

NATURE TERRITORY

October 2012

Newsletter of the Northern Territory Field Naturalists Club Inc.

PO Box 39565, Winnellie, NT 0821

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Club web-site: <http://ntfieldnaturalists.org.au/>



Meetings are generally held on the second Wednesday of every month, commencing at 7:45 PM, in Blue 1.14 (Business Faculty Building) on the Casuarina Campus of Charles Darwin University.

Subscriptions are on a financial-year basis and are: Families/Institutional - \$30; Singles - \$25; Concessions - \$15. Discounts are available for new members – please contact us.



The Brown Goshawk pictured above is devouring a Black Rat (*Rattus rattus*). According to a presentation made by Alys Stevens and subsequent discussion at the recent conference of the Oceania branch of the Society for Conservation Biology held in Darwin, Black Rats may increasingly be occupying the vacant niches left by declines in our small native mammals in non-urban environments across the Top End. The Brown Goshawk may find this food source more readily available in future. *Photo Tissa Ratnayeke*

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Disclaimer: The views expressed in *Nature Territory* are not necessarily those of the NT Field Naturalists Club Inc. or members of its Committee.

Club activities

October meeting. Wednesday October 10, 7:45 PM. Blue 1.14 (Business Bldg.), CDU Casuarina.

Bill Pettit

Ecology of mosquitos and midges in the Top End

The climatic and tidal conditions of the late dry season and the build-up can have a dramatic effect on increases in the populations of northern salt marsh mosquitoes (*Aedes vigilax*) and biting midges (especially *Culicoides ornatus*) in coastal areas across the Top End.

Bill Pettit is a Medical Entomologist with the Medical Entomology Unit of the Centre for Disease Control, NT Dept. of Health. He has been with the unit since 2004, and during that time has worked in Tennant Creek eliminating the dengue mosquito from the NT, and assisted the Timor Leste Ministry of Health with their dengue vector control strategies and activities over a 3.5 year period.



Bill's timely talk will look at the ecology of these species and the main drivers for increases in these biting insect pests in the Top End. His talk will also look at the range of self protection measures against biting insects that are currently available to those who embrace an outdoors lifestyle.



Above: Bill Pettit chasing dengue mosquitoes (Aedes aegypti) in Tennant Creek (Medical Entomology photo)

(Ed: all I see when I look at the photo above is Dan Ackroyd in Ghostbusters!);

Left: Aedes vigilax (northern saltmarsh mosquito) (Stephen Doggett, Westmead Hospital)



November meeting: Greg Miles, "The Conservation Crisis in Kakadu National Park – and what can be done about it", 14 November

Club activities

October field trip. Friday-Sunday October 12-14, Litchfield NP.

Night Stalk at Litchfield National Park

Night Stalk is a national event coordinated by Perth Zoo. It is a great way to become involved in community conservation action and to learn about our native animals, their habitat and their threats. Night Stalk is easy, fun and something everyone can do. All you need is a torch and a copy of the Spotter's Log; record all of the mammals, birds, reptiles and frogs that you find and combine your records with those from all participants at the Litchfield event on 13 October.



The information from surveys nationwide is collated and made available online for interested members of the community. Particularly interesting sightings of species are also sent to conservation agencies. This regular monitoring can help the community realise which species live in the various habitats of Australia and in turn we hope will encourage conservation action to help protect and preserve the important biodiversity that surrounds us. Further details are available at <http://www.perthzoo.wa.gov.au/act/night-stalk/>.

NT Field Naturalists Club Involvement

The club is once again fortunate enough to be invited by NT Parks and Wildlife to camp at Litchfield NP in conjunction with the Night Stalk event. Field Nats have been offered use of the Special Interest Group (SIG) facility near Buley Rockholes for overnight camping on Friday and Saturday night 12-13 October. Those of us who attended the Twitchathon weekend last year can attest to the excellence of the SIG facilities and the friendliness and warm welcome of Parks and Wildlife staff.

Sean Webster from NT Parks and Wildlife is keen to encourage Field Nats to use the weekend for a range of activities, including bird surveys during the day, the Night Stalk activities on Saturday night and (subject to interest of enough people) trapping transects on Saturday night.

If you are interested in attending this excellent event, please register your interest with John Rawsthorne kim_john@bigpond.net.au or Amanda Lilleyman Amanda.lilleyman@students.cdu.edu.au. Further details of the event will be provided to interested club members. Non-camping participants are also welcome. There are limited camping spots at the SIG facility, so don't miss out!



A 2m+ Darwin Carpet Python from a recent NT Night Stalk event. Photo NT Parks & Wildlife facebook page

Club notices

Thank you: **Tissa Ratnayeke** edited the previous issue. It was printed by **Stuart Young**, proof-read by **Tissa Ratnayeke** and collated and mailed by **Anne Highfield**. It was printed using equipment kindly made available by **Michael Gunner MLA** at his Fannie Bay electoral office.



Result of AGM elections All were elected unopposed so no voting was required. **Tissa Ratnayeke** was reelected as President, **Peter Holbery** as Secretary and **John Rawsthorne** the position of Treasurer. **Graham Brown, Tida Nou, Mark Grubert, Jyoti Choudhary** and **Stuart Young** were re-elected as Committee members. New faces to the Committee are **Peter Ebsworth** and **Laurie Barrand**. Thanks are due to those who have volunteered again, those who have volunteered for the first time, and those who have served in the past. The outgoing Committee member is **Dane Trembath**.



Need a Club membership form? Go to: <http://sites.google.com/site/ntfieldnaturalists/downloads>.



Newsletter contributions welcome: Sightings, reports, travelogues, reviews, photographs, sketches, news, comments, opinions, theories , anything relevant to natural history. Please forward material to Tissa at tissa@imprintdesign.com.au or the Club's postal address, or contact him on 8921 8226.

Deadline for the November newsletter: Wednesday 24 October.



Club library: The Club's journal and book collection is available to members. Lists of holdings can be found on our web-site: <http://sites.google.com/site/ntfieldnaturalists/library>. The library is housed in two sections:

Books, reports and CDs: at the medical clinic of Dr. Lyn Reid in the Rapid Creek Business Village. This can be accessed directly between 9 AM and 2:30 PM Tuesday to Thursday, and 4–6 PM on Tuesday, or indirectly by phoning Lyn at work on 8985 3250.

Journals: in the office of Stuart Young at the Biodiversity Unit at Berrimah. These can be accessed by ringing Stuart on 8995 5026 (w).



Northern Territory Naturalist: The Editorial Committee of the Club's journal, the *Northern Territory Naturalist*, is now finalising manuscripts for issue no. 24. The journal publishes works concerning any aspect of the natural history and ecology of the Northern Territory or adjacent northern Australia, and may include Reviews, Research Articles, Short Notes, Species Profiles and Book Reviews.

The *Northern Territory Naturalist* is a registered, peer-reviewed journal (ISSN 0155-4093). Author instructions may be downloaded from our web-site:

<http://sites.google.com/site/ntfieldnaturalists/journal>.

If possible, manuscripts should be submitted in digital form by email to michael.braby@nt.gov.au. Manuscript editors are Drs Michael Braby, Lynda Prior and Anke Frank. Louis Elliott is the production editor.

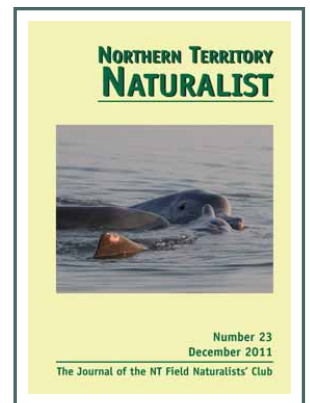
Originals are available of most back issues, some are available as photocopies only, and several recent issues are out-of-print but individual papers are available as pdfs. The journal page of the Club's web-site has an order form for back issues. Free pdfs of papers from issue 18 (2005) onwards are available from the authors or by contacting Lou Elliott, email louis.elliott@nt.gov.au.



Top End Native Plant Society General meetings are held on the 3rd Thursday of the month at the Marrara Christian College, corner Amy Johnson Ave. and McMillans Road, and commence at 7:30 PM (speaker at 8 PM). Visit <http://www.topendnativeplants.org.au/index.php> or contact Russell Dempster on 8983 2131.

October meeting: Dave Liddle, Victoria's Bogong High Plains, 18 October

November meeting: Peter Ebsworth, A glimpse of West Papua, 15 November



Weird and wonderful fishes of the NT

Report on Michael Hammer's September meeting presentation

Mark Grubert

Mike Hammer migrated north to take on the position of Curator of Fishes at the NT Museum and Art Gallery in October last year. Since that time he has put together the highly successful 'Gone Fishin'' exhibition and also travelled extensively within the NT collecting freshwater and estuarine fishes, several of which are yet to be described.

Mike's talk showcased some of the bizarre and beautiful fish that occur in the various aquatic habitats found in the NT. He began with examples from inland/freshwater systems; these included the grunters (which as the name suggest make a grunting noise, perhaps to attract a mate), the eel-tail and fork-tailed catfishes (whose sole purpose in life is to inflict pain on fishers) and also the striking rainbowfishes, which come in a variety of colours and are a popular aquarium fish.

Perhaps the most impressive fish from our inland waterways (at least in terms of durability) is the Finke goby, which can withstand temperatures from freezing to 40°C and salinities from 0–40 grams/litre.

The focus of the talk then changed to estuarine fishes. First among these was the nurseryfish, which

is unique in that the male carries the egg mass on a hook on his head (for reasons which remain unknown). Other denizens of the estuaries included the freshwater sawfish, with its chainsaw-like rostrum; the speartooth shark, whose mouth contains rows of minute razor sharp teeth; the blind worm goby, which resembles something from the X-files; and the lipstick goby, which from memory is also called *Angelinagobius joliei* (although my memory may be corrupted).



The nursery fish is just one of the weird and wonderful fishes of the NT. Photo Michael Hammer

Mike then turned his attention to our marine fishes. These included the frisbee shaped batfish, the "winged" flying fish, the majestic sailfish, the hammerhead shark and the poisonous stonefish. Other highlights included giant groppers (which sound dodgy

but think of them as large cod), small, elegant Syngnathids (such as pipefishes and seahorses), colourful angelfishes and of course the clownfishes, which includes "nemo" in both orange and white and black and white guises.

Mike's enthusiasm for his work and fascination with the fish fauna of the Top End was clearly evident from his talk. The NT Museum and Art Gallery is lucky to have attracted such a passionate researcher and the NT Field Naturalists Club looks forward to future updates on his discoveries.



*Above: Two different colour forms of the Regal rainbowfish *Melanotaenia trifasciata* from the NT. Photos Michael Hammer*

Knuckey Lagoons

Trip report on our club excursion to Knuckey Lagoons

Our September field trip was a slight change of pace. Club members ventured out for a leisurely Sunday afternoon excursion to Knuckey Lagoons, half way between Darwin and Palmerston. A group of around 20 came along to view the waterbirds.



Towards the end of the dry season there are large aggregations of waterbirds in this and similar naturally occurring lagoons around Darwin. This Sunday afternoon was no exception, and although the waterbirds were disturbed by some turtle-gathering locals, a roll-call of regular waterbirds was present.



Top: Ducks all in a row – participants taking in the view in the afternoon sun (Photo Ilona Barrand), Above: The shallow water and greenery shines as a beacon for waterbirds big and small in the late dry season, Photo Tissa Ratnayeke)

The bird list for the afternoon outing is as follows.

Magpie Goose	Masked Lapwing	Wood Sandpiper
Radjah Shelduck	White-necked Heron	Sharp-tailed Sandpiper
Green Pygmy-goose	Great Egret	Comb-crested Jacana
Pacific Black Duck	Intermediate Egret	Black-winged Stilt
Hardhead	Cattle Egret	Black-fronted Dotterel
Darter	Glossy Ibis	Australian Pratincole
Little Pied Cormorant	Australian White Ibis	Whiskered Tern
Little Black Cormorant	Straw-necked Ibis	Caspian Tern
Australian Pelican	Black-necked Stork	

Thanks to Tissa for leading this trip to a little piece of Top End jewellery, only minutes from home

Scrubfowl Shenanigans

Gill Ainsworth

They're noisy, they're dog proof and they love to dig up the garden. They are the Orange-footed Scrubfowl (*Megapodius reinwardt*), a common sight and sound around Top End suburbia these days. Affectionately known as Scrubbies, these opportunistic, chicken-sized relics of Gondwana appear to thrive in close proximity to humans and often seem oblivious to our presence. They do especially well in our tropical gardens which offer many things that scrubfowl need, such as dense trees and vegetation and plenty of moisture. Gardens also provide a source of food such as insects, fruits, berries, seeds and shoots.

Being a megapode, scrubfowl create nest mounds using plant material and sand or soil which pairs of birds will return to and maintain each year.

Occasionally several pairs may use a single mound simultaneously (Palmer *et al.* 2000) and some mounds have had continual use for over 40 years (Jones *et al.* 1995). Using strong orange legs and feet the birds continuously add and remove leaf litter, mulch and other materials to the mound to mediate the temperature inside for egg-incubation. This

is not always welcomed by gardeners since they dishevel garden beds and irrigation systems in the process. Not to mention that their 'maniacal calls and screams carry some distance'. Mounds are sometimes removed to deter messy, noisy birds however attitudes towards them are generally positive (Gillis & Noske 2007).

Megapodius reinwardt hasn't always been a suburban resident. It has a large range and is found in Indonesia, Papua New Guinea, Timor-Leste and northern Australia. It occurs in a range of habitats from sea-level to 1,800m, including lowland, montane and swamp forest, mangroves and more arid bushy or wooded country near the coast (www.birdlife.org). Local records suggest the birds used to be restricted to large patches of monsoon forest on the coast or inland (Crawford 1972), such as Casuarina Coastal Reserve or East Point and there is no mention of Orange-footed Scrubfowl in Thompson's 1978 'Common Birds of the Darwin Suburbs'. Scrubfowl were first noticed inhabiting Darwin city around the end of the 1980's and by the late 1990's were a common sight in gardens and streets across 23 suburbs (Franklin & Baker 2005).

So why this growth in the suburban population? Several theories exist. One suggests that two main threats to scrubfowl eggs, buffalo and monitors, have decreased significantly in recent years due to culling programs and cane toad poisoning respectively. Another theory points to destruction of scrubfowl habitat in places like Lee Point and Buffalo Creek to create the very suburbs the birds now inhabit. A third theory suggests that the suburbs initially acted as sinks for excess young from nearby rainforests and may now be both sinks and sources of new generations of the species.

Whatever the reason, urbanisation of scrubfowl provides us with a great opportunity to learn more. Some interesting behavior has been observed in recent weeks.

About four years ago on a Bees Creek bush block, a pair of Orange-footed Scrubfowl claimed for their mound a 2 metre tall pile of topsoil intended for the garden. They've maintained the mound and two juveniles have been spotted in the last two years. On an otherwise ordinary day in July, the pair was challenged by a male

previously observed foraging in open woodland to the rear of the property. The trio's cacophonous shrieking, flapping and chasing around attracted the attention of another pair who appeared from nearby until all five of them were cackling and flapping about on the nest-mound. The neighbouring pair appeared to be helping the resident male defend his mate as they frequently lunged at the interloper and once they had seen him off, made a noisy exit back to their own patch. The resident pair returned to digging on their mound. A couple of hours later the challenging male returned and despite the female's best efforts and her male's attempts to divert the interloper, the latter managed to pin her down and mate with her. Immediately afterwards the resident male mated with her. This was followed by much chasing around the garden until finally the challenger left.

A similarly extraordinary event involving five scrubfowl leaping on each other was observed the day before in a Darwin suburb. Perhaps the rain the previous Sunday had stirred the birds to begin breeding. Orange-footed Scrubfowl pair-bond but although the female is polygamous she tends to mate with other males out of



An Orange-footed Scrubfowl patrols the mound. Photo Gill Ainsworth

sight and forced mating such as this is thought to be unusual.

All of this begs several questions. Is it common for scrubfowl to interact this way or is this possibly a suburban behaviour? Has suburban breeding increased since the last survey was conducted in 1998? As clearing continues to cater for larger and denser human populations in Darwin, Palmerston and the rural area will the birds still find a home in our suburbs?

There is clearly much more to learn about our Top End scrubfowl. Their high visibility, popularity and fascinating behavior could make these birds the ideal focus for a citizen science project. As well as adding to knowledge about the birds, participants might develop stronger attachments to their local Scrubbies and may inspire others to maintain wildlife friendly gardens and suburbs.

This article developed from a discussion on the NT Birds list and the author gratefully acknowledges the following local birding experts for their contribution: Graham Brown, Fiona Douglas, Johnny Estbergs, Stephen Garnett, Mike Jarvis, Niven McCrie, Richard Noske, Magen Pettit, John Rawsthorne and Jo Wright

References and further reading:

Crawford DN 1972 Emu **72**:131-148; Franklin DC & Baker B 2005 Aust Field Ornith **22**:48-50; Gillis M & Noske RA 2007 NT Nat **19**:76-80; Jones DN, Dekker RWRJ & Roselaar CS 1995 The Megapodes, Oxford University Press; Thompson HAF 1978 Common birds of the Darwin suburbs. pp. 7-12.



First Diprotodon Record for NT

The massive *Diprotodon optatum*, a large wombat-like creature that roamed Australia over the last 2.5 million years, was the largest marsupial known and the last of the extinct, herbivorous diprotodontids. *Diprotodon* was the first fossil mammal named from Australia (Owen 1838) and one of the most well known of the megafauna. It was widespread across Australia when the first indigenous people arrived, co-existing with them for thousands of years before becoming extinct about 25,000 years ago.

And now a Diprotodon fossil has been discovered at a remote Territory cattle station, uncovering the very first Late Pleistocene megafauna site in the Northern Territory. The Museum and Art Gallery of the NT (MAGNT) received the large fossilised Diprotodon limb in September 2012, after it was located at a remote station in the Territory's North West.



According to Senior Curator of Earth Sciences at MAGNT, Dr Adam Yates, "although megafauna fossils from the Pleistocene epoch are located in sites in southern Australia, this is the first ever Late Pleistocene fossil site to be discovered in the NT. It is not known what else may be found at the new site, but the presence of a partial articulated skeleton is extremely promising. As the site is located in the Tropical North this discovery will shed light on the nature of the Top End in the Pleistocene epoch and might even reveal clues to the causes behind the controversial extinction event that wiped out Diprotodon and its contemporaries".

Exciting times for those amongst us who dreamed of being palaeozoologists as children!

References and further reading: <http://australianmuseum.net.au/Diprotodon-optatum>
http://irm.nt.gov.au/data/assets/pdf_file/0018/128133/14-09-12-First-ever-Diprotodon-fossil-discovered-in-the-Territory.pdf

Recent Literature summaries

Don Franklin

To catch a Mud Crab

In fisheries research, a simple measure of abundance of the resource is catch per unit effort (CPUE) – when the stock is abundant, fishers catch more for the same amount of effort. Meynecke *et al.* (2012) examined long-term patterns in CPUE for the Northern Territory Mud Crab fishery. They found that CPUE was highest (and presumably thus that the crabs were most abundant) in La Niña years and for one or two years thereafter. The main effect of La Niña on the Top End is to increase rainfall during the Build-Up, thus lengthening the wet season. The authors suggest that the increased rainfall results in greater flushing of nutrients by rivers into estuaries, thus increasing the productivity of the Mud Crab environment.



The shark fishery

Another measure of harvest impact used in fisheries research is the average size of individuals caught – when the catch is too high, size often progressively decreases. Field *et al.* (2012) examined change in size over 25 years in the north Australian shark fishery, and found evidence of a decline up until the mid-1980s consistent with heavy fishing by overseas trawlers, followed by an increase in size as the industry was more closely regulated.



Mudskipper behaviour

The mudskipper *Periophthalmus minutus* is mostly active only during the day and if the tide is out (Takeda *et al.* 2012). However, they become inactive when temperatures exceed 40°C and during heavy rain. During neap tide sequences when the habitat was not inundated for 9 days, they remained inactive (dry season) or active (wet season). Eggs “hatched upon submersion. Juveniles occurred in water pools on the mudflat surface in March.”

Total Solar Eclipse

Laurie Barrand

Australia is playing host to a total solar eclipse on November 14th 2012. It will start at dawn at about Jabiru, pass just south of Maningrida and then to the north of Groote Eylandt on its way to Cairns. The link below gives good information on where and when to see the eclipse. If you want to know more about photographing the eclipse or viewing it email laurie.barrand@bigpond.com.

The obvious warning is never look at the Sun directly at any time without proper protection, especially through cameras or binoculars. Maps and information:

<http://eclipse.gsfc.nasa.gov/SEgoogle/SEgoogle2001/SE2012Nov13Tgoogle.html>.

http://www.astronomy.org.au/ngn/media/client/factsheet_23revx.pdf

Viewing and camera filters: <http://www.bintel.com.au/>



What in the World?

The plant at right was photographed by one of our members.

If your detective skills are up to scratch, you should be able to work out, by a series of findings and deductions, who took this photo.

If you think you can nut out the answer to this puzzle, send your answer to John Rawsthorne (kim_john@bigpond.net.au). Your name will go up in lights in the next newsletter, and the editor may even be able to find a prize commensurate with your achievement.



Interesting bird sightings

21 August to 22 September 2012

Compiled by Micha Jackson and Peter Kyne

Sightings are as reported (unvetted, unconfirmed) and have been compiled from emails sent to the NT Birds forum (<http://groups.yahoo.com/group/ntbirds>) moderated by Niven McCrie, postings on Birdline Northern Territory (<http://www.ereamaa.com/>) and from correspondences with birdwatchers. Bird names follow the IOC world checklist.

Species	Date	Location	Observer/s	Numbers/comments
Waterbirds, Seabirds & Shorebirds				
Great-billed Heron	22/8/12	Jim Jim Billabong, KNP	Peter Kyne	1; and subsequent Kakadu sightings
Great-billed Heron	17/9/12	Mary River	Luke Paterson	
Great-billed Heron	7/9/12	Katherine Gorge	Janet Chapman	1
Lesser Frigatebird	21/9/12	Buffalo Creek	Gerry van Wees	Female
Black Bittern	18/9/12	Yellow Water, Kakadu	Luke Paterson	
White-browed Crake	21/8/12	Holmes Jungle	Dominic Funnell	
Chestnut Rail	5/9/12	Elizabeth River Bridge	Darryel Binns	
Chestnut Rail	5/9/12	Buffalo Creek	Peter Kyne	2 chased Buff-banded Rail out of mangroves; and other reports
Wood Sandpiper	26/8/12	Fiddlers Lane, Knuckey Lagoons	Dominic Funnell	4; first report of season
Birds Of Prey				
Pacific Baza	15/9/12	CDU Darwin	Graham Brown	1
Letter-winged Kite	9/9/12	Mac Clark Cons. Res., central Australia	Barb & Jim Gilfedder	4
Letter-winged Kite	~20/9/12	Sth Adelaide R floodplain	Peter Madvig	1
Red Goshawk	29/8/12	Bitter Springs, Mataranka	John & Sue O'Malley	Female
Grey Falcon	27/8/12	Barkly Homestead	John & Sue O'Malley	1
Black Falcon	21/8/12	Holmes Jungle	Dominic Funnell	
Black Falcon	27/8/12	Barkly Homestead	John & Sue O'Malley	
Other Non-Passerines				
Hooded Parrot	21/9/12	Pine Creek oval	Mike Jarvis	40+
Oriental Cuckoo	22/9/12	Sandy Creek, Darwin	Mike Jarvis	Male
Oriental Cuckoo	24/9/12	Palmerston STW	Luke Paterson	
Channel-billed Cuckoo	29/8/12	East Alligator River, KNP	Peter Kyne	15 in flight (largest group: 5)
Rufous Owl	22/8/12	Jim Jim Billabong, KNP	Peter Kyne	Heard
Rufous Owl	9/9/12	Howard Spr. Cara. Park	John & Sue O'Malley	2
Little Kingfisher	18/9/12	Yellow Water, Kakadu	Luke Paterson	4+
Passerines				
Crested (Northern) Shriketit	30/8/12	Central Arnhem Hwy	John & Sue O'Malley	2
Mangrove Robin	5/9/12	Elizabeth River Bridge	Darryel Binns	3
Cicadabird	16/9/12	Palmerston STW	Luke Paterson	
Gouldian Finch	18/9/12	Kakadu Hwy S of Cooida	Luke Paterson	~15

Leanyer Ponds:

Access to Leanyer Ponds is generally available after induction through PAWC. Go to <https://www.rapidinduct.com.au/powerwater/waterservices> to commence the induction process. A key to the ponds may be obtained on payment of a \$50 deposit. Only those who have undertaken the induction and signed an indemnity can enter Leanyer Ponds.

Leanyer Sewage Ponds will be **temporarily closed** to birdwatchers from 1 May 2012 due to major works being undertaken by Power and Water. This work will involve significant mobile plant and equipment on-site to remove accumulated sludge in order to enhance the treatment process. Closure of the entire lagoon site to non-Power and Water staff will be required during this time. Power and Water will advise when the ponds will be re-opened to birdwatchers possessing a permit to access the site.

Bryan Baker has keys for the Alice Springs Sewage Ponds, available for collection in Darwin by members before they head south. Bryan can be reached in Darwin on 8948 2196.

Recent literature about Top End natural history

MARINE & COASTAL

Compiled by Don Franklin

Crabs

- Callander S, Jennions MDB, Patricia R Y. 2012. The effect of claw size and wave rate on female choice in a fiddler crab. *Journal of Ethology* 30: 151-155.
- Meynecke J-O, Grubert M, Arthur JM, Boston R, Lee SY. 2012. The influence of the La Nina-El Nino cycle on giant mud crab (*Scylla serrata*) catches in Northern Australia. *Estuarine Coastal and Shelf Science* 100: 93-101.
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- Dichmont CM, Deng RA, Punt AE, Venables WN, Hutton T. 2012. From input to output controls in a short-lived species: the case of Australia's Northern Prawn Fishery. *Marine and Freshwater Research* 63: 727-739.
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- Moore BR, Simpfendorfer CA, Newman SJ, Stapley JM, Allsop Q, Sellin MJ, Welch DJ. 2012. Spatial variation in life history reveals insight into connectivity and geographic population structure of a tropical estuarine teleost: king threadfin, *Polydactylus macrochir*. *Fisheries Research* 125: 214-224.
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- Tillett BJ, Field IC, Bradshaw CJA, Johnson G, Buckworth RC, Meekan MG, Ovenden JR. 2012. Accuracy of species identification by fisheries observers in a north Australian shark fishery. *Fisheries Research* 127: 109-115.
- Tillett BJ, Meekan MG, Broderick D, Field IC, Cliff G, Ovenden JR. 2012. Pleistocene isolation, secondary introgression and restricted contemporary gene flow in the pig-eye shark, *Carcharhinus amboinensis* across northern Australia. *Conservation Genetics* 13: 99-115.
- Tillett J, Meekan MG, Field IC, Thorburn DC, Ovenden JR. 2012. Evidence for reproductive philopatry in the bull shark *Carcharhinus leucas*. *Journal of Fish Biology* 80: 2140-2158.

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The sex lives of fiddler crabs

The school of students working with Pat Backwell at East Point have shed further intriguing light on the sex lives of the fiddler crab *Uca mjoebergi*. In experimental studies, female fiddler crabs showed a strong preference for males with larger claws and higher claw-waving rates. In the field, Callander *et al.* (2012) showed how this works. Females selected males on the basis of claw-waving rates, but "smaller males [with smaller claws, presumably] were less likely to wave at approaching females" so that large males obtained most of the matings. Larger males help smaller males defend territories, which the authors suggest could be because in that way there are fewer large males around to compete with them for matings.

Female fiddler crabs mate with more than one male, and mating can take place on the mudflat or in burrows. Females gain benefits from all matings through assistance with the defence of burrows (Slatyer *et al.* 2012) but the final mating, which takes place in a burrow, is responsible for nearly all paternity (Reaney *et al.* 2012).