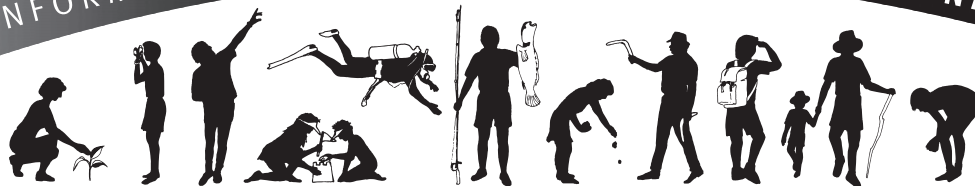


TROPICAL TOPICS

AN INFORMATIVE NEWSLETTER ABOUT THE ENVIRONMENT



Notes from the Editor

The centre spread 'fact sheet' in this issue looks at some animals in the wet tropics which have unusual, if not unique, characteristics. These animals have all made an appearance in previous issues of *Tropical Topics*, but here have been brought together in a handy reference fact sheet for use by tour operators and children.

Cassowaries are among the most charismatic fauna of the area. While many visitors are keen to see them, an overconfident big bird, demanding a free meal, can be frightening. The solution – people must stop feeding them.

Acknowledgements

I would like to thank Andi Cairns, James Cook University, Barbara Rice, Biowatch, Scott Ritchie, Tropical Public Health Unit, Adrian Canaris, Biodiversity Assessment and Management Pty Ltd, Barbara Waterhouse & Louise Hucks, Australian Quarantine and Inspection Service, Brigitta Flick and Junko Godwin for their help with this issue.

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Cassowary etiquette

The cassowary is an endangered icon of the Wet Tropics World Heritage Area and a beloved symbol of Mission Beach. Unfortunately some individual birds have become a menace, encouraged to overcome their natural shyness with food handouts.

Some tour operators, wanting their customers to get a good view of the birds, are believed to be culprits. Residents who mistakenly believe they are doing the cassowaries a favour are also feeding them. In fact, they are creating a massive problem. At Mission Beach, rangers receive complaints about threatening cassowary behaviour on a daily basis. Birds have approached people aggressively, taking food from picnic tables and forcing their heads into bags in search of food.

When denied food these bold birds sometimes become dangerously demanding. People have been chased, dogs attacked and vehicles damaged. Kicking forward with long sharp toes, cassowaries have the potential to inflict serious injury. Children in some areas cannot play outside and parents, armed with sticks and rakes, must accompany them to the school bus stop and the corner store. The Licuala picnic ground, near Mission Beach, has been fenced to protect visitors.

Cape Tribulation cassowaries are also becoming bolder, again lured to picnic sites and the roadside with handouts of food. Tour operators have been stopping their coaches on the road and allowing passengers to descend in order to photograph the birds. This puts the passengers at risk of attack from the bird and creates a potentially hazardous situation for both passengers and bird on a busy road.

Cassowaries are endangered because so much of their habitat has been cleared. They breed well, but all too often the chicks have nowhere to go when expelled from their father's

territory. They have learnt to associate humans with food and many at Mission Beach have become urban fringe dwellers with an artificially high population dependent on handouts. Rangers spend a great deal of time and resources in following up complaints and dealing with aggressive birds, some of which have had to be captured and relocated.

When a young boy was killed by a dingo on Fraser Island in 2001, people were forced to acknowledge the seriousness of advice not to feed the animals. Consistent efforts are made to educate the public but, in spite of this, some people continue to offend. In order to enforce safety standards, fines can be imposed for feeding dangerous native wildlife. In September, for the first time, a woman in Mission Beach was fined for feeding cassowaries. The Queensland Parks and Wildlife Service is serious about getting the message across before someone is badly injured.

Etiquette pointers:

- NEVER feed cassowaries.
- If composting food scraps in a cassowary area, put the scraps out at night, in a secure enclosure.
- Don't stop a vehicle when you see a cassowary. Simply drive carefully past and alert oncoming vehicles to the hazard by flashing your lights.
- If you encounter a cassowary in the wild, back calmly away. Hold a bag or other item in front of your body and try to get behind a tree. Don't run – cassowaries are faster.
- Don't get between an adult bird and its chicks.



Mozzies in the tropics

There are more than 350 species of mosquitoes in Australia. These insects feed on plant sugars such as sap, nectar and fruits for energy. It is only the females which also need blood, necessary for their eggs to mature.

While many mosquito species bite humans, others specialise on the blood of birds, amphibians, reptiles, fish or other mammals. They use cues, such as carbon dioxide and characteristic body odours, to find a host. ('Repellents' mask these odours.) When a suitable victim has been discovered, some mosquitoes release a chemical message which alerts other mosquitoes to their find, inviting them along to the feast. Different species are attracted to different parts of the body – feet, hands or even the face.

A mosquito, when it bites, injects saliva to stop the blood from clotting and it is an allergic reaction to this saliva which makes a person itch. It is also the saliva which has the potential to transmit diseases. Only a minority have this ability and not all diseases can be transmitted by them. When a mosquito bites a person suffering from influenza, measles or HIV, for example, that particular micro-organism is unable to infect the mosquito and it is simply digested or harmlessly excreted. Similarly, if a mosquito is of a species which is not susceptible to a particular infection, the micro-organism is again destroyed. However, if a mosquito ingests blood containing a disease which it can host, its gut, internal organs and, eventually, its salivary glands become infected. At this stage, if the mosquito bites another person, the disease will be injected with the saliva into this new host.

Only certain mosquito species can carry certain diseases.

Malaria is carried by several species of *Anopheles* mosquitoes. Dengue can be carried only by *Aedes aegypti*, a 'domestic' species which has the unfortunate habit of breeding almost exclusively in water-filled containers around the homes of humans. Ross River virus, however, can infect – and be spread by – a number of different mosquitoes, of different genera. This is one of the most common mosquito-borne diseases; about 5,000 cases are diagnosed in Australia each year, making up 90 percent of cases reported to Queensland Health.

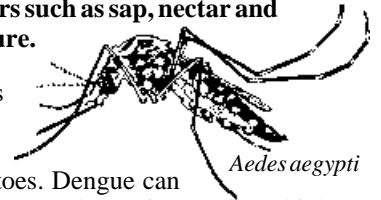


Illustration courtesy Queensland Health

Protection against diseases involves avoiding bites, reducing breeding opportunities around our houses and not building too close to saltwater breeding grounds; some species can travel up to 10km to find victims. But not all mosquitoes are pests – the large Toxorhynchites mosquito does not suck blood and its larvae prey on other mosquito larvae.

In addition to the malaria parasite, mosquitoes can carry a number of arboviruses – short for arthropod-borne viruses. In Australia, these include Ross River, Barmah Forest, dengue and kunjin viruses as well as Murray Valley and Japanese encephalitis, the latter affecting only the Torres Strait.

Creature feature: the water mouse

Choosing crocodiles for companions is the best way to keep curious biologists from snooping into your private life and that is how the water mouse has kept itself out of the public eye, until comparatively recently.

This little animal, formerly known as the false water-rat, is the world's only true marine mouse. It frequents coastal wetlands associated with mangroves, sheltering during the day and coming out at night to forage in the tidal zone for crabs, molluscs and flatworms. Its movements depend on the tide. While the feeding area is covered, the water mouse will stay snug at home, coming out to follow the receding water as the tide goes out. Otherwise it will make the best of exposed areas, retreating back to the mound as the tide comes in. Although it is a relatively good swimmer, it prefers to avoid the water.

'Home' often takes the form of a distinctive mound, built from peat and mud and situated in the intertidal area behind the mangroves. About knee-height, the mounds resemble small volcanic cones. Although construction techniques vary, all mounds contain a small leaf-lined chamber placed above the highest spring tide, to avoid inundation.

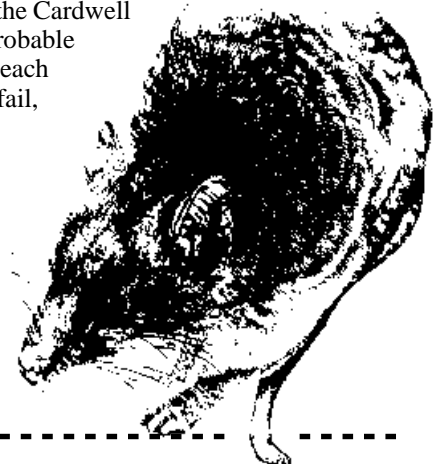
The water mouse grows to about 10cm in body length with an 8cm long tail. It has silky grey-brown fur which is sometimes spotted with white flecks – hence its alternative name of spotted mangrove mouse. It has small ears and eyes and seems to use its acute sense of smell to find food.

Water mice have been found in the Top End (Northern Territory) and also in coastal Queensland north to about Proserpine. Much of what is known about them comes from a

study undertaken by the Queensland Museum in 1991 on North Stradbroke Island – a crocodile-free zone near Brisbane. However, researchers were sure they should be present in suitable habitat in north Queensland.

In July this year dedicated members of the Wildlife Preservation Society of Queensland, Queensland Parks and Wildlife Service rangers and Wet Tropics volunteers conducted a search, with assistance of Threatened Species Network funding derived from World Wildlife Fund Australia and Environment Australia – and met with success. Although they didn't find any water mice in fur and flesh, they did locate one definite water mouse nesting mound in the Cardwell area along with several probable mounds. In the Cowley Beach Army Reserve, near Innisfail, they found four more probable mounds.

If you think you have seen a water mouse or a nesting mound please contact the editor (details on page 8).



Bountiful bryophytes

Modest and frequently overlooked, bryophytes – mosses, liverworts and hornworts – make an immense contribution to the well-being of the rainforest environment.

In terms of biomass – the total mass of living material – bryophytes have been shown in some rainforest areas to outweigh the leaves on the trees. Studies in East Africa have shown that in terms of dry weight there are as many as three tonnes of bryophytes per hectare. Since these plants can absorb about four and a half times their weight in water, they can hold over 12 000 litres per hectare. This provides a valuable source of moisture during dry periods as stores are gradually released.

Bryophytes are found from polar environments to deserts. Those inhabiting harsh situations have an amazing capacity to resist drought, some having been revived after 20 years. This enables them to colonise hostile environments.

Less than half of this very diverse group of plants is known to science. They can evolve very quickly, particularly in rainforest environments and especially in the uplands; mountain tops of the Bellenden Ker Range are a centre of

diversity for Australia. However, bryophytes also have a conservative streak. Many ancient species from Europe and America, found preserved in amber up to 45 million years old, are still in existence today.



Bryophytes probably evolved from green

algae, early on in the development of life on earth. They predate flowering plants, reproducing instead by means of spores. These are so small and light they may be carried great distances in air currents, especially in cyclones.

Bryophytes do not have leaves, as they are recognised in more developed plants. The leaf-like structure, which functions in a similar way, is known as a phyllidium. Root-like structures called rhizoids attach the plants but, unlike roots, they do not take up nutrients or water. Instead these are absorbed through the 'leaves' as water filters through the plant.

Many epiphylls – tiny plants growing on the surface of leaves – are bryophytes. Germinating on the leaf, they use rhizoid discs to excrete a sticky substance which attaches them to their host. They then grow quickly, their lifespan limited to that of their leaf host. The diversity of bryophytes on a leaf is a reflection of the biodiversity of the rainforest as a whole. Just three or four species on each leaf indicates a forest with low biodiversity while leaves in the most diverse forests may have up to 30 per leaf.

Diversity

Students from James Cook University recently identified a total of 28 different bryophyte species (11 mosses and 17 liverworts) in an area just 4m long and 3cm wide, across an upland rainforest stream in the Paluma Range.

Weed corner: Mikania vine

Mikania vine (*Mikania micrantha*) has another, rather appropriate, common name – mile-a-minute. One of the world's worst weeds, it climbs rapidly over other plants, smothering them under a dense blanket of growth.

This plant is native to central and south America but has spread throughout the tropics, becoming a serious pest in many countries. It is a major weed of young plantation crops and pastures but can also grow in disturbed native forest, climbing high into the canopy. Its numerous small seeds can be spread by wind or water and can be carried by animals and on machinery. In addition, small fragments of the stem are able to sprout and grow. It thrives in disturbed areas with fairly high rainfall.

Infestations of mikania vine have been found in north Queensland at Mission Beach, Bingil Bay, Forrest Beach, Ingham and Speewah. It poses a serious threat to sugar cane, tropical fruit and vegetables as well as native forests in the Wet Tropics World Heritage Area. In addition to smothering other plants, mikania can chemically inhibit growth of other plants and reduce nitrogen in the soil. Authorities are keen to eradicate it before it becomes more widespread.

Please look out for mikania vine and

report any which you find growing. Its most distinctive features are its pointed heart-shaped leaves which grow in pairs, on opposite sides of the stem, and clusters of small flowers which are white to greenish-white. In north Queensland, these are produced prolifically between about May and October, on parts of the plant which are in full sunshine – often high in the canopy. Tiny black seeds are attached to fluffy 'parachutes'.

If you see it growing, please contact your local Department of Natural Resources Land Protection officer on 1800 803 788. If you are in the Wet Tropics, you can call the Centre for Wet Tropics Agriculture, South Johnstone, Ph: 4064 3911 or the quarantine botanist, Australian Quarantine & Inspection Service, Mareeba, Ph: 4092 8555.



Photo courtesy Department of Natural Resources and Mines

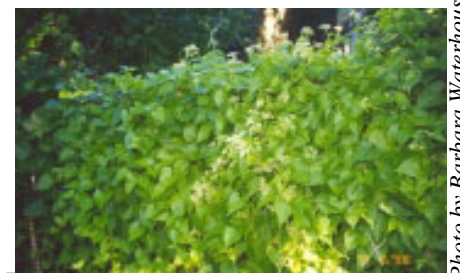


Photo by Barbara Waterhouse





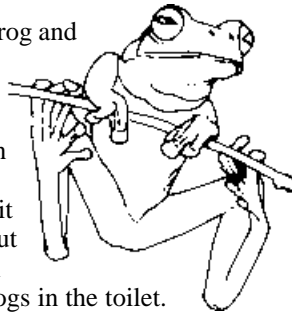
Australia's Tropical Rainforests

WORLD HERITAGE

F A C T S H E E T

Weird and wonderful wet tropics wildlife

The **giant tree frog** is Australia's largest frog and one of the largest tree frogs in the world. It can grow to over 15cm in length and is common throughout the wet tropical lowlands in swamps, rainforests and suburban gardens. Along with a number of other tree frogs, particularly the common green tree frog, it sometimes finds its way into houses, seeking out damp places to rest during the day, especially in the dry season. It is not unusual to find these frogs in the toilet.



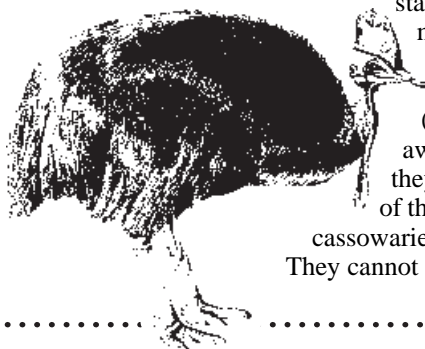
Several types of tree frogs, large and small, live in the tropics. They are well adapted to life off the ground. They have a flattened body shape, to help with balance, and long legs with large webbed feet and disc-like tips to their toes which maximises the area brought into contact with the surface on which they are resting. The skin of the toes is made up of tiny interlocking cells. The edges catch on irregularities and, when the frog is on a smooth surface such as glass, water is drawn into the cracks leaving a thin, sticky film.



These frogs can change colour – sometimes appearing bright green and otherwise quite brown. This happens when cells in the skin (melanophores) which contain a brown/black pigment (melanin) change shape. As they become bigger, the frog appears less green. This helps camouflage the frog and may help to warm it up, as dark colours absorb more heat.

The **cassowary** is a bird which cannot fly. Females are bigger than males, reaching 2m in height when they stretch up, which is as high as a tall man. Cassowaries eat fruit, but they sometimes catch birds and mice and eat them. Sometimes they even go fishing. The bird submerges itself in a stream and fish swim in between its waterweed-like feathers. Then the cassowary closes its wings, steps on to shore, gives itself a shake and eats the fish which fall out!

Father cassowaries are the caregivers. The female lays her eggs in a scrape on the ground. The father then sits on them for about 50 days until they hatch. The little chicks, which start life with cream and black stripes, stay with the father for about nine months. They follow him around, learning how to feed. Then, as the next breeding season approaches (June to October) he chases them away. Many chicks die at this age as they venture out looking for territories of their own. The main threat to cassowaries is the destruction of their habitat. They cannot survive if there is no forest.



Archerfish are also sometimes called riflefish. This is because they shoot their prey with droplets of water, knocking insects off vegetation overhanging water. This fish has a ridged tongue which fits into a groove in the roof of its mouth. By forcing its tongue along the groove, it is able to spit a drop of water at its victim. Even as it shoots, it darts to the place where it has calculated the insect will fall, planning to arrive there before another fish does.

Archerfish are commonly found across northern Australia in rivers, lakes and estuaries. They are often seen in groups, swimming near the surface of the water as they look out for potential victims. This fish has six or seven distinctive, irregular, dark blotches on its upper side.



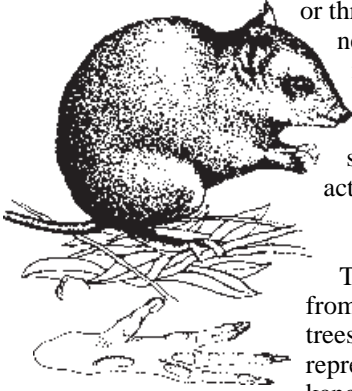
Peripatus are strange little animals which are half worm and half insect. Sometimes called velvet worms, they have soft, multi-segmented bodies like worms, but have legs, antennae and a breathing system similar to that of insects. They appear to be a step in the development between an ancient worm in the sea and modern centipedes and insects.

Found in damp leaf litter and rotting logs, peripatus feed largely on insects, trapping them with jets of slime which hardens and traps the victim. These animals have a bizarre sex life. The male stores sperm in a pit on his head. When he finds a mate, he attaches his head to the female's genital opening, thus transferring the sperm. Some species lay eggs and others give birth to live young which, in some cases, have been nourished by a simple type of placenta inside the mother.

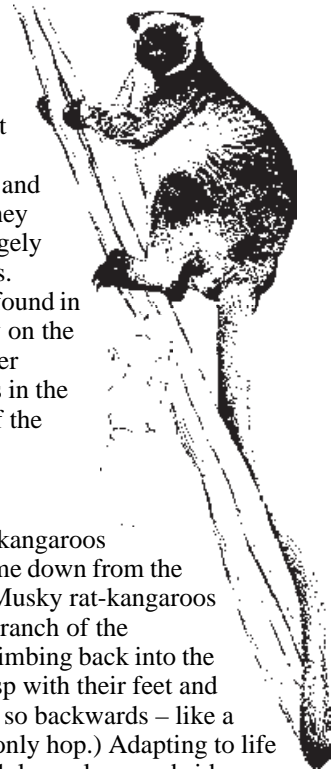


Millions of years in the making. Protected forever.

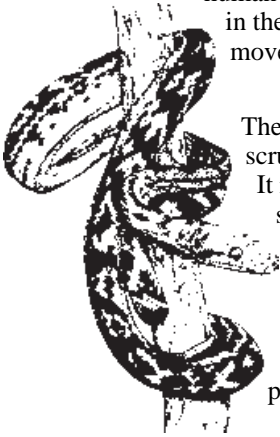
Musky rat-kangaroos are like possums which live on the ground. They have feet like possums, with special thumbs for gripping – all other kangaroos and wallabies have flat feet, with no thumbs. Like possums, musky rat-kangaroos can curl their tails and use them to grasp and carry things. They bound on all fours, like possums, (kangaroos hop on their hind legs) and give birth to two or three young, while kangaroos never have more than one. But musky rat-kangaroos don't climb trees. They live on the forest floor, eating fruits, seeds and fungi. They are active by day and sleep at night.



Tree-kangaroos are kangaroos which live in the trees. They have flat hind feet with no thumbs, long, heavy tails, which they cannot curl, and they hop. Sleeping by day, they come out at night, living a largely solitary life, feeding on leaves. Lumholtz's tree-kangaroo is found in upland rainforests, especially on the Atherton Tableland. The larger Bennett's tree-kangaroo lives in the northern wet tropics, north of the Daintree River.

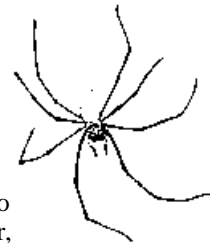


These animals represent intriguing stages in the development of kangaroos from possums. In ancient times, one branch of the possum family came down from the trees to live on the ground – and became kangaroos and wallabies. Musky rat-kangaroos represent an early stage in this development. It is thought that one branch of the kangaroos, probably rock-wallabies, then took the unlikely step of climbing back into the trees to live alongside the more agile possums. Although they have lost the ability to grasp with their feet and tails, tree-kangaroos spend most of their lives in the tree tops. When descending, they do so backwards – like a human – and are able to walk as well as hop. (Kangaroos, on the ground, can only hop.) Adapting to life in the trees, they have developed relatively strong forearms, shorter feet with long claws and sideways movement in their ankles and wrists.



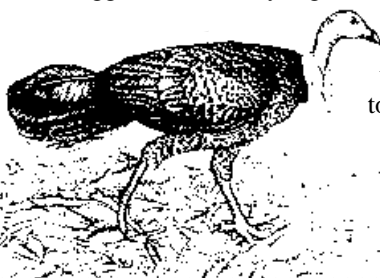
The **amethystine python**, also known as the scrub python, is Australia's longest snake. It is also one of the most commonly seen snakes in the wet tropics. Adults are an average 3m in length but there are reports of a 8.5m long specimen, found near Gordonvale, south of Cairns. Its name is derived from the iridescent sheen overlying its brown and yellow patterns.

Female **golden orb weaver spiders** are enormous, up to 5cm in body length, and build huge webs. When seen in bright light, the web appears golden, possible making it attractive to insects. The male is a tiny black spider, very much smaller than the female, which hangs around on the edge of her web.



Australian brush-turkeys and **orange-footed scrubfowl** are commonly seen in the rainforest as they scratch around noisily looking for fruits, seeds and insects. These are megapodes, meaning 'big feet', which rake up vegetation to construct massive nesting mounds. Instead of sitting on their eggs, these birds allow the heat from the rotting vegetation in their mounds to do the incubation for them. During this time, the male tends the mound, adding or removing material to keep the temperature a fairly constant 30.8-35.8deg.

On average, the female lays more than three times her own weight in eggs during a season. (One, in captivity, laid 56.) These eggs are unusually big because the young bird,



when it emerges from the mound has to be well-developed enough to fend for itself, with no parental help.

Boyd's forest dragons are large lizards which live in the dense rainforests of the wet tropics. Although their mottled skin camouflages them well, observant walkers can spot them clinging, motionless, to the sides of trees one or two metres from the ground. When attempting to scare off a predator, and when communicating with one another, these lizards can unfold a bright yellow flap of skin below their chins.



Most lizards bask in sunshine to warm themselves. While mammals and birds manufacture their own heat from food, reptiles rely on the sun to warm up. Boyd's forest dragons, however, live in the deep shade of the rainforest, in a climate where it frequently rains. Rather than waste energy seeking sunshine, this lizard (as well as several other rainforest species) functions at the same temperature as the air around it. The body temperature of active individuals has been found to vary between 33 and 19deg.



QUESTIONS & ANSWERS

Q Why is the box jellyfish (*Chorinex fleckeri*) so toxic? I understand we humans may represent a link in the evolutionary chain, but obviously this particular jellyfish, having been present in the coastal waters for longer than we have been around, developed this potency long before we appeared. Does the jellyfish therefore use its toxin to placate its prey, or is it a defence mechanism?

A It has been suggested that the venom is used for defensive purposes – but this has been disputed because turtles can eat them with no ill effects. It has also been suggested that the toxins serve to subdue prey quickly, before it gets a chance to damage the jellyfish tissues. However, box jellies are quite tough and are not easily damaged.



The current theory suggests that venom toxicity is related to diet, which changes as *C. fleckeri* mature. Smaller individuals eat prawns, but when the bell of these animals reaches a size of about 60-70mm in diameter they move on to fish. This change requires a vertebrate poison – which unfortunately affects us, since we too are vertebrates. Interestingly, another species of box jellyfish, *C. chiropsalmus*, is not nearly as venomous – but it sticks to a diet of prawns and doesn't move on to fish.

The number of stinging cells (nematocysts) which come into

contact with the victim may be of relevance. Normally only about one centimetre of tentacle would come into contact with a fish but the nematocysts are tightly packed and this means that about one million of them would sting the victim. Each nematocyst contains only a tiny amount (about 0.00001ml) of venom, but one million are enough to kill the fish. For a human, the minimum length of tentacle recorded as causing a death is two metres, which equals about 200 million nematocysts. Calculations have shown that the ratio of weight to nematocysts fired is similar between fish and humans.

Acknowledgments to Dr Jamie Seymour, JCU.

Q To what degree is the sense of smell developed in megapodes such as Australian brush-turkeys and orange-footed scrubfowl?

A Unfortunately, little is known about the megapode sense of smell. Research now shows that birds have a better sense of smell than previously thought. It is therefore likely that megapodes have some sense of smell, but there is no evidence as to how well-developed it is. It is likely that they rely primarily on visual clues when foraging.



Sideline
BioWatch



Do you keep records of your first pied imperial-pigeon sighting for the year, or the first flowering of a favourite plant? If so, you might be interested in contributing to BioWatch.

This is a project set up by Macquarie University in Sydney to study phenology – the seasonal timing of natural events. Interest in phenology is not new. In Britain, the earliest records date back to 1736 and have been valuable in tracing the effects of variable weather patterns and the bigger picture of climate change.

In Australia, the Gould League's Timelines Australia Project was launched almost 10 years ago to encourage interested observers who were beginning to monitor natural events around them. To find out more about this you can look at Timelines on the Gould League's website: www.gould.edu.au (click on 'Community', then on 'Timelines' in the drop-down menu), or the Hunter Region Timelines project www.geocities.com/liveattentively which looks at phenology in detail.

BioWatch is a more recent project which has been set up to encourage people to log their observations over the internet. A total of 29 exotic plants and 28 birds have been selected initially for people to report on. It is hoped that records submitted will begin to show trends sooner if they are narrowed down to a limited number of species; the more records obtained for a single species, from different places, the more significant the data will be. However, observers are invited to suggest their own species for inclusion.

Records sought will focus on 'firsts' – first records of flowering in plants, nesting or arrival of migrants for birds and emergence for flying insects. As the records are added to the website, contributors will be able to compare the timing of these 'firsts' with others in different locations and, over the years, observe fluctuations in patterns.

Anyone is welcome to participate. The website address is: www.bio.mq.edu.au/ecology/biowatch/Biowatch.htm and questions can be addressed to Dr Barbara Rice, Department of Biology, Macquarie University, NSW 2109; Ph: (02)9850 8192; e-mail: brice@bio.mq.edu.au

TOURIST TALK

| ENGLISH | GERMAN | JAPANESE | |
|---------------|----------------|-------------------|----------|
| cassowary | Kasuar | hikuidori | 火喰い鳥 |
| do not feed! | Nicht füttern! | esa o agenaide | エサをあげないで |
| mosquito | Mücke | ka | 蚊 |
| moss | Moos | koke | 苔 |
| tree kangaroo | Baumkänguruh | kinobori kangaroo | 木登りカンガルー |
| archer | Bogenschütze | yumi no ite | 弓の射手 |
| tree frog | Baumfrosch | tsurii furoggu | ツリーフロッグ |
| mound | Komposthügel | tsuka | 塚 |
| to incubate | brüten | fuka suru | ふ化する |

Out and about

Ecotourism Australia 11th National Conference

10-14 November 2003
Adelaide and the Riverland, South Australia
More info: (07) 3229 5550
www.ecotourism.org.au

Have you noticed any changes in the **Great Barrier Reef**? Are the corals, islands, beaches or marine wildlife different from the way they were many years ago? If so, researcher, Ben Daley, at James Cook University would like you to contact him at the School of Tropical Environmental Studies and Geography (TESAG), JCU, PO Box 6811, Cairns, QLD 4870; Ph: (07) 4041 2163; e-mail: benjamin.daley@jcu.edu.au

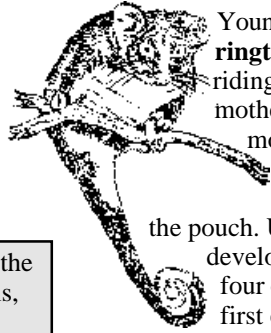
Masked lapwings, also known as masked plovers, are breeding and can be quite troublesome when protecting their nests and young. Unfortunately, the birds tend to use man-made areas such as sports fields, cemeteries, parks and pastures for nesting which brings them into frequent contact with people. Chattering and screaming, they may dive at intruders who come too close. However, frightening as it can be, this is all bluff and bravado. Unlike magpies, they do not actually make any physical contact with their targets. Sadly, in Cairns, there has been a case where



Acknowledgements
Lee Curtis,
Wildlife Rescue

Bush stone-curlews (thick-knees) can also put on a startling display, rushing forward with wings and tail spread, if someone approaches too close to their nest. Recently, a case was reported where some golfers, whose ball had landed near to the nest, stamped on the eggs in retaliation for being challenged by a protective bush stone-curlew parent.

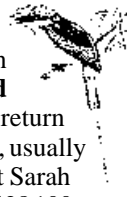
All native birds, mammals and reptiles are protected in Queensland and it is against the law to damage their homes.



Young **Herbert River ringtail possums** may be riding around on their mothers' backs at the moment, since October is the peak month for them to emerge from the pouch. Usually twins are born, developing in the pouch for four or five months. For the first eight months the babies are a pale fawn or

cinnamon colour with a white belly and a dark strip in the middle of the head. In the southern part of their range, which stretches from Ingham to the Thornton Peak area, the young gradually become darker, adults eventually sporting a handsome black coat with a white belly. Subspecies in the northern part of their range, however, retain the juvenile colouration.

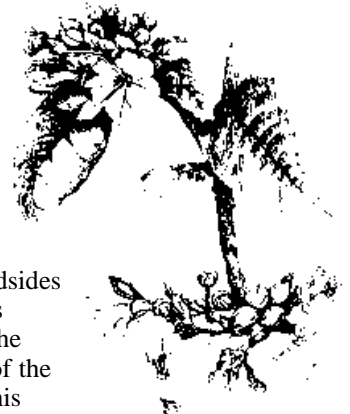
Readers are asked to report on first sightings of **buff-breasted paradise kingfishers** as they return to Australia from New Guinea, usually in late October. Please contact Sarah Legge, Ph: (07) 4060 7364 or 0428 100 762; e-mail: Sarah.Legge@anu.edu.au



The **state forests and timber reserves** inside the Wet Tropics World Heritage Area are in the process of being transferred to one of five classes of protected area: national park, national park (scientific), national park (recovery), conservation park or resource reserve. In the meantime they have been converted to 'forest reserves' and are being managed by the Queensland Parks and Wildlife Service under the same provisions as before the transfer, with the exception that timber extraction has been prohibited.

If you would like to know more about this process you can obtain a leaflet, 'Wet Tropics forest transfer process' from QPWS office at 5B Sheridan St, Cairns; Ph 4046 6600 or from olivia.gourley@epa.qld.gov.au or jenny.curnow@epa.qld.gov.au. For more information, contact Conservation Planning (Forest Transfers Wet Tropics), EPA, PO Box 2066, Cairns, QLD 4870; Fax: (07) 40466604.

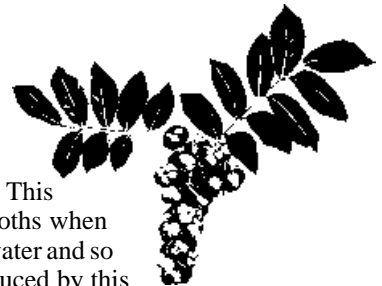
The lovely white flowers of the **glory vine** (*Faradaya splendida*) decorate roadsides and lakesides throughout the second half of the year where this vigorous climber has draped itself over other vegetation. The flowers, up to 6cm across, are fragrant. Fruits are white, fleshy and about 8cm across. These are inedible and said to smell of bleach.



The flowers attract butterflies, some of which lay their eggs on the leaves; it is the host plant for caterpillars of common oakblue, common tit, pale ciliate blue and eone blue butterflies.

This vine is one of many plants used traditionally as a fish poison. A chemical known as saponin, present in the inner bark, interferes with the fishes' ability to obtain oxygen from water. When the plant is added to water, stunned fish rise to the surface to be scooped off and eaten. The saponin, which affects cold-blooded animals such as fish more than warm-blooded animals, passes harmlessly through the human digestive system.

Another tree with saponin in the bark is **foambark** (*Jagera pseudorhus*). This compound froths when mixed with water and so much is produced by this tree the trunk may be covered with a mass of foam after rain, particularly following a dry period. In addition to being used as a fish poison, it is used traditionally as a soap substitute.



The foambark tree, also known as fern tree or pink tamarind because of its delicate foliage, produces bunches of fruit capsules which turn from maroon to orange as they ripen, usually about October to November. These fruits are covered with irritating hairs and should not be handled. When dry, the capsules open to release black seeds.

BOOKSHELF

Wildlife of Tropical North Queensland

Cooktown to Mackay
Queensland Museum (2000)

This very useful guide gives information on over 850 species of animals, from worms to mammals, found in north Queensland.

Nature Australia Vol 26 No 7 Summer 1999-2000

Mosquitoes

Richard C. Russell

This is a fascinating article about mosquitoes, their life cycles and the diseases they spread.

Guidelines to minimise mosquito and biting midge problems in new development areas

Queensland Health, March 2002

Interesting information on mosquitoes can be found on the website: <http://medent.usyd.edu.au>

Nature Australia Vol 24 No 8 Autumn 1994

The rats at Neptune's table

Steve van Dyck

An article about false water-rats (water mice) on North Stradbroke Island

Environment Australia fact sheet

False water rat (water mouse)

www.ea.gov.au/biodiversity/threatened/information/factsheets/qld2003.html

Weeds of the Wet/Dry Tropics of Australia

A field guide

N.M. Smith

Environment Centre, Northern Territory

Queensland Department of Natural Resources and Mines fact sheet

Warning: Mikania vine

Nature Australia Vol 26 No 9 Winter 2000

Coloured frogs

Andrew Parker

This is an item answering a reader's question on the changing colours of tree frogs.

Tour guides

might be interested in a new book on guiding called *Enriching the experience: An interpretive approach to tour guiding* by John Pastorelli, published by Pearson Education Australia 2003.

In addition, The Australian Museums and Galleries Online website www.amol.org.au is an excellent resource for guides and interpreters.

Opinions expressed in *Tropical Topics* are not necessarily those of the Environmental Protection Agency.

While all efforts have been made to verify facts, the Environmental Protection Agency takes no responsibility for the accuracy of information supplied in *Tropical Topics*.

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