Informative Writing Exam

Prompt: How have Australian animals adapted to their environment?

Australian Fauna by Deirdre Manning

Early in geological history, Australia was cut off from the rest of the world's land masses. This allowed a range of animals to establish successful populations in Australia—animals that were unable to do so in other parts of the world.

Almost all of Australia's native mammals are marsupials. Marsupials give birth to their young and then carry them in a pouch near their belly until the infant is old enough to survive on its own. Another unusual type of mammal is the monotreme. Monotremes lay eggs instead of giving birth to live young. There are only two types of monotreme in the world—the platypus and the echidna— and both of them are found in Australia.

Platypuses

Platypuses are found all along the eastern coast of Australia, from Tasmania to far north Queensland. They are small dark-brown furry mammals with webbed paws and a duck-like beak. Platypuses live in burrows that they dig into the banks of rivers. They are diving animals, and can stay under water for up to two minutes. Unlike a duck's beak, the platypus' beak is rubbery and flexible. It has hundreds of electroreceptor cells inside it, which can detect the electrical current

Platypuses give birth by laying eggs. The eggs are incubated by the mother in special nesting burrows. When it hatches, the baby platypus feeds on milk secreted from two patches of skin midway along the mother's belly.

Echidnas

Echidnas can be found all over Australia. They are small, round animals with large clawed feet, a long snout and a coat covered in sharp, flexible spines. Their diet consists almost exclusively of termites, which is why they are also known as spiny anteaters. Echidnas also lay eggs. A single egg is laid in the female echidna's pouch and hatches in about ten days. The baby echidna (or puggle) lives in its mother's pouch until it begins to develop spines. The echidna's spines are used mainly as a defense mechanism. When threatened, an echidna will either roll itself into a spiky ball or dig itself into the ground until only its spines are exposed.

Kangaroos

The kangaroo is Australia's largest marsupial. Kangaroos travel by hopping on their long hind legs, using their tail for balance. They can reach speeds of up to 56 kilometres per hour and can jump distances of eight metres and heights of almost two metres.

Kangaroos live in large packs (or mobs) of around 100. Their diet consists of grasses, leaves and other plants. They thrive wherever a regular water source is available. The introduction of European farming methods has established regular water supplies and allowed the kangaroo population to grow dramatically. It is estimated that there are around twenty million kangaroos in Australia. A baby kangaroo is called a joey. Joeys are raised in their mother's pouch, suckling from the teats inside, until they are about ten months old. Within a few days of giving birth, female kangaroos enter into heat and will mate again and, if they successfully conceive, after one week's development the microscopic embryo enters a dormant state that will last until the previous young leaves the pouch. The development of the second embryo then resumes and proceeds to birth after a gestation period of about 30 days.

Emus

The emu is a large, flightless bird with hairy, brown feathers. Standing up to six feet tall and weighing an average of 60 kilograms, it is the second largest bird in the world. Emus can be found all over Australia, away from settled areas. Emus have a stride that measures around nine feet and can run at speeds of up to 50 kilometres per hour. They travel large distances in pairs or small groups, though occasionally large herds of up to a thousand have been formed.

Emus have fairly large territories and can travel up to 900 kilometres in a nine-month period. If there is a reliable source of water, emus will stay nearby. They mainly tend to travel long distances in search of water. Their diet consists of leaves, grasses, fruits, native plants, and insects. Emu young are called chicks.

Wombats

The wombat is the world's largest burrowing herbivorous mammal. They average one meter in length and 25–35 centimeters in height. Wombats have four powerful legs that they use for digging, and large heads with small eyes, pointed ears and prominent snouts. Wombats are found mainly on the east coast of Australia, from Tasmania to southern Queensland.

Wombats are nocturnal animals. Nocturnal animals are active by night and sleep during the day. During summer, wombats spend almost eighty per cent of their time underground in their long, complex burrows. They mainly leave their burrows at night when the air temperature is cooler, but in colder weather they can be seen out during the day as well.

Wombats are grazing animals, eating mainly grass and other plants, including shrubs, roots, bark and moss. When feeding, a wombat can pick up its food with one of its front feet and place it straight into its mouth. Wombat young are called joeys and the female wombat has a pouch which faces backwards to prevent dirt from entering it when it is burrowing.

Tasmanian devils

The Tasmanian devil is the world's largest carnivorous marsupial. It is roughly the size of a dog, and is thick-set with a muscular build, a large, wide head and a short, thick tail. The devil's fur is black and usually has patches of white on its chest and rump.

Tasmanian devils are only found in Tasmania, though fossil evidence shows that there were devils on the Australian mainland 3,500 years ago. They have powerful jaws and long, sharp teeth. They are primarily nocturnal, coming out at night to forage for food. Devils are scavengers, sometimes eating small mammals as prey, but mainly living on the remains of dead animals. When feeding, a Tasmanian devil will eat everything, including bones and fur.

Generally speaking Tasmanian devils are solitary animals, but packs of devils will feed communally on larger dead animals they find, like cattle and sheep.

Koalas

Koalas are tree-dwelling marsupials whose diet consists almost exclusively of the leaves of a particular type of tree called Eucalyptus. Koalas have grey fur similar to sheep's wool, large prominent ears and a round face. Their limbs are long and muscular and their paws are broad with long claws. They can be found throughout mainland eastern Australia.

Koalas' paws have rough pads and long claws to help them climb. A koala's front paw has three fingers and two opposing digits, almost like two separate thumbs. The hind paws have a clawless opposing digit and two toes that are fused together to form a "grooming claw."

Koalas spend twenty hours a day sleeping or resting. The rest of the time is spent feeding, grooming and moving from tree to tree. The koalas' diet of eucalyptus leaves is a very low-

energy diet, which accounts for their low levels of activity. Their main source of water is the dew and rain that collects on the leaves they eat. Koala young are called joeys.

New to Australia by Aidan Semmler

More than 80 percent of the plants, mammals, reptiles, and frogs found in Australia are not found anywhere else in the world.

The only placental mammals (all mammals that are not marsupials or monotremes) native to Australia are the house mouse and some species of rats and bats. This is not to say that there are only these few species of placental mammals in Australia; rabbits, foxes, and even camels are common, but they were introduced species.

Australia had developed an ecology that was unique due to its remoteness. Once settlers arrived, they brought with them familiar animals, along with unexpected consequences.

The story of rabbits in Australia is a remarkable one. In 1859, a settler named Thomas Austin released 24 rabbits so that he could continue the hunting that he had enjoyed in England. Within ten years there were so many rabbits loose in Australia that even though about two million were shot or trapped each year, it didn't make a dent in their population. Over time, the rabbits have caused untold damage to Australia's native plants and animals. Destroying the plants has left less food for other animals and also causes erosion.

The topsoil gets washed away and the land can no longer support vegetation. Rabbits are thought to have caused more species loss in Australia than any other other cause.

Like rabbits, foxes were introduced in Australia for hunting.

They were originally brought over in the mid-1800s. There are now more than seven million red foxes in Australia. They are a successful predator, responsible for the decline or extinction of many native species.

Other introduced mammals that cause damage include over a million feral camels, two million feral goats, twenty million feral pigs, and eighteen million feral cats. These animals have lived in

Australia for hundreds of years now, and have very few predators.

This accounts for their huge successes as species, resulting in the major damage they inflict on the Australian ecosystem.

Perhaps most surprisingly dangerous to Australian ecology is a humble toad. The cane toad was introduced from Hawaii in 1935 to try to combat the native cane beetle, which was destroying much of the sugar cane crop. The cane toad population has now topped 200 million, causing major environmental damage. The toads are toxic, and native predators have no immunity to the poison. Toads can kill native predators such as the quoll, a cat-like marsupial that is also hunted by the red fox. The cane toad does not seem to have had any effect on the cane beetle: The cane beetles moved too high on the cane stalks for the cane toads to reach.

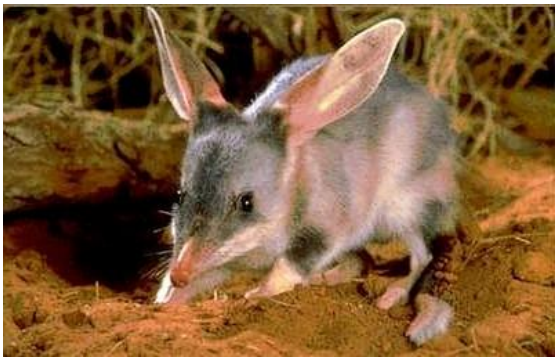
Bearing in mind the havoc caused by species introduction, it is remarkable that people are suggesting the reintroduction on a large scale of another non-native species. The dingo is a wild dog that appears to have reached Australia about 4,000 years ago. It is believed that dingoes are descended from domesticated dogs and were brought by seafaring people from Asia. The dingo is now Australia's largest carnivorous mammal. (That position used to belong to the Tasmanian tiger, a marsupial mammal that is now extinct. Tasmanian tigers were hunted enthusiastically in the nineteenth century, and the last of the species died in a zoo in 1936.)

Most people regard the dingo as a true Australian because of its long residence down under. It is suggested that scarcity of dingoes allowed smaller, non-native, predators to hunt and cause the extinction of many native marsupials. Encouraging a larger population of dingoes to hunt these predators (and animals such as rabbits) might result in better conditions for native marsupials, which could flourish more easily than in an ecosystem in which introduced species either prey on them or devour their food.

Australian Desert Animals from the Cambridge University Bioresearch Department

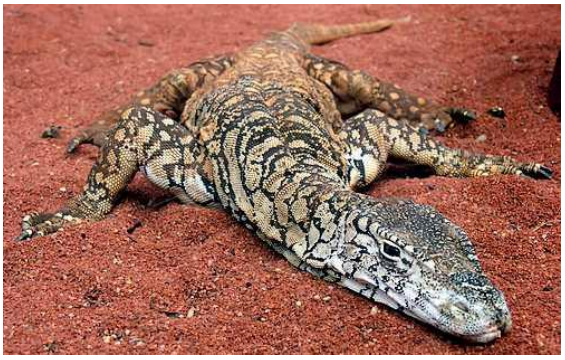
Australian desert animals had to evolve some nifty adaptations to the harsh Outback environment they live in. The Australian Outback deserts are not the driest deserts in the world, it actually rains a fair bit here and **there is a lot of wildlife**, but the rain is unpredictable. Years may pass between showers. Often, when it rains it pours and the desert turns into a big flood plain. From one extreme to the other within a few hours.

The Bilby



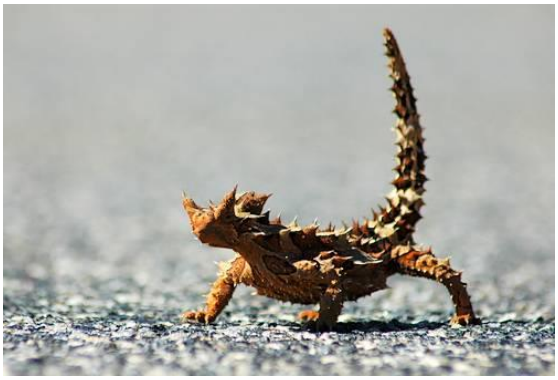
The pretty and delicate bilby once lived across most of the Australian inland deserts. Today its range is a lot more restricted (due to the usual environmental problems that we humans cause). Only small, fragmented populations survive in parts of the Tanami, the Gibson and the Great Sandy deserts. Like most desert animals the bilby hides during the day and forages at night to avoid heat and dehydration. Bilbies dig burrows that are one to two metres below ground and moister and up to ten degrees cooler than the surface. They are so efficient in conserving water that they don't need to drink. They get enough moisture from their food: seeds, bulbs, fungi, spiders and insects, which they find by scratching and digging. Just like the little fellow in the picture above.

The Perentie



The Perentie, a two meter monitor lizard that lives in the Australian deserts, uses the same strategy: it shelters in underground burrows. Those burrows are huge and often have many escape tunnels. Not that the Perentie would need them. Perenties are amongst the top predators in the Australian deserts.

The Thorny Devil

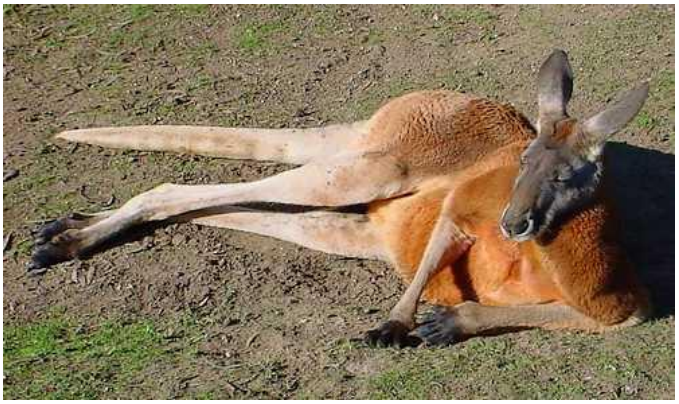


The thorny devil is one of the most unusual looking animals of the Australian desert, and its adaptation to its harsh environment is ingenious to say the least.

The Bearded Dragon

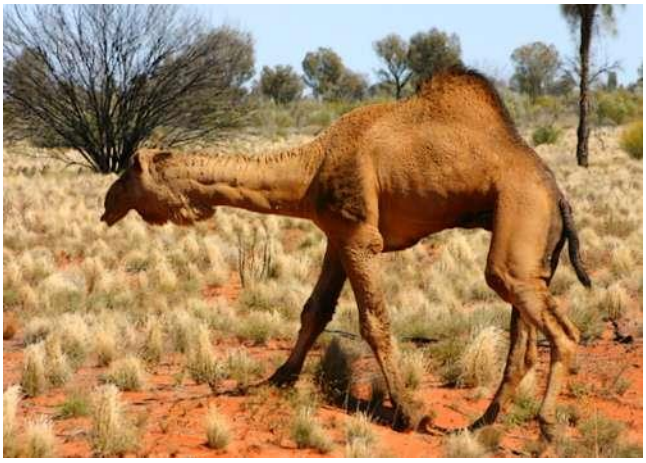
Another desert dweller from the family of Australian lizards: the bearded dragon. Bearded dragons are found mainly in the central desert regions of Australia. Let me rephrase that. Bearded dragons originated mainly in the central desert regions of Australia. From there they conquered the rest of the planet: they are one of the most popular pet lizards in the world.

The Red Kangaroo



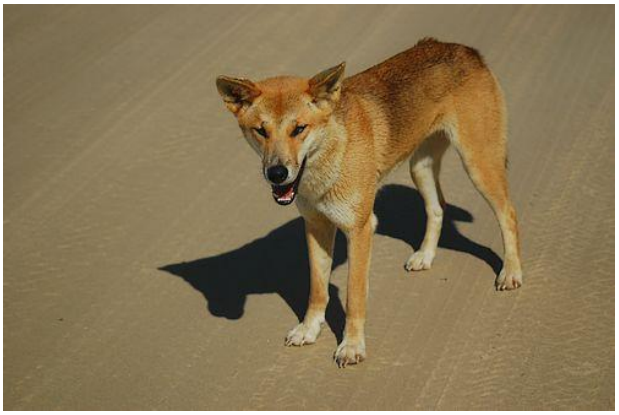
The Red Kangaroo, the largest marsupial in the world, is the most famous kangaroo species, but it is only one of many. The "big reds" are the species that inhabits the driest parts of Australia, the central deserts. And their adaptation to their environment is the one aspect they are so famous for: the hopping. Hopping is a fast and very energy-efficient way to travel. It evolved because Red Kangaroos need to cover huge distances to find enough food in the sparsely vegetated Australian desert.

The Camel



No, the camel is not a native Australian animal. But when camels were introduced they did so well that the camels that escaped or were let go by their owners multiplied rapidly and established a big and healthy population in the Australian Outback deserts. Today they are everywhere. Australian deserts contain huge numbers of wild camels, camel meat is on the menu of many restaurants that offer "bush food", we have camel farms and camel rides are popular with tourists. We even export camels back to the countries they originally came from. Australia is one of the world's top producers of camels. No kidding.

The Desert Dingo



The dingo has lived in Australia for much longer than any other introduced animal. Still, it didn't evolve here. Dingos were introduced at least 3500 years ago. The wild dogs had become an integral part of the Outback environment, but when white settlers arrived here, and brought their sheep, and there was a clash of interests, the hunter became the hunted. Dingo numbers are steadily declining, so much so that dingos could become extinct within just a few decades. And that means we would be losing our best weapon in the fight against the most destructive feral predators and pests: cats, foxes and rabbits.