



NATURE TERRITORY

June 2008

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

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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 room 22.03 (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.



This painting of Pied Herons by Jasmine Jan is to be shown as part of an exhibition of wildlife art - *Dawn Chorus - Breakfast with the Birds* - to be opened in late June. See notice on page 4.

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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

June meeting. Wednesday June 11, 7:45 PM. Room 22.03 (Business Faculty Bldg.), CDU.

Colin Trainor

"Bird exploration on Damar Island, Banda Sea, Indonesia"

In this talk, Colin will discuss an expedition in 2001 to remote Damar Island (198 km², c. 100 km from nearest island) in the Banda Sea. The main aim was to collect ecological information on the endemic Damar Flycatcher *Ficedula henrici* which was until then known only from collections in 1898 (one of the last Asian birds left to be "rediscovered"). Some background motivations and logistics for the visit will be given, which involved 15 days of travel by boat and ship. Damar retains about 70% forest cover: good populations of about 40 resident bird species were recorded. This included the Damar Flycatcher, which was elusive but quite common, and a further 12 globally restricted-range species (species with small global distributions of less than 50,000 km²).

Colin completed his B.Sc.(Hons.) on reptiles and his M.Sc. on mammals, both at Charles Darwin University. He then turned ornithologist, working for the BirdLife International Indonesian Program surveying birds in the central portion of the Indonesian archipelago. He is now undertaking a Ph.D. study of the response of fauna to environmental variation and land use in Timor-Leste (East Timor).

June field trip. Sunday June 15. **Bird Billabong** (Mary River National Park) - birdwatching, butterflies and general field trip. Meet at the Billabong car park at 8.30 AM. No toilets available.

Directions: take the Arnhem Highway towards Kakadu. About 41 km past the Adelaide River and before crossing the Mary River, turn left off the highway at the sign to Bird Billabong, then left again off the side road. The road to the carpark is unsealed but suitable for 2WD vehicles.

Bring the usual: hat, water, sunscreen, binoculars, camera, lunch, chair etc.



Contact Sheryl Keates 8948 1794 for more information.

July 2008 meeting. Wednesday July 9. Simon Ward: *Threatened species research in the NT.*

August 2008 meeting. Wednesday August 13. Annual General Meeting. Gay Crowley: *Botanical stories from Vietnam.*

September 2008 meeting. Wednesday Sept. 10. Mark Ziembicki: *Stuffed mammals.*

October 2008 meeting. Wednesday October 8. Peter Dostine: *The Flock Bronzewing.*

November 2008 meeting. Wednesday Nov. 12. Don Franklin: *Slow boat on the Mekong.*



A Wandering Whistling-duck *Dendrocygna arcuata* at home at Yellow Waters in Kakadu National Park. We feature further photos by Russell Willis from Yellow Waters on page 6.

Club notices

Welcome to new members: Toni Wythes; Rob & Glenise Moors (from Victoria)

Membership renewals due at the end of June. Your early attention to this would be appreciated.

Thank you

The previous issue was proof-read by Christine Maas. It was printed by Louise Harrison 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. It was collated and mailed by Lyn Reid.

Newsletter contributions welcome

Sightings, reports, travelogues, reviews, photographs, sketches, news, comments, opinions, theories , anything relevant to natural history. Please forward material to don.franklin@cdu.edu.au or the Club's postal address, or contact the editor on 8948 1293.

Deadline for the July newsletter: Friday June 20.

Club library

The Club's journal, magazine and reference collection is available to members. Lists of books, reports, CDs and journals held 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 4–6PM on Tuesday, or indirectly by phoning Lyn at work on 8985 3250.

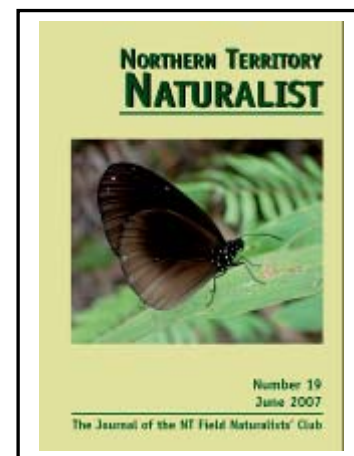
Journals: in the office of Don Franklin at CDU Casuarina (room 31.2.34). These can be accessed directly during working hours, or by ringing Don on 8946 6976 (w) or 8948 1293 (h).

Northern Territory Naturalist

The Editorial Committee of the *Northern Territory Naturalist* is now calling for manuscripts for issue no. 20. Manuscripts may relate to any aspect of natural history or ecology relevant to the Northern Territory, and may include reviews, papers, research reports, species profiles and thesis abstracts.

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, Stephen Reynolds and Dr Michael Braby.

Back issues of the *Northern Territory Naturalist* are available individually (some in photocopy only) or as a set. The cost of a set is \$50- for nos. 1-18 or \$60- for nos. 1-19. Contact Don Franklin, don.franklin@cdu.edu.au.



A complete list of contents for all issues is now available at the journal web page (above).

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.

More activities and notices

Australian Mammal Society conference

The Australian Mammal Society's annual conference for 2008 will be in Darwin, at Kormilda Secondary College. We expect to have papers on a wide variety of aspects of the biology of Australian (and other) mammals, with an emphasis on northern and remote Australian mammals and issues. The dates are 29 September to 1 October 2008, with an ice-breaker function at Mindil Beach on the night before (28 Sept.). Full details and a registration form are available on the AMS's website <http://www.australianmammals.org.au/conference2008.html>.

For more information, contact Simon Ward (Chair, Organising Committee), simon.ward@nt.gov.au.

Dawn Chorus - Breakfast with the Birds

Field Naturalists Club members are welcome to attend the opening of an exhibition of paintings by Jasmine Jan. It is to be opened by Gerry Wood MLA on Friday 27 June 2008 at 6 PM (preview starts from 5 PM). Venue: the Territory Craft Gallery (adjacent to the Museum), Conacher St., Bullocky Pt.

The exhibition features a variety of Top End birds in watercolours (e.g. Blue-faced Honeyeaters, right). It runs from 27 June - 20 July and is open daily from 10:30 AM - 4:30 PM.

ABC North Australia website and forum

The ABC now has a north Australia website: <http://www.abc.net.au/northaustralia>.

They are also running a free public North Australia Forum called "*Unlocking the Future*" to be held in the auditorium of the new Darwin Convention Centre on 24 June from 8.30am. To attend the Forum, please enter the website and go to REGISTER to fill out a simple form. This will greatly assist us catering and managing the event. The Forum will be streamed "live" on ABC Local Radio, with blogging capability. This means that if you can't attend the Darwin Convention Centre you will still be able to log on and join the conversation - whether you are in Batchelor or Borroloola.

The ABC North Australia Forum will explore six major themes:

- Future Media Landscape - North Australia
- Aspirations of a United North
- Environment & Water
- North Australian Art, Culture and Tourism
- Relations in the Asia Pacific Neighbourhood
- Indigenous issues

The Forum will also feature the music of Gurrumul Yunupingu.

Garnett S, Woinarski J, Gerritsen R, Duff G. 2008. *Future options for north Australia*. Charles Darwin University Press: Darwin. 57 pages. Available for \$22- in the CDU bookshop, or \$22- + \$7- postage from: <http://www.cdu.edu.au/cdupress/books/FutureOptions.htm>.

In this book, Stephen Garnett (Professor of Tropical Knowledge and Director of the School for Environmental Research at CDU) and co-authors evaluate seven generic scenarios for the future of our region:

- | | |
|-----------------------------|--------------------------------|
| 1. Chronic underdevelopment | 5. Environment first |
| 2. Degeneration | 6. Indigenous community Utopia |
| 3. Northern ricebowl | 7. Creative urban engagement |
| 4. Industrial powerhouse | |

A timely contribution to a debate we need to have both locally and nationally.

Nature Territory, June 2008



Awls on the move

Text and photos by Don Franklin

Birds don't have a monopoly on migration. Every few years, we in Darwin have the opportunity to observe the rather impressive but little understood migration of the awls. This has been one of those years, with a movement through Darwin during March, although reports about the direction of the movement vary.

You could be excused for wondering what the heck an awl is – they're medium-sized, dull brown and superficially moth-like butterflies of the family Hesperiidae. The particular species involved in the migration is the Narrow-winged Awl (*Badamia exclamationis*). The other awls that occur in the Top End – the Chrome Awl (*Hasora chromus*) most commonly, but also the Broad-banded Awl (*H. hurama*) – may be resident, though little is known about the local occurrence of the latter species.

Discussions with Michael Braby have raised the profile of the issue in my mind, and the summary of ecology and movements in this paragraph derives directly from Michael's comments and/or his summary in Braby (2000). In Queensland, spectacular annual migrations of hundreds of thousands of individuals to breeding grounds in the brigalow belt no longer occur on that scale as the native vegetation of brigalow belt has largely been destroyed. Southward migration occurred "from late September to early January" with the return leg noted "between mid January and early April". The breeding cycle takes about two months and occurred in the south (?but again at the northern end of the migration). The Top End/Kimberley population appears to be quite separate, and nothing has been recorded about its movements. Caterpillar food plants are mostly trees in the genus *Terminalia*. Of these, the only "local" record is of Damson (*Terminalia microcarpa*) at Kununurra. Damson is a plant of near-coastal and/or moist monsoon forests. However, Michael suspects that the local population may be moving inland to breed on an as-yet-to-be-recorded species of *Terminalia*.

The informal butterfly group within the NTFNC has been databasing records of butterflies going back to 2003. The database is managed by Deb Bisa. We have 12 records of the Narrow-winged Awl, which makes it a not very common species. There is at least one record for each year except 2007 but with influxes noted in 2003, 2006 and 2008. All of our records are in the period January to March (Jan. – 2; Feb. – 3; March – 7). During this period, they're variously recorded moving through in a wide range of habitats (savanna, grassland, paperbarks, mangroves), or feeding at flowers. Flowers we've observed them visiting are those of the Broad-leaved Paperbark (*Melaleuca viridiflora*) and Snakeweed (*Stachytarpheta* sp.), the former a tree and the latter an introduced herb common along watercourses and in disturbed areas.

If you see Narrow-winged Awls on the move (i.e. migrating through an area), it's well worth recording the compass bearing they're travelling on. With more such records, one day we may be able to work out where they're coming from, and where they're going to.

Reference Braby MF. 2000. *Butterflies of Australia. Their identification, biology and distribution*. CSIRO: Collingwood, Vic.

Biggles (AKA Darryel Binns) chasing awls on the Marrakai Plains. (Or was he playing cricket – cover drive for four!)



The Narrow-winged Awl is a quite large hesperid (wingspan 48–52 mm) whose distinctive feature at rest is its narrow profile with forewings that project well beyond the hindwings.



Yellow Waters

Photos by Russell Willis



Above: Nankeen Night-heron.

Top right: Azure Kingfisher in River Pandanus.

Right: Blue Water-lily (*Nymphaea violacea*).



Above: Pandanus sunset – River Pandanus (*Pandanus aquaticus*).

Right: Comb-crested Jacana.

Below right: Yellow Waters wouldn't be complete without a Saltwater Crocodile.



Climate and weather

References are from *Recent Literature*, p10.

Predicting the onset of the wet season

The timing of the onset of our wet season is related to the strength of the Southern Oscillation Index (a measure of the strength of the *El Nino* effect). The nature of this relationship was explored by Lo & Wheeler (2007). Strong SOI anomalies (i.e. a strong *El Nino* or *La Nina* effect) were particularly emphatic in their ability to predict the onset of the wet season. The July-August SOI was most useful, but for somewhat longer range forecasts (May-June), the related Pacific sea surface temperatures were a better predictor.



Storm developing: cumulus forming into cumulonimbus with stratocumulus immediately in front. Photo by Susan Jacups; cloud identifications by Garry O'Sullivan.

Fire and rain

The possibility that fire regimes influence our rainfall has been the subject of further investigation. In an experiment at Howard Springs, Wendt *et al.* (2007) showed that the lower boundary layer of the atmosphere was up to 2°C warmer over a burnt than unburnt site. This difference, they argued, could influence local air circulation and thus the monsoon.

Using computer simulations, Lynch *et al.* (2007) demonstrated that fires can indeed increase rainfall. The type of fire most likely to do so are fairly small, high-intensity fires late in the dry season.

Aerosols

Aerosols affect our climate in two main ways; by reflecting sunlight and thus cooling the earth's surface, and by providing seeds for the formation of raindrops. Allen *et al.* (2008) investigated the nature of aerosols over Darwin during the wet season. Early in the wet season, the air was quite polluted with aerosols dominated by organic black carbon – "soot" from bushfires. Much cleaner air was brought in with the onset of the monsoon, and the authors suggest that the major source of seeding for raindrops at that time is sea salt.

Weatherpix

Member Pat Rasmussen feels that the "Weatherpix" that go with the weather report on the local ABC television news too often feature "another lovely sunset" and could be much more varied. She rang the ABC and was informed that they'd welcome a wider range of material and phone calls from interested potential contributors (phone 8943 3222). Pat writes: "I know a lot of you [Club members] have beautiful photos and it would be good to get some of them before the public. I look forward to pictures of birds, butterflies, bamboos and much more".



*Sign of the season at Knuckeys Lagoon?
Photo taken by Arthur Keates on April
25 this year. Your editor guesses that
the flowers are the Yellow Snowflake Lily
Nymphoides hydrocharoides. Can
anyone confirm or correct that for us?*

Naturalists get together at Mary River Park

Reporting back on the Australian Naturalists Network Get-Together, 10–18 May 2008

Fiona Douglas

Almost two years of preparation finally paid off as 89 field naturalists from all over Australia (average age around 70) were kept very busy for a week in the Top End. In the lead up the organising committee (Gay Crowley, Fiona Douglas, Jarrad Holmes, Linda Rennie) almost despaired at times – Mary River Park changed ownership with subsequent communication glitches; would all the new cabins be built in time? would the locations we wanted to visit be under water? would there be a late cyclone?

The program was a mixture of organised and less organised days, with Linda going out every day with the group to troubleshoot, while several other club members also accompanied or guided on different occasions. The first day vindicated our decision to borrow various pieces of emergency equipment from WWF (thanks Jarrad) when the sat-phone got a good work-out. A 92-year old walked off ahead of a small group faster than anyone thought possible and went missing. Linda's immediately-organised excellent search failed to find him and emergency services were notified. After about six hours walking over rough country our intrepid visitor reached the highway and was given a lift back to Mary River Park. He was none the worse for wear – a little thirsty – though one shoe was now held together only with a shoelace; he planned his usual glass of red with dinner.

The Welcome to Country from Limilngan-Wulna traditional owner Phillip Goodman and members of his family was held that same night, in front of a large bonfire. Performers and spectators alike had a great time; visitors were drawn into the dance at the end and many photographs were taken.

Two days in Kakadu followed, with two groups swapping activities on alternate days. Andy Ralph and Kakadu Culture Camp, plus Ian Morris, gave our visitors a wonderful introduction to Kakadu and local Indigenous culture from their base at Muirella Park. An altercation between an Osprey and other raptors was one of the highlights of a boat trip on the billabong. On the alternate Kakadu day, some participants took scenic flights while others walked either the really delightful small 'stone country' track at Bardedjildji or the short cool Manngarre monsoon forest path. The afternoon was spent at Ubirr, where some climbed to the top and many reached the high flat area.

Another Andy (Mortimer, owner of Guided By Nature) and Helen joined us for Wednesday's Mooch down the Marrakai, with frequent stops for birds, flowers, termite mounds etc. One group saw a Black-breasted Buzzard and a Red-backed Button-quail, to much excitement. Ian Hance began his painting and drawing mentoring at the Margaret River at lunchtime, while Sheryl, Brian Reid, Andy and Helen were kept busy with birds and plants all day.

Thursday at the Territory Wildlife Park was yet another highlight, with Tess in particular a hit with everyone. The professionalism and communication skills of the staff were highly praised and the animal encounters, raptor session and guided walks were all much appreciated. A number of people were planning a return visit during their stay in Darwin after the meet was over.

Several Club members joined us at Fogg Dam on Friday, when the group was welcomed by rangers and traditional owners (who also sold some paintings). People wandered at their leisure, helped across the causeway by the mini-bus shuttle, and Ian's art group was fascinated to be introduced to the use of quills.

The Club meeting on Friday again saw several Club members make the effort to get out of town. The four speakers, Bob Wasson, Don Franklin, Peter Jacklyn and Stephen Garnett gave fascinating thumbnail talks, discussion of which carried over to Saturday when the speakers joined one of the early morning boat cruises along the Mary River, guided by Ross from Mary River Park, which had been a feature of the week.

Visits to three sites along Point Stuart Road on Saturday were the last outings. Jimmy Creek monsoon forest is small, accessible and lovely; Mistake Billabong is a classic site – complete with a water monitor who lazed on the edge of the lookout for an hour or so despite the comings and goings of dozens of people. The walk in to Brian Creek monsoon forest was perhaps a natural history highlight: the woodland contains banksia, feather-flower and grevilleas and the understorey is packed with many different grasses, herbs and other goodies. There were cries of wonder from people as they fell to their knees to look at tiny flower after flower. The monsoon forest itself is also attractive, drier than Jimmy Creek and containing two huge architectural figs.

[continued at bottom of page 9]

Interesting bird sightings

25 April to 22 May 2008

Compiled by Sheryl Keates

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
Great Crested Grebe	3/05/08	Lake Duggan, Lakefield Stn	B&L Reid & A&S Keates	pair
Diamond Dove	3/05/08	Marrakai Rd	F Douglas	5
	3/05/08	Lakefield Stn, Mataranka	B&S Reid & A&S Keates	c. 50
Tawny Frogmouth	11/05/08	Mary River Billabong	ANN participants	2 flushed
Spotted Nightjar	7/05/08	Girraween Lagoon	S Keates & D Binns	1 flushed near track
	11/05/08	Mary River Billabong	S Keates <i>et al.</i>	1 flushed near c'park
Lesser Frigatebird	30/04/08	Goulburn Island	M Gardner	5; + 2m, 1fm on 21/5
Black Bittern	4/05/08	Edith Falls Rd, 5km frm St H'wy	B&L Reid & A&S Keates	1
	17/05/08	Mary River boat cruise	ANN participants	c.4, also during week
Eastern Osprey	18/05/08	TV tower near botanic gardens	A & S Keates	1 at nest
	18/05/08	western side of Darwin hospital	A & S Keates	1 perched with prey
Black-breasted Buzzard	11/05/08	Sth Alligator - Gunbalanya	M Gardner	1
	14/05/08	Marrakai Rd	I Hance, F Douglas <i>et al.</i>	1
Pacific Baza	27/04/08	Jabiru	M Gardner	1, flight display
Red Goshawk	3/05/08	Mataranka	B&L Reid & A&S Keates	pair opp. Cabins
Little Eagle	27/04/08	Pine Creek	A Carlson	1
Black Falcon	11/05/08	south of Adelaide River (town)	D Binns	1
Brolga	11/05/08	western side of Bark Hut	S Keates <i>et al.</i>	pair with juvenile
Australian Bustard	26/04/08	Manbulloo Station	A Carlson	20+; also on 27/4
Australian Pratincole	28/04/08	Arnhem Oval, Jabiru	M Gardner	2
	26/04/08	Manbulloo Station	A Carlson	2 flying over
Hooded Parrot	3/05/08	Gorrie Rd, Mataranka	B&L Reid & A&S Keates	7
	4/05/08	Water tower, Pine Ck	B&L Reid & A&S Keates	4 pair
	4/05/08	Sandy Ck Rd, Grove Hill loop	B&L Reid & A&S Keates	1 female + 1 juvenile
Eastern Koel	10/05/08	fig tree near Darwin museum	D Franklin	1 immature
Channel-billed Cuckoo	30/04/08	Rapid Ck	S Keates	1 heard; also 1/5
	2/05/08	CDU Casuarina Campus	H Moorcroft	1
	8/05/08	Sth Alligator resort	M Gardner	2
	10/05/08	c.10km East of Humpty Doo	M Gardner	flying, Arnhem Hwy.
	19/05/08	Wagaman Primary School	N McCrie	1 perched & calling
Horsefield's Bronze-cuckoo	7/05/08	Girraween Lagoon	S Keates & D Binns	1
Black-eared Cuckoo	18/05/08	Leanyer sewage ponds	N McCrie	1, eastern end fence
Pallid Cuckoo	17/05/08	Mary River boat cruise	S Garnett <i>et al.</i>	1 heard
Rufous Owl	1/05/08	Darwin Botanic Gardens	D Binns	2 in rainforest area
	2/05/08	Gardens Rd, opp golf course	F Douglas	1 calling
	2/05/08	near Botanic Gardens	G Sawyer	2
	10/05/08	Darwin Botanic Gardens	D Franklin	2, lower end r'nforest
Barking Owl	8/05/08	Frangipanni St, Nightcliff	J & & Wright	1 dead
	18/05/08	Darwin Botanic Gardens	A & S Keates	2
Red-backed Kingfisher	20/05/08	near Fogg Dam turnoff	M Gardner	1 on powerlines
Masked Woodswallow	9/05/08	Leanyer sewage ponds	A & S Keates	1 immature
	18/05/08	nr Cowdy unit Darwin Hospital	A & S Keates	6
White-browed Woodswallow	18/05/08	nr Cowdy unit Darwin Hospital	A & S Keates	2
Little Woodswallow	26/04/08	Casuarina Coastal Res	G & M O'Brien	1 with Tree Martins
Hooded Robin	4/05/08	Central Arnhem Rd	B&L Reid & A&S Keates	1 immature male
Rufous Songlark	3/05/08	Lakefield Stn, SW of Mataranka		B&L Reid & A&S
Keates	1			
Brown Songlark	7/05/08	Stuart H'way near Bee's Ck Rd	D Binns	1
Gouldian Finch	3/05/08	Lakefield Stn, SW of Mataranka	B&L Reid & A&S Keates	1 black -faced male
Eastern Yellow Wagtail	4/5/08	Leanyer sewage ponds	N McCrie	2

ANN report, continued

There are too many people to thank here, but the drive, energy and smiling hospitality of Lynn and Darryl Frost and their daughters Kelly, Kate and Kirsten stand out. I doubt if anyone else could have done what they did in the time; this enabled the whole thing to go ahead as planned – and with style.

To everyone else who contributed, a very heartfelt thanks on behalf of the Club and our visitors.

PS. We hope to feature photos from this event in next month's newsletter.

Recent literature about Top End natural history

CLIMATE & WEATHER

Compiled by Don Franklin

Not so technical

Anon. 2007. Pollution keeps northern Australia wet. *Australasian Science* 28(2): 9.

Thunderstorms

Connolly PJ, Choulaton TW, Gallagher MW, Bower KN, Flynn MJ, Whiteway JA. 2007. Cloud-resolving simulations of intense tropical Hector thunderstorms: Implications for aerosol-cloud interactions. *Quarterly Journal of the Royal Meteorological Society* 132: 3079-3106.

Frederick K, Schumacher C. 2008. Anvil characteristics as seen by C-POL during the Tropical Warm Pool International Cloud Experiment (TWP-ICE). *Monthly Weather Review* 136: 206-222.

Kilinc M, Beringer J. 2007. The spatial and temporal distribution of lightning strikes and their relationship with vegetation type, elevation, and fire scars in the Northern Territory. *Journal of Climate* 20: 1161-1173.

Williams ER, Mushtak VC, Boldi R, Dowden RL, Kawasaki ZI. 2007. Sprite lightning heard round the world by Schumann resonance methods - art. no. RS2S20. *Radio Science* 42: SS220.

The monsoonal climate

Arnup SJ, Reeder MJ. 2007. The diurnal and seasonal variation of the northern Australian dryline. *Monthly Weather Review* 135: 2995-3008.

Lo F, Wheeler MC. 2007. Probabilistic forecasts of the onset of the north Australian wet season. *Monthly Weather Review* 135: 3506-3520.

Meneghini B, Simmonds I, Smith IN. 2007. Association between Australian rainfall and the Southern Annular Mode. *International Journal of Climatology* 27: 109-121.

Shaik HA, Cleland SJ. 2007. The tropical circulation in the Australian and Asian region - May to October 2006. *Australian Meteorological Magazine* 56: 41-53.

Shaik HA, Cleland SJ. 2007. The tropical circulation in the Australian/Asian region - November 2006 to April 2007. *Australian Meteorological Magazine* 56: 191-202.

Fire and rain

Lynch AH, Abramson D, Goergen K, Beringer J, Uotila P. 2007. Influence of savanna fire on Australian monsoon season precipitation and circulation as simulated using a distributed computing environment. *Geophysical Research Letters* 34: art. no. 20801.

Wendt CK, Beringer J, Tapper NJ, Hutley LB. 2007. Local boundary-layer development over burnt and unburnt tropical savanna: an observational study. *Boundary-layer Meteorology* 124: 291-304.

Miscellaneous

Allen G, Vaughan G, Bower KN, Williams PI, Crosier J, et al. 2008. Aerosol and trace-gas measurements in the Darwin area during the wet season. *Journal of Geophysical Research-Atmospheres* 113: art. no. D06306.

May PT, Kepert JD, Keenan TD. 2008. Polarimetric radar observations of the persistently asymmetric structure of Tropical Cyclone Ingrid. *Monthly Weather Review* 136: 616-630.

May PT, Mather JH, Vaughan G, Jakob C. 2008. Characterizing oceanic convective cloud systems - The tropical warm pool international cloud experiment. *Bulletin of the American Meteorological Society* 89: 153-155.

McFarquhar GM, Um J, Freer M, Baumgardner D, Kok GL, Mace G. 2007. Importance of small ice crystals to cirrus properties: Observations from the Tropical Warm Pool International Cloud Experiment (TWP-ICE). *Geophysical Research Letters* 34: art. no. L13803.

Park S, Jimenez R, Daube BC, Pfister L, Conway TJ, et al. 2007. The CO₂ tracer clock for the Tropical Tropopause Layer. *Atmospheric Chemistry and Physics* 7: 3989-4000.

Zeschke B. 2007. Fog and low cloud detection over northern parts of the Northern Territory using geostationary satellite data, June to September 2004. *Australian Meteorological Magazine* 56: 19-34.

Lightning strikes (more than) twice

Sprite lightning from the Top End was detected, and its source identified, at a field station on Rhode Island, Massachusetts in the USA, 16,600 km away (Williams *et al.* 2007). The study is a step towards resolving issues in the accuracy of estimating the strength of the electric discharges involved.

Kilinc & Beringer (2007) investigated the spatial distribution of lightning strikes within the Northern Territory. It won't surprise too many people in the NT to learn that strikes are more common in the north than the south, and more common inland in the north than close to the coast. In the northern inland, strikes average 1.21 per square km per year. The authors present evidence that strike rates are influenced by vegetation type and in particular that large fire scars (> 500 m) are more likely to be struck than unburnt areas. In central Australia, strike rates increase with altitude, but no such effect was noted in the north.