



Pelican Parlez by Frank Harrison

For this year's Aussie Observations creature feature I am going to peer at pelicans.

There are seven species of pelicans around the world, of which we are home to one, which is quite simply called the Australian pelican. An obvious enough title on face value but somewhat lacking when you see that its range is from Indonesia to Fiji.

Though the pelican's profile is unforgettable, my own indelible impression of them is when watching them soar high above against a sapphire sky, like this one that I photographed recently hanging over Hell Hole Creek, a little south of Townsville. It is only then that you can appreciate their huge wingspan of over 2.5 metres, a marvel of engineering that can lift the 7 kg bird into the sky with ease. I always remember Bill Dowd, curator of zoology at James Cook University, letting me hold a stuffed pelican wing. I was astonished to find that with even the merest breeze, my hands being hoisted above my head at a surprising speed.

Up aloft they seem such a bird of elegance and poise, far removed from the ungainly waddling lumps they appear when walking over land. Surprisingly, for a bird that is known to fly long distances, the complex chemistry that occurs within a pelican's breast muscles is not compatible with prolonged flapping flight.

Most of their peregrinations depend on soaring from one thermal to another and they have to travel in stages of not more than a day apiece. Then it must land and wait, as its metabolic processes "retune" the flight muscles with the correct chemical mixture before they can set off again on the next leg of their journey.

I always admire a pelican that is putting in a huge effort to take off. They flap furiously to become airborne before gliding and then continue to take turns twixt gliding and flapping until it hits a thermal. Then you may see it ascend steeply as the rising column of air elevates it to heights of around 3000 metres (approx. 10,000 feet) and onto its destination. While flying this way it attains an air speed of some 55 km/hr (approx. 35 mph).

This Australian avian's bill is the biggest of any bird species in the world, up to 50 cm (approx. 1 foot 8 inches), though the female's is a little smaller at around 40 cm (1 foot 4 inches). It is fair to say that it is the pouch below which makes a pelican an avian celebrity. In fact a great many bird species have pouches, including waders and birds of prey but theirs are very much reduced. Also, in their case, the main function is to act as a device to radiate heat away from the bird's body.

A pelican's pouch, formally called a gular pouch, is also used in this way. It is enriched with vessels that spread

the bird's blood over a large surface area. The pelican will also employ gular flapping, rippling its pouch in the breeze to increase the rate of heat loss by bringing in the processes of convection. The film of fluid formed on the pouch's inner surface also works to evaporate heat away. These are very important points for a bird that lives in an environment where temperatures soar as high as the bird can.

The bill is best known as a fishing device and holds on average 10 litres of water and up to 13 litres - more than a bucketful. Pelicans will often form groups to feed. They use various strategies, often driving fish into shallow water, though what leads them to choose a certain formation over another is unknown. Sometimes they will form a horseshoe, slowly moving forwards and simultaneously dipping into the water every few metres. At other times they prefer to form a single file, synchronizing their dips as one so they look not unlike a team paddling an outrigger canoe.

Once prey is captured inside the bill pouch, it is pressed against the bird's breast, which squeezes the water out from valves at the corner of the beak. Once drainage is complete the trapped prey is then swallowed. Most pelicans purely predate fish, but the Australian variety displays a broad sustenance spectrum, swallowing anything from insects to small mammals. Cohabiting waterbirds, including gulls and ducks, are not immune from ingestion. These are held below the water and drowned before swallowing. Occasional morsels of plant material add roughage and trace elements to the Australian pelican's diet.

Pirating foods from other species is a speciality, mugging any waterbird smaller than they. In the 1980s, the ranger of Townsville's Ross River Dam recorded a fascinating case of pelicans mingling amid a large flock of fishing little black cormorants. As they returned to the surface with their piscatorial prize, unlucky birds were seized by a pelican and shaken like a rat until the fish was coughed up.

The pouch is carefully maintained to keep its suppleness and pliability with a two-stage exercise that is performed during the pelican's preening regime. First the pouch is stretched sideways over the bird's bulging breast and then lengthwise by extending the head and bill skywards.

One of the prime places I know of to observe the interactions and complexities of the pelican's social behavior is right on the Cairns Esplanade, where up to 30 of them put on a show at high tide. Here, pelicans can be consistently found. It qualifies as a special site since most other pelican habitats in the region tend to be ephemeral and dry up or are difficult to access.

Independent of time of year, prolonged rains will trigger them to vacate their locale for traditional natal sites. Australian pelicans breed on sequestered sites, relatively free from terrestrial predators and largely on inland lakes. However, Queensland birds, as with those in Tasmania, take advantage of nesting on uninhabited islands. The



Pelican compilation - Photos by Frank Harrison

