

Little penguin (*Eudyptula minor*)



The little penguin, also sometimes referred to as a fairy penguin, blue penguin or a little blue penguin, is the world's smallest penguin species.

Standing about 35 cm tall and weighing around 1.2 kg, the little penguin is significantly smaller when compared to the Emperor penguin which is the world's largest penguin standing over 110 cm and can weigh up to 30 kg.

The little penguin is the only penguin to breed in Australia, along Australia's southern coastline.

The little penguin

Adult birds have steel blue feathers on the back, head and wings with white underparts. The feather bases are coated with thick down for insulation in the water. Males are generally larger and heavier than females. The average lifespan is about seven years and birds mature at about three years. Some birds in captivity have been known to live for 21 years.

Hatchlings are covered in black down, have eyes closed and are unable to raise their head. They are able to raise their head at one day old and their eyes are fully open at seven days old. The black down is replaced by chocolate brown down at two weeks of age. The upper surface of their feet turn black at about three weeks old. The juvenile moults the brown down and becomes free living after about 57 days. The juveniles may leave the colony and not return for up to 12 months.

Nests

The nest site is typically a rocky burrow or shelter, although nests under dense vegetation are common where there is competition for burrows. Artificial burrows are successfully

made for little penguins with a high occupancy rate soon after installation.

Nest building begins around April with the first chicks emerging in June. The adults attend to the chicks until they fledge which usually begins in August. It is not uncommon for adults to raise two sets of chicks so there are chicks in the colony until January. Following nesting the adults go out to sea to feed prior to the moulting season which occurs between December and February. Moulting is followed by another feeding period prior to commencing breeding again.

Two white eggs are laid during autumn and winter, two or three days apart. The incubation time is 36 days. The male and female bird take turns in incubating the eggs, their shifts can be up to ten days long. Hatching is a very slow process taking up to three days. Hatching success is about 60 per cent.

A noisy breeding season

Little penguins can breed as a single pair or in colonies. The males dig nesting burrows up to 1.6 km from shore and they make "squawking" noises to call the female penguins. Penguins defend a small space around their burrow during the breeding season, growling to warn penguin intruders; this is followed by a loud 'kak kak kak' warning call. If the intruder persists, the resident penguin will lock beaks with the intruder and beat it with its flippers!

Only males undertake burrow construction. Courtship follows, with the male seeking to impress the female with the prepared burrow. The female chooses the burrow she likes best and that male will be her mate for the year. Little penguins only have one mate at any time, but this is not necessarily a partner for life.

Breeding success is largely determined by food availability and in poor seasons very few chicks may survive. In very good seasons up to three clutches of eggs may be laid consecutively, one clutch of two eggs is 'normal', with usually only one chick surviving to moult.

A day in the life of a little penguin

Most penguins return from the sea after dark. They can often be heard calling from out in the water and usually come ashore in small groups pausing briefly before heading off to individual burrows. Due to their movements on land penguins are often mistakenly thought of as nocturnal. They



do in fact feed at sea during the day returning to the colony to rest. Much communication occurs as the penguins return from the sea-calls from the sea, calls on land, greeting and communication with other birds, territorial disputes and so on.

Sleeping

Penguins sleep for only about four minutes at a time! Either standing up or lying down, they will sleep during the day if they remain on land. Sleep periods at night tend to be more frequent and slightly longer than those taken during the day. Penguins have similar sleep patterns to humans and other mammals, only a much reduced time scale.

Moulting

All adult penguins moult at the end of the breeding season (usually late summer), all the feathers are shed and replaced over a period of two to three weeks.

During moult the feathers are not waterproof and the birds need to stay on land. At these times they are particularly vulnerable to land predators and interference.

As they cannot feed during the moult they feed intensively prior to moulting and store body fat to survive the loss of up to half their body weight.

After moulting many penguins leave the colony to build their weight again.

That's a lot of fish

Little penguins consume about their body weight every day. Major food items are small schooling fish (76 per cent), squid (24 per cent) and occasional krill (<1 per cent).

Penguins feed only in surface waters as they are not deep divers. The tip of the beak is hooked and the edges very sharp to firmly grasp prey. The tongue and roof of the mouth are covered with stiff backward pointing spines which help the penguin to swallow its prey.

Sight, sound & feathers

Sight

Penguins have excellent vision both in and out of water. Penguins depend upon their vision to locate and catch their prey. A third eyelid protects the eyes underwater and on land is used like a windscreen wiper to clear sand from the eyes. Penguins have excellent night vision.

Hearing

Their hearing is good, but better in water than on land. This is simply a physical property of water- it transmits sound better than air.

Voice

The voice is complex and serves many purposes; the display call could be described as a 'raucous throaty wail' and is accompanied by vigorous body movements, it is best appreciated from a distance. Different calls are used for attracting mates, aggression, pair communication, alarm/danger, location, and other purposes. Short sharp 'quak' sounds are used when at sea.

Feathers

There are about 10,000 feathers on a little penguin at three to four times the feather density of flighted birds. The feather bases are very downy which traps air providing an effective insulation when the penguin is at sea.

The feather tips are very stiff much like fish scales which prevents them being compressed by water pressure, and therefore stops the insulating air layer from being squeezed out.

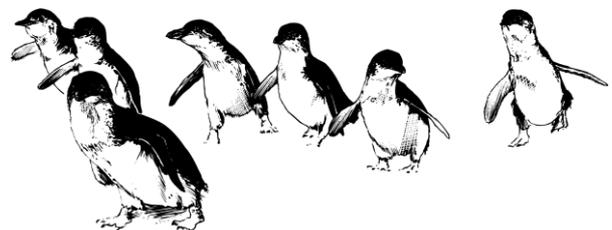
The feather colours are adapted to suit life at sea, looking from above the dark upper surface blends with the sea surface, from below the light undersides are more appropriate as the sea is illuminated from above.

Feather fluffing

Normal body temperature is 38.5°C (37°C is normal human body temperature), heat loss is a problem particularly at sea (water drains heat rapidly).

On land penguins increase insulation by 'feather fluffing' when very cold and penguins will shiver as the active muscles then produce heat.

By eating more, penguins can produce additional heat through increased metabolism. Alternatively, when heat-stressed, penguins can take long slow breaths rather than rapid shallow breaths like other birds. The reason for this is not known.



Flying under water

Movement in water

Penguins literally fly underwater. Flippers provide the power and the feet provide the steering. Penguins float easily on the sea surface. They may swim on the surface, swim underwater or porpoise in and out of the water. In the first year after fledging it is not uncommon for little penguins to travel more than 1,000 km.



Movement on land

Penguins are primarily adapted to life at sea, with short legs placed well back on the body. This gives them an upright stance and a clumsy waddling gait on land. Due to their short legs, penguins can take only short steps when walking which requires large amounts of energy. However this does not stop little penguins from nesting up to 1.6 km inland.

Diving

A penguin dive averages approximately 24 seconds to depths between 5 and 20 metres. The maximum dive depth is approximately 60 metres. Time at the surface may be as little as one or two seconds, or resting for up to half a minute.

Easy pickings

Predation

Natural predators of penguins include sea eagles, fur seals, goannas and snakes. Introduced predators such as dogs, foxes and cats can significantly reduce bird numbers.

Conservation of Penguins

Penguin colonies in remote areas such as off shore islands are generally free from disturbance and require little if any active conservation management. Where colonies occur in close proximity to human settlements, the potential for human disturbance increases. Major disturbances include high visitation in sensitive areas at sensitive times, and free roaming dogs killing both adults and chicks. The role of the Department of Environment, Water and Natural Resources is to provide protection for penguin colonies (ie from dogs), and distribute information to enable visitors to observe little

penguins without affecting their moulting and breeding activities.

Penguin watching guidelines

Little penguins are vulnerable to attacks by dogs and stress due to disturbance from unknowing people. Please adhere to these guidelines, so others may continue to enjoy the same experience.

- Three metres is as close as you should approach, to limit the disturbance that you cause.
- Camera flashes are very disturbing to penguins. A camera flash will blind a penguin for up to five minutes making them vulnerable to predation.
- Use torches indirectly- shine the bright spot past the penguin. It is preferable that you place your hand over the torch or use a red filter.
- Many penguin deaths have been caused by dog attacks, so keep dogs away at all times. Even the smell of dogs within the colony will disturb penguins and may stop them from breeding.
- The penguins always have the "right of way". They are usually returning to their burrow or chicks. Don't get between chicks and adult penguins or obstruct a penguin from getting to its burrow.
- Moulting penguins may be easy to see in their burrows but they are most vulnerable at this time. Their new feathers are not yet waterproof so they cannot leave the burrow if disturbed.

Do not touch any penguin, chick, eggs or burrow as human scent may cause the penguins to abandon their breeding activities;

During summer penguin watching becomes challenging as most of the adults are out at sea feeding for the next breeding season in autumn. Consequently there may be nights when no penguins can be found in summer.

For more information

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