

WILDLIFE DIARY

September 2009

Rick Natrass (1950 – 2009)

Did You Know?

Rick Natrass is synonymous with conservation in Queensland, a cherished environmental leader, a respected and tenacious advocate for wildlife, particularly koalas; he will be sadly missed by all creatures great and small.



Great Finds

Unfortunately 3 dolphins (*Tursiops spp*) found dead in three days, Victoria Pt, Ormiston and Port of Brisbane. Same time period 5 turtles, 1 dead 4 very ill, found in same location.

POPULATION MATTERS

Arguments for a larger Australian population are uniformly based on a belief that it will increase the growth of the economy. Whatever the merits of the argument (and there are few), the population boosters never ask the most fundamental question: Will a higher rate of economic growth actually make us any happier? Why do we equate national progress with economic growth when we know that continued expansion of our levels of consumption is putting ever-greater pressures on the natural environment? It's time to get over our growth fetish.

Clive Hamilton, Executive Director, [The Australia Institute](#), April 2003

The **East Australian Current** is the largest ocean current close to the coast of Australia, generating and enriching life on the driest continent. With its source in the tropical Coral Sea, northeast of Queensland, the East Australian Current (EAC) moves a substantial volume of low-nutrient tropical water south down the Australian coastline towards the temperate regions, with ocean eddies peeling off into the Tasman Sea on the way.

Bombardier beetles

Bombardier beetles are predatory ground beetles that belong to the family Carabidae. One member of this family, *Pherosopus verticalis*, has a unique defensive chemical system. The secretory apparatus of the beetle produces an aqueous solution of hydroquinones and hydrogen peroxide, which is stored in a bodily reservoir. When threatened the beetle releases fluid from the reservoir into a reaction chamber, which contains oxidative enzymes, (catalase and peroxidase). The enzyme catalyse an explosive reaction and the boiling mixture, reaching 100°C, with an audible pop discharges in a spray through the abdominal tip. While this species is widespread throughout Australia there are also nine other diverse groups of these insects known to produce compounds, such as acids, phenols, hydrocarbon and quinones.

Did you know **Blue-tongued Skink**, *Tiliqua scincoides*, both adults and young eat snails, insects, birds' eggs and a variety of vegetable matter? Captive and tame animals readily take scraps of fresh meat and fruit such as apples, bananas and paw-paw.

Did you know it is thought ecological extinction caused by **overfishing** precedes all other pervasive human disturbance to coastal ecosystems, including pollution, degradation of water quality, and anthropogenic climate change? Source: Science Vol 293 27th July 2001.

The eyes of **insects** include the simple eyes (ocelli) placed dorsally and the compound eyes placed laterally on the head. The compound eye consists of a number of separate receptors or ommatidia. Each ommatidium, depending on the species, is variable from a single ommatidium in some ants to over 30,000 in dragonflies.

Approximately 10 - 20% of **Moreton Bay mangroves** have died and sunk over the last 5 years because of some unknown stressor. While the dieback is predictable and corresponds with worsening drought conditions, an anticipated corresponding return to a saltmarsh-dominated tidal wetland ecosystem (as seen elsewhere in Queensland) has failed to materialise in Moreton Bay. Instead, the dead and dying mangrove forests of mid to upper tidal zones have unexpectedly subsided to form highly saline, shallow anoxic pools amongst surviving patches of trees within upper mangrove areas – called 'Sinking Centres'. Currently, two chief hypotheses are proposed to explain the cause. The first concerns the possible stimulation of anaerobic microbial decomposition that may precede shallow subsidence as decayed roots collapse within the Avicennia-dominated tidal wetlands. A second hypothesis concerns the close relationship between mangrove trees and mangrove crabs plus other burrowing fauna where their presence is positively correlated with soil aeration where this might influence forest resilience. As such, in locations where crabs and burrowing animals are removed or killed by some pollutant then the forest when stressed by drought, for instance, might succumb more readily and die. Source: Dr Norm Duke, University of Queensland.

Great Walks

Art walks in the Redlands, visit

http://www.more2redlands.com.au/Explore/Leisure_Attractions/Trails/Pages/default.aspx



WWW

Population matters

www.population.org.au

Asian Gecko survey & information

https://www.surveymonkey.com/s.aspx?sm=Un2U5S6RQiuB05q3EigaTg_3d_3d

http://www.southbank.qm.qld.gov.au/learning/nsw/pdf/asian_house_geckos_20080709.pdf

Dragonflies

The insect Order Odonata includes **damselflies** (suborder Zygoptera) and **dragonflies** (suborder Anisoptera). Most of them are medium to large size, body length from 15mm to 120mm. Their bodies are long and slender, usually with bright colours. All of them have two pairs of membranous wings. Their hind wings and forewings are more or less similar size and shape. They have very small antennae but very large compound eyes. They have the small three eyes (ocelli) as well. Their mouths are very good at biting (they don't bite or sting human). Their eyes and mouth occupy almost all their head.

Damselflies are usually smaller than Dragonflies and with a more slender body. Their eyes are well separated on each side of the head. Their wings are narrow at the base with hind wings of similar shape to the forewings. The damselfly larvae have three or occasionally two caudal gills (tails) for breathing in water.

Dragonflies are strong flyers and spend most of the time in the air. Their large compound eyes are either very close or touching each others. Their hind wings are always broader than the forewings near the base. The larvae breathe by internal tracheal gills and do not have external "tails".

Dragonfly adults are colourful but their larvae are less familiar. The growth of dragonfly can hardly be classified into in-complete metamorphosis (Hemimetabolous) or (olous) nor complete metamorphosis (Holometabolous). Metamorphosis in Dragonflies and Damselflies is quite different from other insects. Their larva look different from adults but they do not have pupa stage. What is metamorphosis? Like all other arthropods, insects cannot grow continuously because of the restriction of their hard exoskeleton. Instead they grow via a series of moults: they will increase in size and change of appearance. Basically there are three different ways in which insects develop into adult stage. Hemimetabolous is where young, usually called nymphs, look similar to the adults but with no wings. They share the same habitat, the same food and same lifestyle. Hemimetabolous young look very different from the adults. Their life style is very different from their adults. Just before they become an adult, they will enter a stationary state then their body is completely transformed into a different shape. Ametabolous, in primitive wingless insects or Apterygota when young ones hatch from the egg they are called nymphs and resemble closely the adult the principle difference being size.

Dragonfly and damselfly reproduction and associated behaviour is unique among the animal world. The behaviour is complex but universal within the Order, although with difference species there could be some minor variations. Some dragonfly and damselfly species show very strong territorial behaviour while some species do not. A territory is defined as a fixed area that an animal defends against intrusion from others of its own species. In dragonflies and damselflies the territory will usually be a good egg-laying site. The male dragonflies and damselflies will return to their breeding ground and stay there until they mature and are ready for mating. Most male Skimmer Dragonflies perch on their favorite spot and overlook their territory. The male Hawker and Emerald will usually fly, non-stop within a fixed path over their territory. When there are male intruders of the same species (sometimes other species as well), the territory holder will drive away the intruder, by showing better body colour, better flying skill, being larger in size or some other advantages. Sometimes very close and violent contact occurs. The males will stay in their territory and wait for the female. In most dragonflies and some damselflies, females only visit their breeding site to mate and lay eggs. They will leave the breeding site after laying eggs, until the next batch of eggs is ready. When the female enter the male territory (or when a male meets a female in the non-territory area), they will start the next mating sequence, the courtship and recognition.

Dragonflies and Damselflies lay eggs in fresh water where the larvae grow. Larvae need fairly precise habitat and are sensitive to water pollution. The dragonfly adult is a predator in the sky and preys on flying insects. Larva may spend years in water, depending on the species, while adults live only a few weeks. Dragonfly and damselfly larva live in water, grow with a few times (9-15) of moulting. Damselfly larvae use its caudal gills (the three tails) to breath in water. Compared with dragonfly larvae they are slender. When the larva is fully developed, it moves to the exposed rock or plants where it prepares for the final stage of metamorphosis. The adult comes out from the split of the larval skin at the thorax. The emergence may take about one hour. Most species emerge during the night to early in the morning.

Maturation of most adult dragonflies takes up to two weeks or less. During this period the colours of the dragonflies, especially the male, can change dramatically. For those immature adults, they usually hunt in bush far away from the waters. They will return to the waters when matured, some will even return to their place of emergence.

Source: http://www.brisbaneinsects.com/brisbane_dragons/index.html

Never doubt that a small, group of thoughtful, committed citizens can change the world. Indeed, it is the only thing that ever has. Margaret Mead.

