can be seen. The bill is black and the eye is blue-grey. Both sexes are similar in appearance. Young Lewin's Honeyeaters are similar to the adults, but have brown eyes.

Lewin's Honeyeater prefers the wetter parts of eastern Australia, from northern Queensland to central Victoria. it is found in both rainforest and wet sclerophyll forest, and often wanders into more open woodland. It is a common bird, and its call is often heard in these areas.

It is sedentary; with some altitudinal migration to lower areas in winter.

Lewin's Honeyeaters feed mostly on fruits, favouring berries and small fruits, but also eat insects and nectar. Birds are normally seen alone, but may form loose groups of up to 10 birds. They feed in the upper branches and on the trunks of trees. Some insects are caught in flight.

The nest is a large cup of vegetation and other materials, bound together with spider web and lined with soft material. The eggs are oval in shape. It is unclear what roles each parent performs in nest building and incubation, but both care for the young birds.

Noisy Friarbird

Scientific Name: *Philemon corniculatus*

The Noisy Friarbird is a large member of the honeyeater family with a distinctive naked black head and a strong bill with a prominent casque (bump) at the base. The upperparts are dark brown to grey, the underbody is off-white, with silver-white feathers around the throat and upper breast, and the tail has a white tip. It is a noisy and conspicuous bird mainly seen in small groups, usually up in trees.

The Noisy Friarbird is found in eastern and south-eastern Australia, from north-eastern Queensland to north-eastern Victoria. It is also found in southern New Guinea. It prefers dry forests and eucalypt woodlands, as well as coastal scrub, heathlands and around wetlands and wet forests, and is found in most climate zones, extending into arid areas along rivers. It is partially migrant in south of range, moving north in autumn and south in late winter.

The Noisy Friarbird eats nectar, fruit, insects and other invertebrates and sometimes eggs or baby birds. They spend most of their time feeding on nectar high up in trees, only coming down to the ground occasionally to feed on insects. Often feed in noisy flocks, and with other honeyeaters such as the Red Wattlebird.

Noisy Friarbirds form long-term pairs, with both parents defending the nest and surrounds. The female builds the large, deep cup-shaped nest from bark and grass, bound with spider webs, slinging it in a tree-fork. She alone incubates the eggs, but both parents feed the young, up to three weeks after fledging.

http://www.birdsinbackyards.net/birds/featured/Honeyeaters

wombat wombat

Wombats are amongst the world’s largest burrowing animals. They are equipped with powerful limbs, short broad feet and flattened claws. Wombats are primarily grazers and their continuously growing incisors work as efficient cutters of grass and forbs.

A short, stocky, barrel-shaped animal with physical characteristics that reflect its burrowing nature. It has a broad head with small eyes, a short strong neck, powerful shoulders and a very small tail (~25 mm) hidden by

fur. Colour of the wombat's coarse coat varies from glossy black, dark grey, silver-grey, chocolate brown, grey-brown, sandy and cream. In southern Victoria, there is a small colony of ash-white wombats and albino animals have been reported, as well. Often the coat can also be coloured by the soil (e.g. clay can stain the fur red), and/or have patches that are lighter in colour.

Wombats differ from other marsupials by having only two incisor teeth in the upper jaw. The incisor and molar teeth of this animal are also unique because they have open roots and continue to grow throughout the animal's life.

Common Wombat's distinguishing features are: large and naked nose; coarse thick coat; short, slightly rounded ears.

Size range: The size of the Common Wombat varies with their distribution. Tasmanian and island species are generally smaller. Females tend to be slightly larger than males of the same age, but the geographical variation makes it difficult to generalise. Average head and body length of mainland wombat is 985 mm (840-1150 mm). Weight is 26 kg (22-39 kg).

Common Wombat is the only living member of its genus *Vombatus*, and is similar in appearance to two remaining wombat species (Southern and Northern Hairy-nosed Wombats) belonging to the genus Lasiorhinus. The main differences are the absence of hair on the nose in the Common Wombat, its coarser hair and narrower nasal bones than in Lasiorhinus. In the early descriptions of the species by the Europeans, wombats have been linked to badgers, beavers, pigs and bears (it is because of its bear-like appearance that it has been named ursinus (Latin ursus, bear)). However, other than being a mammal, the wombat is not related to these animals: wombats are marsupials (the young develop in mother's pouch) and not placentals, like the other aforementioned mammals.

Distribution: At the time of European settlement, 200 years ago, the Common Wombat was wide spread from southeastern Queensland, through New South Wales along the Great Dividing Range to most of Victoria (except the northwestern corner of the state). It was also present in the southeast of South Australia, in Tasmania and on many of the larger Bass Strait Islands.

Today the species has a discontinued and fragmented distribution. It has almost disappeared from the western half of Victoria and it is absent from many parts of New South Wales where it formerly ranged. In addition, it has declined in South Australia, and is now only found on Flinders Island of the Bass Strait Islands.

The main habitat for the Common Wombat is the temperate forest-covered areas of southeastern Australia. The species tends to avoid rainforests and is often found in the mountainous areas. In southern Queensland and northern New South Wales it is found only in sclerophyll forest above 600 m. In South Australia and Tasmania it also occurs at lower altitudes in more open vegetation – woodland, coastal scrub and heathland.

Wombats prefer to dig their main shelters on slopes above creeks and gullies, and feed in grassy clearings.

Common Wombat is one of the few marsupials that are active above the snowline in winter, however they appear to be less active than during warmer months. In summer, the animal is mainly nocturnal, emerging from its burrow when the air cools down, to avoid high temperatures. In general, wombats spend most of their lives (about two thirds) in their burrows.

Feeding and Diet: A wombat usually leaves the burrow after sunset and begins to graze for several hours. During this time, it may return to its burrow to rest, or seek refuge, and it will return to sleep generally before sunrise. However, in cool or overcast days the animals are known to forage longer and during the day.

The main food for wombats is fibrous native grasses, sedges and rushes, and the choice of food depends on what is available at the time. Wombats seem to prefer Tussock Grass in the forest areas, and Kangaroo Grass and Wallaby Grass are favoured in open, more pastoral areas. At times when it is eating grass, a wombat will also eat dry leaves and stalks, and occasionally tear a strip of bark from a tree trunk and chew small quantities of it. In some habitats, wombats also feed on mosses, possibly as a source of water, given their low nutritional value. Anecdotal observations of wombats feeding on fungi have been reported as well.

Communication: Wombats are generally classed as solitary animals despite the overlapping ranges and occasional sharing of the burrows. Therefore, communication between two individuals is often threatening or aggressive. A warning call is usually a low guttural growl, but when a wombat is alarmed or angered, rasping hiss can also be heard. The animal repeats this high, loud call as it expels air. Sometimes the call can be a more aggressive ‘chikker chikker’ sound and/or a more guttural sound similar to that of an angry brushtail possum.

Communication is also apparent between younger animals and their mothers. Young make repeated, softer ‘huh huh’ calls when they lose sight of their mother, and she usually responds in the same manner.

Life cycle: Usually, one very small, underdeveloped wombat is born following a short gestation period (probably 30 days). It makes its way to the pouch, where it grows and develops for 6-10 months. The young then leaves the pouch and remains with its mother for further 8-10 months before becoming independent. Common Wombats become sexually mature after two years and live up to 11 years in the wild. In captivity, individuals can live well into their twenties.

Mating and reproduction: Breeding may occur at any time of the year, with a single young being born. However, in the highlands of New South Wales, most wombats give birth during December-March, while in Tasmania there is an apparent bias towards October-January being the birthing season. On Flinders Island no births occur between September-January months.

When a female enters oestrus she becomes active and aggressive. Mating has been observed in captive wombats; the female attacked the male for about 30 minutes before allowing him to mate. The mating lasted for about 30 minutes with both male and female laying on their sides. In the wild, the courtship consists of the female being chased by the male in wide circles. The male then bites the female’s rump and rolls her over on

her side. After several minutes the female breaks away and resumes the chasing behaviour. This action can be repeated several times within about 30 minutes.

Common Wombat does not have many natural predators, except the introduced ones: wild dogs and foxes. When threatened it will escape to the nearest burrow, where it can defend itself by crushing a predator's head with its rump against the roof or wall of the burrow. In the open, an adult wombat can usually hold its own against a single dog, but it is overcome by a pair or a pack of dogs. Young, immature wombats, or old/ weakened adults are, therefore, more likely to be the potential prey for the predators.

Wombats are susceptible to bacterial infections that can be difficult to treat in captivity. However, in the wild, an injured wombat will roll in earth and the soil will stick to the wounded area, allowing the area to heal with time. Similar behaviour is observed when the animal suffers from mange mite, and the soil is believed to help the animal alleviate some of the intense itchiness caused by the disease. In severe cases mange can affect the wombat's vision and ability to eat, making the animal weaker until it eventually dies. Other external parasites commonly found on wombats include: ear mites, skin mites and ticks. Internal parasites include worms of various kinds, but these appear to do little or no harm to the animal. In areas where wombats and sheep graze together, wombats can become infected with liver fluke, a parasite common in sheep. Similarly, in the vicinity of other domestic stock, wombats can get infected with leptospirosis which causes serious kidney damage. In captivity, toxoplasmosis is a major cause of death for young, hand-reared wombats.

Other diseases recorded in wombats include diabetes, arthritis, cancer, asthma and pneumonia, however, there is limited knowledge on this aspect of wombat's life.

http://australianmuseum.net.au/common-wombat#sthash.UpAFK2le.dpuf

Wubin pygmy possum

Scientific name: *Cercartetus nanus*

Eastern Pygmy-possums are tiny (15 to 43 grams) active climbers, with almost bare, prehensile (capable of curling and gripping) tails, and big, forward-pointing ears. They are light-brown above and white below. Adults have a head and body length between 70 - 110 mm and a tail length between 75 - 105 mm.

The Eastern Pygmy-possum is found in south-eastern Australia, from southern Queensland to eastern South Australia and in Tasmania. In NSW it extents from the coast inland as far as the Pilliga, Dubbo, Parkes and Wagga Wagga on the western slopes.

They are found in a broad range of habitats from rainforest through sclerophyll (including Box-Ironbark) forest and woodland to heath, but in most areas woodlands and heath appear to be preferred, except in north-eastern NSW where they are most frequently encountered in rainforest.

The Pygmy possum feeds largely on nectar and pollen collected from banksias, eucalypts and bottlebrushes; an important pollinator of heathland plants such as banksias; soft fruits are eaten when flowers are unavailable. It also feeds on insects throughout the year; this feed source may be more important in habitats where flowers are less abundant such as wet forests. They are agile climbers, but can be caught on the ground in traps, pitfalls or postholes; generally nocturnal.

Pygmy possums shelter in tree hollows, rotten stumps, holes in the ground, abandoned bird-nests, Ringtail Possum dreys or thickets of vegetation, (e.g. grass-tree skirts); nest-building appears to be restricted to breeding females; tree hollows are favoured but spherical nests have been found under the bark of eucalypts and in shredded bark in tree forks. Frequently spends time in torpor especially in winter, with body curled, ears folded and internal temperature close to the surroundings.

They appear to be mainly solitary, each individual using several nests, with males having non-exclusive home-ranges of about 0.68 hectares and females about 0.35 hectares.

Young can be born whenever food sources are available, however most births occur between late spring and early autumn.

http://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10155

Wugatjin bull ant

Bull ants have a fearsome reputation, and deservedly so.

Bull ants are large, alert ants that can grow up to 40 mm They have characteristic large eyes and long, slender mandibles and a potent venom-loaded sting. They have superior vision, able to track and even follow intruders from a distance of 1 metre. Many species of bull ants have bright red or orange colours on the head or abdomen.

There are about 90 species of bull ants in Australia with diverse behaviours and life cycles. Nine bull ant species have been recorded in Sydney, but there may be more as yet undiscovered. Some of the smaller species are known as jumper ants after their habit of aggressively jumping toward intruders.

Size range: 8 mm - 40 mm

Bull ants are found throughout Australia and live in urban areas, forests and woodland, and heath.

Bull ants collect nectar and other plant juices, as well as animal prey, which are carried back to the nest.

Bull ant nests are usually underground and often have hidden or small entrances. The nests can extend several metres below the ground. They attack intruders of any size that come too close to their nest. Bull ants also have well-developed vision and will follow or even chase an intruder a good distance from the nest. Usually the sight of large aggressive ants streaming out of the nest is enough to prompt a hasty retreat. If not, the ants deliver painful stings by gripping the intruder with their mandibles (jaws), curling their abdomen to reveal the sting and injecting the victim with venom. Often multiple stings are delivered.

Life cycle: Several species have no colony workers. Instead, a raiding queen invades the nest of another species, kills the resident queen and takes over the colony.

These ants can deliver painful stings and are aggressive. An ice pack or commercially available spray may be used to relieve the pain of the sting. If there is evidence of an allergic reaction, medical attention should be sought.

http://australianmuseum.net.au/bull-ants#sthash.ipoPEvz7.dpuf

Yabun'aru *Yah-boo-nah-roo* Yellow-bellied Sugar Glider

The Yellow-bellied Glider *(Petaurus australis)* is one of the largest gliding possums in Australia, the most loudly vocal, the most capable glider, and yet, it is the least known and least studied member of its family.

The average sized animal has a head-body length of 30cm with a tail approximately 45cm long. The species is characterised by a short head with a pointed muzzle and long oval ears. The head and body are grey-brown with a darker stripe down the centre of the back. The belly varies from creamy-with to orange. The gliding membrane on the flanks extends from wrist to ankle. It has a long and bushy tail, which is grey at the base and black on the tip. Hands and feet are black.

The species is restricted to tall, mature Eucalypt forests in temperate to subtropical regions of eastern Australia which receive high rainfall. The isolated northern Queensland population lives only in dense forests at high altitudes. The range of the species was recently extended into South Australia where an individual was captured in the Caroline Forest Reserve in April 1981. Prior to this capture, it was not thought to occur in South Australia.

It seems the species lives primarily on tree exudates and, to a lesser extent, insects, and nectar and pollen when available. The animal is fairly restricted in the species of trees on which it feeds, with the main species being the Rough-Barked Manna Gum *(Eucalyptus viminalis)* in the south and Red Mahogany in the north.

To extract the sap from the tree, the animal chews at the bark until it exposes the cambuim. This gnawing tends to form a definite V shape on the tree trunk. As the sap exudes from the cambuim it runs down the V channel and collects in the notch at the base where it can be readily licked up. Trees can become quite scarred over a number of years as ‘sweet’ trees are continually fed upon.

Females have two nipples in the pouch which is incompletely divided into two compartments by a longitudinal septum. The single young is born usually between November and May and is carried in the pouch for about 100 days. It is left in the nest for a further 60 days, after which it fends for itself.

This species has a number of complex vocalisations which it uses in different activities. Nocturnal calling patterns are apparently most influenced by the weather conditions on the night. Various activities appear to be associated with calling rate and these include the amount of gliding.

Apart form providing contact and location information, the calls probably advertise the callers’ sex, age and social status.

http://www.marsupialsociety.org/yellow_bellied_%20glider.html