



NATURE TERRITORY

April 2009

Newsletter of the Northern Territory Field Naturalists Club Inc.
PO Box 39565, Winnellie, NT 0821

President:	Gabriel Crowley 8995 5005 (w)
Secretary:	Louise Harrison 0428 636 835
Treasurer:	Fiona Douglas 8985 4179 (h)
Membership Officer:	Sherry Prince 8945 7352 (h)
Journal Editors:	<i>details inside newsletter</i>
Newsletter Editor:	Don Franklin 8948 1293 (h)
Website Editor:	Graham Brown 8945 4745
Committee Member:	Lyn Reid 8985 3250 (w)
Committee Member:	Susan Jacups 8985 2935 (h)
Committee Member:	Tida Nou 8941 7554 (w)
Committee Member:	Stuart Young 8995 5026 (w)

Club web-site: <http://www.geocities.com/ntfieldnaturalists>

Meetings are generally held on the second Wednesday of every month, commencing at 7:45 PM, in Blue 1.03 (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. Part-year discounts are available for new members from January 1 each year.



You've probably noticed – this year is the 200th anniversary of the birth of Charles Darwin. The Club's program has been integrated into the Darwin City program of festivities (<http://www.darwin200.org.au/>). So where better to start than a trip to the Galapagos Islands (page 7) and a close encounter with a Galapagos giant turtle. Photo: Robyn Delaney.

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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

April meeting. Wednesday April 8, 7:45 PM. Blue 1.03 (Business Building), CDU.

Brian Thistleton

"Dragonflies"

It is *that* time of year, so this talk will be a timely treat. Brian is an entomologist with the NT government, based at Berrimah Farm. As his many previous photos in *Nature Territory* attest along with those below, he's also a great photographer.



April field trip. Dragonflies & butterflies. Saturday, April 18, from 9AM.

At Lyn & Brian Reid's place, 50 McMinns Drive, McMinn's Lagoon. A light lunch will be provided. For catering purpose and for directions, please contact Lyn & Brian, email, bandlreid@bigpond.com or phone 0439 881 927.

May 2009 meeting. Wednesday May 13. Paul Horner: *Lizards of the Top End*.

June 2009 meeting. Wednesday June 10. Iain Field: *Shark research in the Top End*.

July 2009 meeting. Wednesday July 8. Bob Wasson: *Sedimentary landscapes*.

August 2009 meeting. Wed. Aug. 12. Gay Crowley: *Getting excited about tropical grasses*.

September 2009 meeting. Wed. Sept. 9. Jarrad Holmes: *The western Arnhem Land fire project*.

October 2009 meeting. Wed. Oct. 14. Arturo Izurieta: *Galapagos - The Enchanted Islands: management issues, successes and challenges to preserve them for future generations*.

November 2009 meeting. Wednesday November 11. Clive McMahon: *Buffalo management*.

December 2009 meeting. Wed. Dec. 9. Peter Phillips. *Wildlife management issues in the NT*.

Top End Native Plant Society activities

April 2009 meeting. Thursday, April 16. Dick Williams: *High country ecology*.

May 2009 meeting. Thurs., May 21. Anna Richards: *Mixed species native rainforest plantations*.

June 2009 meeting. Thursday, June 18. Jon Schatz: *Arnhem flora, sandstone & savannas*.

General meetings are held on the 3rd Thursday of the month at the Marrara Christian College, corner Amy Johnson and McMillans Drives, and commence at 7:30 PM (speaker at 8 PM). For more information, contact Russell Dempster on 8983 2131.

Club notices

Welcome to new members: Ben Stuckey; Jan Hills; Irma Gerridzen; Jeff Stenning.

Thank you

The previous issue was proof-read by Christine Maas and collated and mailed by Fiona Douglas. It was printed by Gay Crowley and Don Franklin using equipment kindly made available by the Biodiversity Unit, Department of Natural Resources, Environment and the Arts, Berrimah and the School for Environmental Research at Charles Darwin University.

Newsletter contributions welcome

Sightings, reports, travelogues, reviews, photographs, sketches, news, comments, opinions, theories , anything relevant to natural history. Please forward material to Don at eucalypt@octa4.net.au or the Club's postal address, or contact him on 8948 1293.

Deadline for the May newsletter: Thursday April 23.

Need an NTFNC membership form? Go to: <http://www.geocities.com/ntfieldnaturalists/subscription.htm>.

Club library

The Club's journal, magazine and reference collection is available to members. Lists of holdings can be found on our web-site: <http://www.geocities.com/ntfieldnaturalists>. 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 Don Franklin at CDU Casuarina (Red 1.2.34 = room 31.2.34). These can be accessed directly during working hours, or by ringing Don on 8946 6976 (w) or 8948 1293 (h).

Northern Territory Naturalist

The Editorial Committee of the Club's journal, the *Northern Territory Naturalist*, is now calling for manuscripts for issue no. 21. The journal publishes works concerning any aspect of the natural history and ecology of the Northern Territory or adjacent areas of northern Australia. and may include Research Papers (Articles or Short Notes), Reviews and Species Profiles.

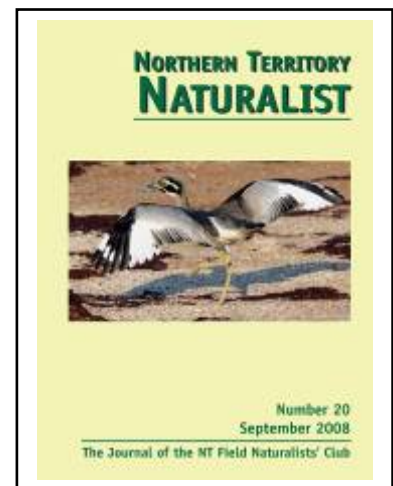
The *Northern Territory Naturalist* is a registered, peer-reviewed journal (ISSN 0155-4093). Author instructions may be downloaded from <http://www.geocities.com/ntfieldnaturalists/journal.htm>. If possible, manuscripts should be submitted in digital form by emailing to lynda.prior@cdu.edu.au. Editors of the journal are Dr Lynda Prior and Dr Michael Braby.

Back issues of the *Northern Territory Naturalist* are available individually (some are out of print and available as photocopies only) or as a set. The cost of a set is \$50- for nos. 1-19 or \$60- for nos. 1-20. Contact Don Franklin, eucalypt@octa4.net.au.

Sewage Pond Keys - Leanyer and Alice Springs

NT Field Naturalists have access to this world-famous bird-watching spot. The key can be collected from Graham Brown (h) 8945 4745. A refundable \$50.00 deposit is required at time of collecting the key, which is available only to members. Conditions imposed by PowerWater Corporation apply to all visitors to the ponds. These are not onerous and are made clear at time of picking up the keys.

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 shorebird counts

Gavin O'Brien

The counts (to Feb. 15) in the Darwin area

Local participation in the National Shorebird Count was arranged for 12 February. Counts took place at East Point, Spot On Marine, Nightcliff, Sandy Creek, Lee Point and Buffalo Creek. These were all undertaken on the same morning high tide with the participation of Stuart Young, Kym Brennan, Alistair Stewart, Clive Garland, Darryel Binns (Biggles) and Richard Noske.

Ian Hance has participated in various other Buffalo Ck / Lee Point counts over the month. Some of the counts below have been provided by other counters. For my part, I have counted waders at East Point 5 times, Spot On Marine 4 times, Nightcliff 4 times, Sandy Creek (Casuarina Beach) 6 times and Lee Point and Buffalo Creek 8 times during this period.

Several other visits were made to Buffalo Creek at times unsuitable for counting, but suitable for locating flags. Counts are summarised in the table below.

Table. National Shorebird Count (Feb. 12) results, along with summary data for the period January 16 to February 15 for select species some of which are discussed in more detail below.

Wader species	No. counted in National Shorebird Count	Total counted during month	% of waders during month	Inferred trend over recent months
Beach Stone-curlew	1	4		
Australian Pied Oystercatcher	11	56	< 1	
Sooty Oystercatcher	1			
Grey Plover	9	185	1	none
Pacific Golden Plover	13	82	< 1	none
Red-capped Plover	24	69	< 1	none
Lesser Sand Plover	27	299		
Greater Sand Plover	737	4328	18	none
Masked Lapwing	4	25		
Black-tailed Godwit	15	1,276	5	declining
Bar-tailed Godwit	133	570	2	increasing
Whimbrel	5	206	1	?declining
Eastern Curlew	2	90	< 1	none
Terek Sandpiper	4	25	< 1	none
Common Sandpiper	4	25		
Grey tailed Tattler	33	84	<1	none
Common Greenshank	2	4		
Ruddy Turnstone	33	188	1	?declining
Great Knot	1,780	8,165	34	declining
Red Knot	210	1,190	5	increasing
Sanderling	90	522	2	none
Red-necked Stint	1	163	1	declining

Overall trend

There has been a substantial decline in the overall number of shorebirds being seen at the regularly visited sites, from mid January to mid February, particularly at Buffalo Creek and Lee Point, though not all species declined as shown in the table. Flocks of in excess of 10,000 were seen during visits to Lee Point and Buffalo Creek late last year. During February the numbers of birds seen on the beach have generally been quite low reducing from an estimated 4,200 on the first count in mid January to about 1,700 in the most suitable conditions (for example the tide on the morning of the National Shorebird count). The change in numbers is largely attributable to the reduction in the numbers of Great Knots and Black-tailed Godwits. Total Shorebirds counted for the month was 23,933 (estimated) including 6,410 unidentified medium waders and 30 unidentified small waders.

On the 26th and 29th of January, quite large numbers of medium-sized waders were seen flying offshore at Lee Point Beach, unable to land for more than a few minutes because of the traffic in people (on Australia Day) and raptors (on the 29th), though it is not clear that this is the cause of the decline.

Notes on some species

An estimated 8,000 – 9,000 **Great Knots** were seen on occasions at Lee Point from December to mid January. These numbers dropped to about 1,000 – 2,000 on a good day between mid January and mid February. On Australia Day, flocks of medium-sized waders, probably Great Knots for the most part, were seen flying offshore from Lee Point Beach. There has also been none seen at the mouth of Sandy Creek where flocks of between 500 and 1,800 were seen during the previous month. The only other of the four locations where I have been seeing good numbers of Great Knots has been at East Point where there has also been a downward trend from 500 in mid January to occasional sightings of a few dozen. I am not aware of any complementary increase elsewhere, and I would be interested to know if anybody has been able to see Great Knots in good numbers elsewhere. A lot of breeding plumage is emerging amongst remaining Great Knots in the form of darker streaking and blotching on the necks and breasts and rufous flecking on the back.

Red Knots were mostly seen at Buffalo Creek and Lee Point. Virtually none were sighted at the beginning of the year. They have increased substantially as a proportion of knots seen at Lee Point and Buffalo Creek to about 20%. They have also increased in absolute numbers to between 200 and 300 on a good day. They are beginning to stand out very clearly as they develop rufous breeding plumage on their breasts and bellies.

Very large numbers of **Black-tailed Godwits** were seen in December. On a visit with Arthur Keates we counted almost 1,000 on a relatively low tide on December 16, but since then the numbers have decreased overall, although they were seen in surprising numbers at some locations, particularly at Spot On Marine in late January (about 100 birds). Very few have been seen toward mid February at Buffalo Creek and Lee Point (where they are most frequently seen) or at Spot On Marine.

Relatively small numbers of **Bar-tailed Godwits** were seen toward the end of last year and they were substantially outnumbered by Black-tailed Godwits. Their numbers seem to be increasing again, particularly at Lee Point where 123 were seen during a visit on 12 February and Black-tailed Godwits were absent.

A flock of about 100 **Sanderlings** were at Lee Point during several visits. There have been several counts of the similar numbers at Sandy Creek, a couple of miles to the west. The same flock appears to move between the two locations.

Numbers of **Greater Sand Plovers** in the roost near Lee Point have remained at around 700 or 800 throughout the month on suitable tides. They can substantially exceed this number at times, perhaps when they pass through on migration earlier or later in the season. A dozen or so can usually be seen carrying the blue and yellow flags applied during the cannon netting exercise carried out by Clive Minton and his team last September.

Red-necked Stints numbered several hundred at times during November and December. 130 were located amongst sand plovers at Lee Point Beach in mid January, but virtually none have been seen since.

Whimbrel were seen in good numbers (totals of about 80) at Spot On in late January.

About 30 **Ruddy Turnstone** were seen near Lee Point in late January, but lesser numbers were being counted during February.

East Point and Nightcliff have yielded the largest numbers of **Grey-tailed Tattlers** during the month.



*Constant numbers of late?
The Greater Sand Plover. Photo: Trevor Collins.*

Grey Plovers have been seen in numbers between 15 and 35 at various locations, particularly Lee Point and Sandy Creek throughout the month.

Groups of 12 and 23 **Eastern Curlew** were seen at Spot On Marine in late January and smaller groups of between 5 and 10 have been seen at the mouth of Sandy Creek since then.

Pacific Golden Plovers are mostly seen at East Point and Nightcliff where between 15 and 30 have been seen during some visits throughout the month and lesser numbers on other occasions.

Red-capped Plovers are seen in small numbers at just about any time of the year, mostly at Lee Point. During the study month they have been employing diversionary behaviour which suggests breeding activity.

Throughout the month, Nightcliff has been the best place to see **Terek Sandpipers**. About a dozen have been seen here a number of visits.

A group of 8-10 **Australian Pied Oystercatchers** has been seen at Nightcliff and at Sandy Creek, the latter particularly when the tide is too high for comfortable roosting at Nightcliff.

Other sightings

A Black-tailed Godwit carrying a black over white flag, the latter engraved with the letters B9 was seen on 17 January at the East Point rocks. The flag was attached at Chongming Dao (Shanghai, China) on 5 September 2006. It was seen 4963 kilometres from where it was banded. The same bird was recorded and photographed by Arthur and Sheryl Keates on 26 January 2008 at Nightcliff Rocks.

Other water birds seen have included the Crested Tern, Silver Gull, Little Tern, Caspian Tern, Eastern Reef Egret, Lesser Crested Tern, Little Egret, Striated Heron and one Pomarine Jaeger.

Conservation notes (from *Recent Literature*, page 11)

Steps to sustainability

Writing as Northern Landscapes Manager for WWF-Australia, Stuart Blanch (2008) has proposed “nine planks” for sustainability in northern Australia. These are (quote):

- (i) enhance investment in mitigating pervasive landscape threats;
- (ii) strengthen support for Indigenous Caring for Country activities and incorporation of Traditional Ecological Knowledge into land management;
- (iii) align and strengthen invasive species control and management;
- (iv) facilitate new economic development pathways focused on sustainability;
- (v) build climate resilience by maintaining and enhancing landscape-scale connectivity;
- (vi) protect free-flowing rivers from dams and major water resource development;
- (vii) establish and effectively manage a large interconnected network of protected areas;
- (viii) develop cooperative governance arrangements; and
- (ix) enhance knowledge generation and research and monitoring capacity.

Seeing REDD

When the Kyoto Protocol was drafted, no credits were allowed for reduced emissions from deforestation and degradation (REDD). Van Oosterzee & Garnett (2008) argue that this is a most unfortunate lost opportunity for conservation of tropical forests. In a few cases such as the Arnhem Land fire abatement project, private sponsorship has filled this mandated gap (see also Whitehead *et al.* (2009) and in addition provided biodiversity and social benefits. The authors argue that forestry and associated clearing of vegetation on the Tiwi Islands is a lost opportunity to apply REDD principles, whilst REDD could provide an alternative to development of the Daly River catchment. To do so, “institutional mechanisms will be needed to allow owners of intact forests to benefit from their carbon value and related environmental services potential”.

The (abandoned) Mt Todd Gold Mine

The former Mt Todd Gold Mine between Katherine and Pine Creek is perhaps best known for its adjacency to the habitat of the Gouldian Finch in the Yinberrie Hills. Staff from ERISS and Aquatic Solutions International examined the toxicity of water in the retention pond known as RP1 on “six local freshwater species (duckweed, alga, cladoceran, snail, hydra and a fish)” (van Dam *et al.* 2008). They found that the water was “very toxic to all species” and estimated that it would require dilution to one part in 20,000 in the Edith River (downstream from the pond) “for the protection of at least 95% of species”. The Abstract to their paper does not contain any comment on the likelihood of the pond water reaching the Edith River, nor if it does whether the stated dilution is likely to be achieved.

Glorious Galapagos

Report on Robyn Delaney's talk at the March NTFNC meeting

Gabriel Crowley

Photos by Robyn Delaney and Simon Ward

The Galapagos Islands, made famous by Charles Darwin, were made even more enticing by Robyn Delaney in her March talk to the Northern Territory Field Naturalists Club. Not only did Robyn fete us with a vast array of stunning wildlife photographs, but she also provided fascinating historical, biogeographical and conservation perspectives on these wonderful islands.

Robyn travelled to the Galapagos in April 2008 with Simon Ward and Kath Handasyde, starting off a string of visits to the area by Darwin residents. This group clearly had fun on their adventures, and made the rest of us start secret planning – or at least fantasizing – about following in their tracks.

The islands support a collection of fascinating wildlife, from iguanas to penguins, most of which seem to have epithets beginning with Galapagos, Lava or, occasionally, Cactus. There is the Galapagos Dove, the Galapagos Mockingbird, the Galapagos Duck, the Galapagos Broadbill, the Lava



In Charles Darwin's tracks?



Lava Gull.

Lizard, the Lava Gull, the Cactus Finch, and the Cactus itself*. This vast array seems like a random collection of miscellanea. After all, island fauna and flora are often just a gathering of the flotsam and jetsam washed up on the shores over millennia. But Robyn explained the method in this madness. Not only has the distance from the American shores influenced the complexion of Galapagos wildlife, but so have the currents, temperatures, altitude and volcanism.

The Galapagos is an island chain on the equator. Like Hawaii, it has been passing over a volcanic upwelling that intermittently begets basaltic islands. These well up and then erode as they drift away from the source of their formation. In the case of the Galapagos, the western islands are young, mountainous, rocky and largely bare, and much of their wildlife camouflaged to match – with colour schemes in various combinations of lava and lichen. Further east, the islands are lower, flatter and more uniformly vegetated. And the animals slightly more flamboyant.

Overlaid on this pattern is the effect of currents and rainfall. The western islands are buffeted by cold seas burgeoning with wildlife; the eastern islands by warmer waters, supporting smaller numbers of equally interesting fauna. Hence the juxtaposition of western Penguins and eastern Frigatebirds, a combination one might only expect in a theme park.

* *Pick the imposter?* Galapagos Duck is actually a 1970s Jazz Group famous for its sound track for the Removalist. Nature Territory, April 2009



Tropical frigatebirds seem out of place beside penguins.

The Islands are also subject to El-Niño/La Niña cycles, with the former bringing dry cold conditions favouring marine wildlife and the latter wetter warmer conditions favouring terrestrial productivity. Altitude also brings a climatic effect with the wetter forests at the top of the mountains and drier, savanna-like wooded lowlands, some of which matched the Kimberley in their spectacularly red slopes and beaches. Besides Cactus, the most prominent of the herbs, shrubs and trees are all of the genus *Scalesia*, a bizarre group of

tree-daisies, as numerous as Darwin's Finches. Otherwise, the flora is largely weed infested, or at least seemed to Robyn, until she realised that at least the Prickly Pear, Parkinsonia and Lantana are actually native to the islands.

Robyn finished with some sobering remarks about the impact obsessive naturalists have had on nature itself. Darwin's realisation of the significance of the Galapagon fauna brought it a notoriety it could ill afford. Species became sought after by collectors newly-wealthy from the industrial revolution and the Californian Gold Rush. They acquired specimens as much for their status as for their scientific merit. The rarer the species, the more it was subjected to over-collection. Some species now exist only in collections, and there in their hundreds. But even more passive interest has brought pressures to this most prosperous of Ecuadorian provinces, with a resident population of 30 thousand servicing even more numerous tourists each year. Provisioning this industry on a remote groups of islands whose land is unproductive and seas have been overfished is highly resource-demanding.

The National Park Service is restoring the islands with stringent, though not always popular, controls on access and take. The islands are well on their way to recovery. The future of the Galapagos will be the topic of the Field Nats talk in October by Arturo Izurieta, former director of the Galapagos National Parks, and now a member of Charles Darwin University's School for Environmental Research.



Native: Prickly Pear.

Friends of Fogg Dam Inc. (FOFD) working bee, Sunday 26th April

All helpers will be most welcome. We'll meet at 9am at the rotunda. If you can come later, a message will be left at the rotunda to tell you where to find us. Insect repellent will be provided. There will be a BBQ at midday. If you plan to come, please give a call to 8988 5599 to help with catering requirements.

NTFNC Casuarina Reserve plant booklet proves popular

Some Plants in Casuarina Coastal Reserve, produced for NTFNC by Gabriel Crowley, Jenni Low Choy & Sheryl Keates in March 2007, is the second most popular item downloaded from the EnviroNorth website <http://environorth.org.au>. The EnviroNorth website is an online service that provides schools across northern Australia with environmental course material. Between October and December 2008, 370 documents were downloaded from the site, 41 downloads being of the Casuarina Coastal Reserve plant guide. The most popular item was a Cane Toad leaflet, with 67 downloads over the same period. The booklet can also be downloaded from the Club's website <http://www.geocities.com/ntfieldnaturalists/downloads.htm>.

Social frogging

Reporting back on the March excursion

Trish Bate

After several counts, the consensus was that we numbered 26. As individuals and small groups we had gathered for a frog walk led by two staff from the Darwin Amphibian Monitoring Project (Biodiversity Unit, NRETAS) – Alastair and Steve. They explained they are monitoring frog activity in wetlands as an indicator of wetland health, and spend considerable time learning the calls and locating the frogs around Mickett Creek. Following our torches, and encouraged by Alastair and Steve, we ventured into the dusky forest off Stevens Rd, Knuckey Lagoon. Under the canopy we began to notice a variety of calls from the swamp ahead. Our leaders were identifying species by their sound, and they were choosing which to follow up.



From somewhere to the left of the track a series of ‘quacking’ sounds signalled Tornier’s Frog *Litoria tornieri*. So, under instruction, we scattered in the bush around the sound, and each of us pointed a torch toward the call. Then it stopped; probably the frog was disturbed by our gumboots scrunching in the undergrowth. Torches off, we waited. When it started calling again, we crept closer. After several interludes standing in the dark, the ground under the intersecting lights was close enough to search. We crouched and peered into the tangle of grasses and closed sundews; and there it was, looking up, full throated, and only a few cm long.

Taking a closer look. Photo: Trish Bate.

We spent a very rewarding few hours. In the dark and the wet we met and lost each

other as we followed the calls. Some people waded croc-deep, some left boots in sticky deep mud, and some stuck to higher ground. And always we found that, by triangulation, we could compensate for the poor capacity of individual humans to auditorily judge distance from a point source, and thus locate our frog.

After an hour or so, the plastic bags displayed all the species known to be in the area: the sizes ranged from one cm for the smallest froglet (*Crinia* sp.) to about 5 cm for the largest – Roth’s Tree-frog.

Tree-dwelling frogs identified included the Red Tree-frog *Litoria rubella*, Roth’s Tree-frog *L. rothii* and the Northern Sedge Frog *L. bicolor* (AKA Northern Dwarf Tree-frog). Ground-dwelling frogs identified included Tornier’s Frog *L. tornieri*, the Javelin Frog *L. micobelos*, the Floodplain Toadlet *Uperoleia inundata*, Stonemason Toadlet *U. lithomoda* and the Northern Froglet *Crinia bilingua* (AKA Bilingual or Ratchet Frog).

We all had a good look before they were released back into the wild. But I for one, need more practice at identification by sound. You can listen to frog calls at www.frogsaustralia.net.au.

Roth’s Tree-frog *Litoria rothii*.
Photo: Tissa Ratnayake.



Interesting bird sightings

20 February to 20 March 2009

Compiled by Ian Hance

Sightings are as reported (unvetted, unconfirmed) and have been mostly compiled from the e-mail digest of the NT birder website (<http://groups.yahoo.com/group/ntbirds>) moderated by Niven McCrie.

Species	Date	Location	Observer/s	Nos./comments
Waterbirds and sea birds				
Black Bittern	6/03/2009	Fiddlers Lagoon	F Douglas, J Stenning, I Hance	1 immature
~	17/03/2009	Leanyer Sewage Ponds	Jeff Stenning	1
Pale-vented Bush-hen	6/03/2009	Fiddlers Lagoon	Fiona Douglas & Ian Hance	probable sighting
Little Tern	17/03/2009	Lee Point	Jeff Stenning	125, large number
Diurnal Raptors				
Square-tailed Kite	5/03/2009	Tennant Creek Area	Jessie & Jo	1
Black-breasted Buzzard	5/03/2009	Tennant Creek Area	Jessie & Jo	1
Grey Goshawk	17/03/2009	Leanyer Sewage Ponds	Jeff Stenning	1
Spotted Harrier	5/03/2009	Tennant Creek area	Jessie & Jo	1
Australian Hobby	10/03/2009	Jabiru	Marc Gardner	1
Waders				
Little Ringed Plover	6/02/2009	Leanyer Sewage Ponds	Jeff Stenning, Fiona Douglas, Ian Hance	1
Oriental Plover	14/03/2009	Canteen Creek Community	Don Hadden	a few
Swinhoe's Snipe	22/02/2009	Holmes Jungle	Fiona Douglas & Ian Hance	2
Banded Lapwing	14/03/2009	Canteen Creek Community	Don Hadden	2
Marsh Sandpiper	18/03/2009	Leanyer Sewage Ponds	Jeff Stenning	3
Other non-Passerines				
Flock Bronzewing	14/03/2009	Central Arnhem Highway	Don Hadden	a few
Partridge Pigeon	7/03/2009	20 km south of Cooina	Marc & Vikki Gardner	1
Fork-tailed Swift	6/03/2009	Leanyer Sewage Ponds	J Stenning, F Douglas & I Hance	200+
~	7/03/2009	Nourlangie	Marc & Vikki Gardner	50
~	10/03/2009	Jabiru	Marc & Vikki Gardner	300
Varied Lorikeet	6/03/2009	Kakadu Highway	Marc & Vikki Gardner	lots
Oriental Cuckoo	13/03/2009	Mary River	Jeff Stenning & Ian Hance	1, hepatic form
Passerines				
Pied Honeyeater	14/03/2009	Canteen Creek Community	Don Hadden	numbers feeding on <i>Grevillea</i>
Black Honeyeater	14/03/2009	Canteen Creek Community	Don Hadden	numbers feeding on <i>Grevillea</i>
Mangrove Golden Whistler	13/03/2009	Adelaide River near bridge	J Stenning & I Hance	3 imm., 2♀
~	7/03/2009	East Point Boardwalk	Fiona Douglas & Jeff Stenning	2, breeding
Mangrove Grey Fantail	7/03/2009	East Point Boardwalk	Fiona Douglas & Jeff Stenning	2
Zitting Cisticola	22/02/2009	Holmes Jungle	Fiona Douglas & Ian Hance	pairs breeding
Fairy Martin	7/03/2009	Leanyer Sewage Ponds	Bruce Michael	1 amongst Tree Martins
House Sparrow	4/03/2009	Tennant Creek	Jessie & Jo	lots
Yellow Wagtail sp.	6/03/2009	Leanyer Sewage Ponds	Fiona Douglas, Jeff Stenning, Ian Hance	4
~	11/03/2009	Leanyer Sewage Ponds	Andrew Bell & Jo Wright	4
~	7/03/2009	Leanyer Sewage Ponds	Bruce Michael	6

Patterns of fire in the landscape (from *Recent Literature*, page 11)

Yates *et al.* (2008) demonstrate by analysis of satellite imagery that fires in the savannas of northern Australia increase in season as the dry season progresses (no surprises there!). Furthermore, fire regimes in the higher rainfall savannas are dominated by fires of greater than 1,000 km² extent recurring at 2–3 year intervals, a regimes they, as so many of us, consider to be of great ecological concern.

In the broader Darwin region, Elliott *et al.* (2009) found that areas more than 500 m from settlement are burnt almost twice as often as those closer to settlement. The additional fires in these “remoter” areas occur later in the dry season and are particularly associated with annual grasses – not only annual spear-grass (*Sorghum* or *Sarga* species) with their abundance of fuel, but also short annuals with low biomass – *Pseudopogonatherum contortum* and *Schizachyrium fragile*. The lower frequency of fire closer to settlement appears to be because people make an effort to manage fire in these areas whereas fires in remoter areas are often simply ignored. The reason for the “annual grass effect” is unclear – it clearly is not related to the amount of grass in an area to carry a fire, and being late in the dry season is not likely to be related to the persistent greenness of perennial grasses; it may be related to a reduced capacity of perennial grasses to transport fire because they grow in discrete clumps.

Recent literature about Top End natural history

CONSERVATION & LAND MANAGEMENT

Compiled by Don Franklin

Not so technical

Anon. 2008/09. Pungalina-Seven Emu. *Wildlife Matters* Summer 2008/09: 4-9. [three articles; Gulf country reserves]
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Development issues

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Habitat preferences of a bacterium

Bacteria have habitat preferences too! In the case of *Burkholderia pseudomallei*, we've a particular reason to be interested in these, because it is the cause of melioidosis, often known locally and with dread as Nightcliff Gardeners Disease. The melioidosis bacterium lives in soils. Using a DNA technique, Kaestli *et al.* (2009) evaluated 809 soil samples collected around Darwin for the presence of the bacterium. They found that the melioidosis bacterium has quite different associations in disturbed and "undisturbed" environments. In the latter, it was associated with areas "rich in grasses", whilst in disturbed areas it was associated with livestock, and with a range of soil characteristics including low pH.