

East Point Reserve is a special place for the people of Darwin and is one of the most popular recreation areas for both locals and visitors. Rich in history and biodiversity, East Point is easy to access and has an abundance of facilities and attractions for everyone.

East Point Reserve is one of the largest reserves in the Darwin municipality boasting 200 hectares of green space and recreation spaces. Darwin City Council have been looking after the reserve since 1984 and aim to balance the ecological, cultural and historic values whilst providing recreational areas for everyone to enjoy.

For more information visit:

www.darwin.nt.gov.au



How can ClimateWatch help scientists and land managers?

“Changes in rainfall and temperature across Australia are already triggering changes in the established flowering times, breeding cycles, migrations and distributions of the country’s flora and fauna, both native and introduced. Citizen scientists play a very important role as we do not have enough dedicated scientists to monitor different areas.”

Dr Lynda Chambers
ClimateWatch Science and Technical
Advisor

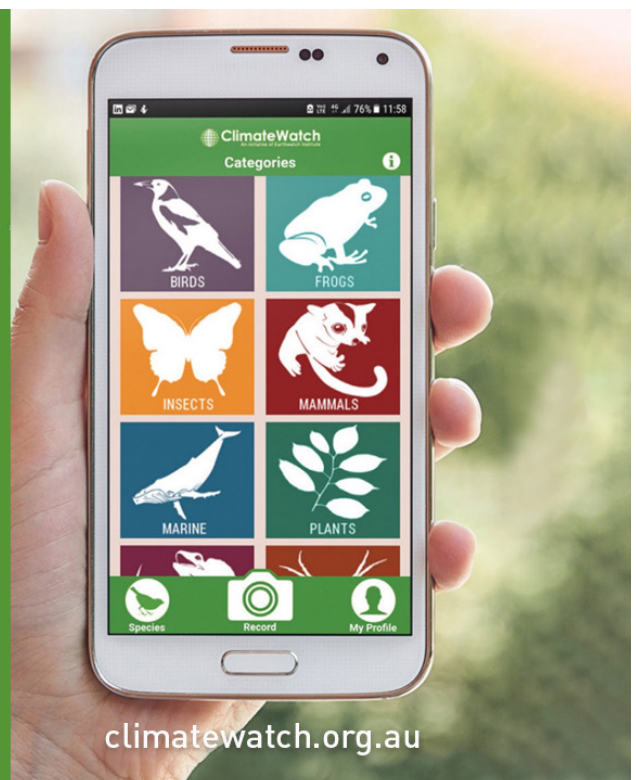
Image credits: Atlas Moth, Flickr; Garrysw. Rainbow Pitta, Flickr; Dave Curtis. Lady Apple; Red Bush Apple, CSIRO.

Make a difference

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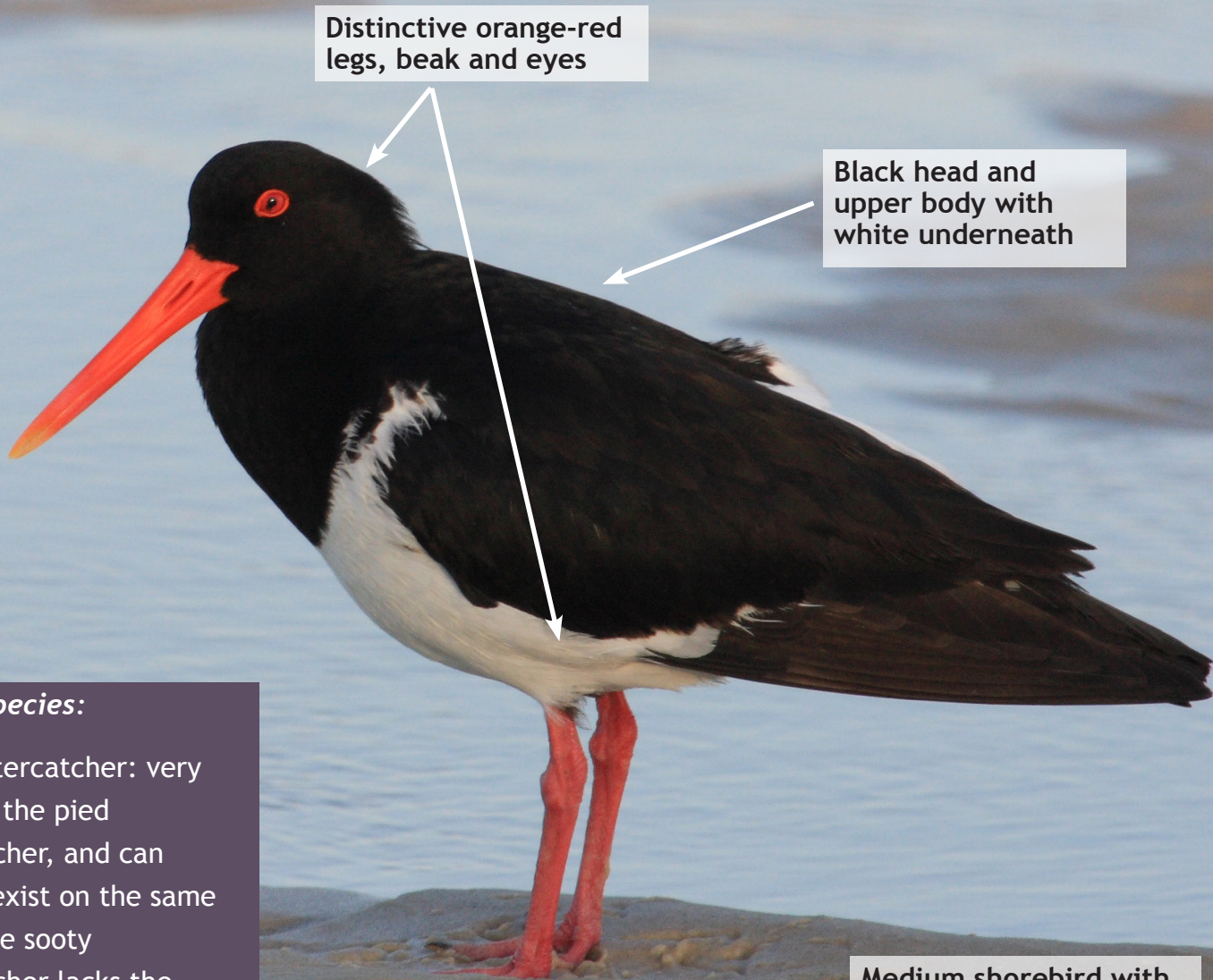
Be part of the solution



Australian Pied Oystercatcher *Haematopus longirostris*

Where to look:

*Mudflats, sandbanks and
sandy ocean beaches*



Distinctive orange-red
legs, beak and eyes

Black head and
upper body with
white underneath

Similar species:

Sooty oystercatcher: very similar to the pied oystercatcher, and can often co-exist on the same beach. The sooty oystercatcher lacks the white feathers and although their beaks and legs are dark red their bodies are completely black

Medium shorebird with
long skinny legs and a
long beak

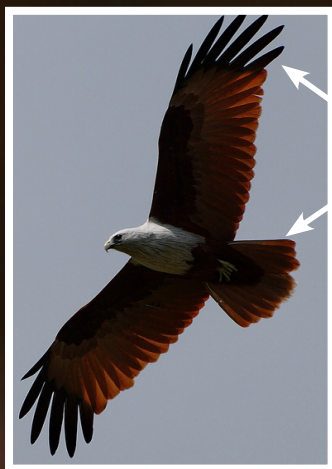
Size: 50cm

*Images courtesy of Flickr user
Michale Dawes, Sept 2007*

Brahminy Kite *Haliastur indus*

Where to look:

Above sand dunes, coastal waters, and mangroves



Relatively short tail
and dark finger-like
wing tips

(Adult) white head
and chest, chestnut
brown coloured body

Dark eyes, strongly
hooked, yellow beak

Size: up to 51cm with
a 120cm wingspan

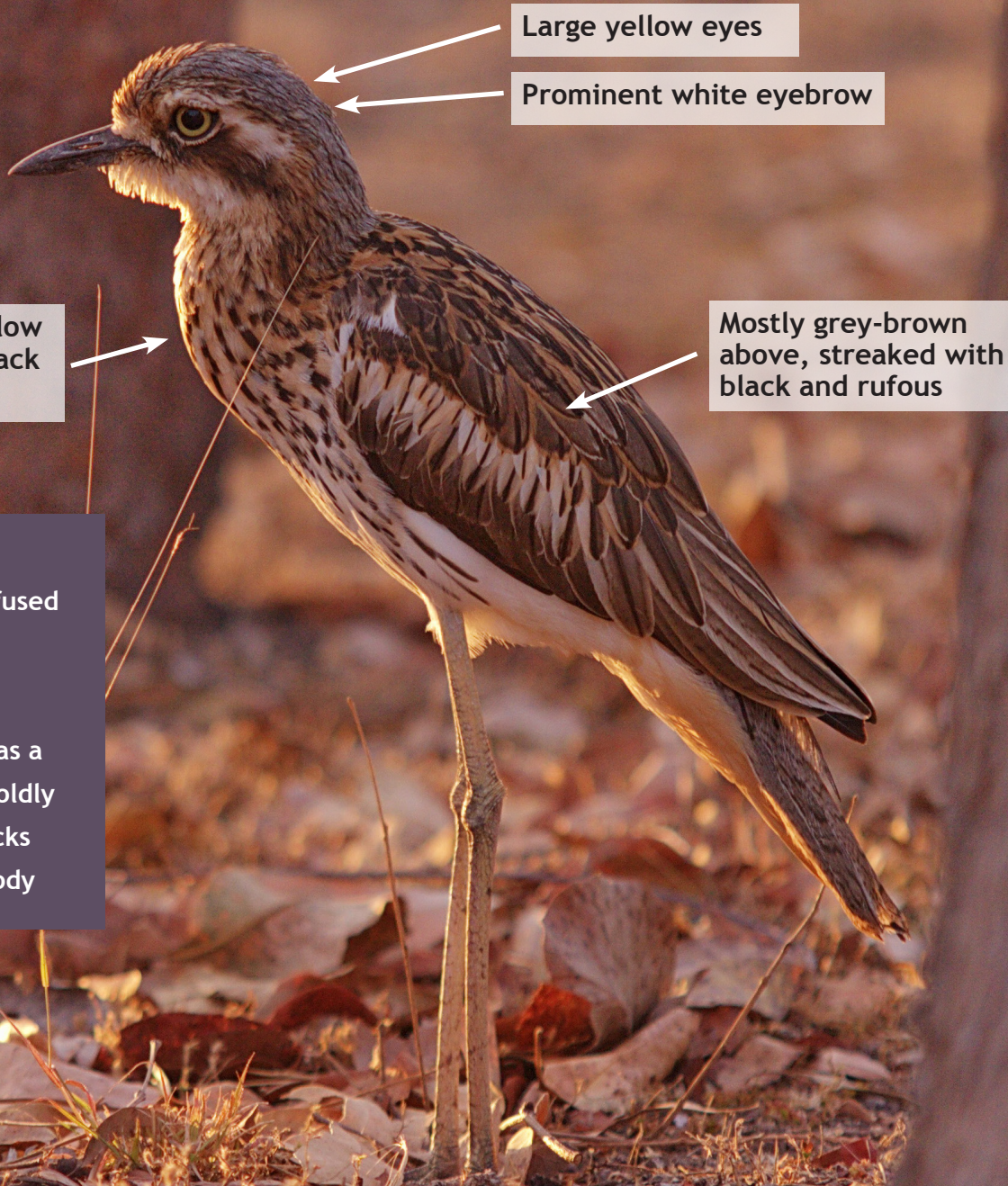
*Images courtesy of ClimateWatch users
Shanin Olakara and N.Costa*

Similar species:

Juvenile brahminy kites are easy to confuse with many other birds of prey, so record only on adults. Ospreys, whistling kites and black-breasted kites can look similar when on the wing; however, brahminy kites can be distinguished by their dark 'fingered' wingtips, chestnut brown wings and body that is half white and half brown

Bush Stone-Curlew *Burhinus grallarius*

When to look:
July to January



Large yellow eyes

Prominent white eyebrow

Buff-whitish below
with vertical black
streaks

Mostly grey-brown
above, streaked with
black and rufous

Similar species:

It is unlikely to be confused
with any other bird in
Australia.

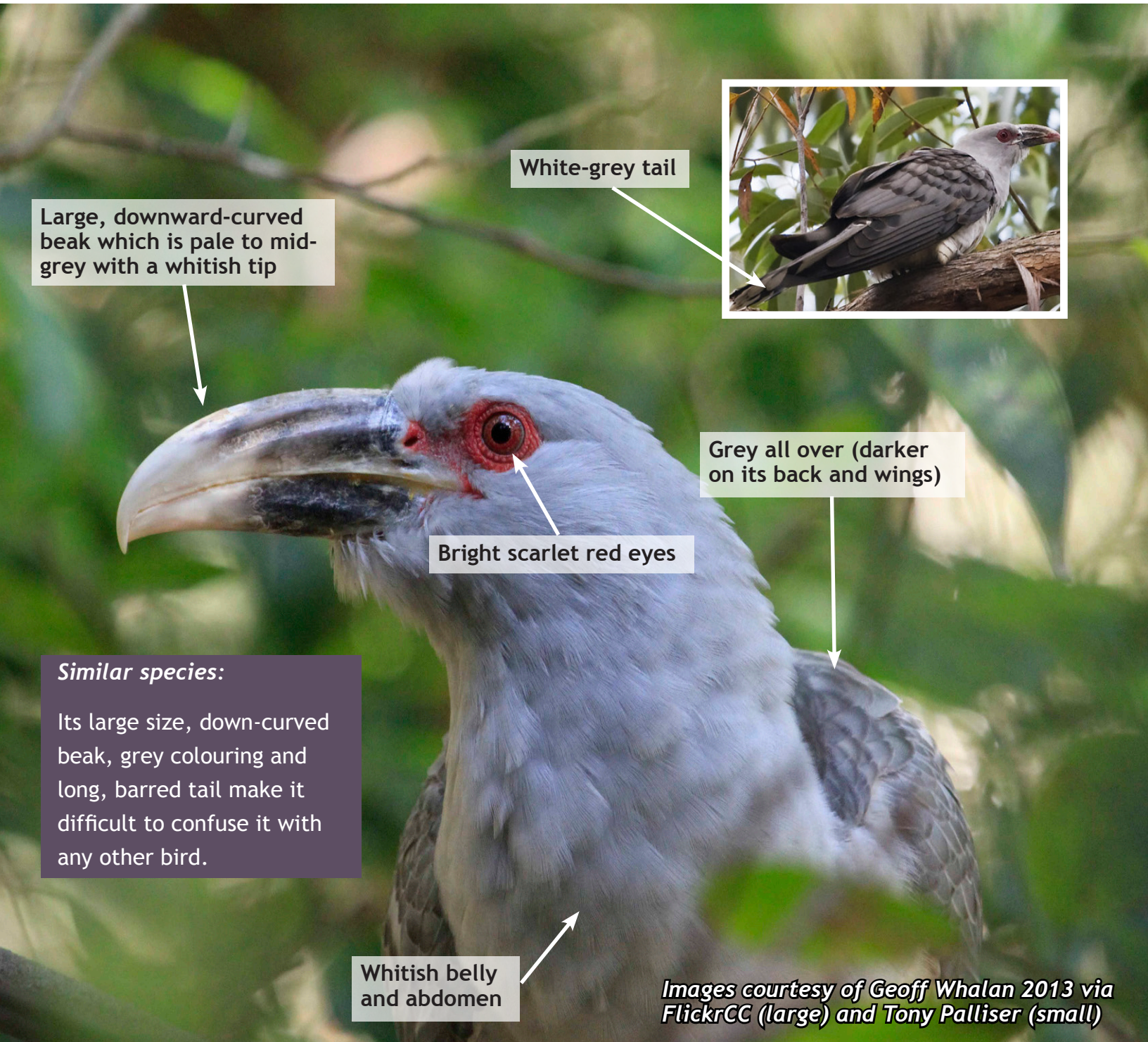
Beach Stone-curlew: has a
large bill and a more boldly
marked face. It also lacks
bold streaking on its body

*Image courtesy of Flickr user
pattfwi, August 2010*

Channel-billed Cuckoo *Scythrops novaehollandiae*

When to look:

August to March,
breeding behaviour can be
seen from August to October



Large, downward-curved
beak which is pale to mid-
grey with a whitish tip

White-grey tail

Grey all over (darker
on its back and wings)

Bright scarlet red eyes

Similar species:

Its large size, down-curved
beak, grey colouring and
long, barred tail make it
difficult to confuse it with
any other bird.

Whitish belly
and abdomen

Images courtesy of Geoff Whalan 2013 via
FlickrCC (large) and Tony Palliser (small)

Eastern Koel (formerly Common Koel)

Eudynamys orientalis

When to look:

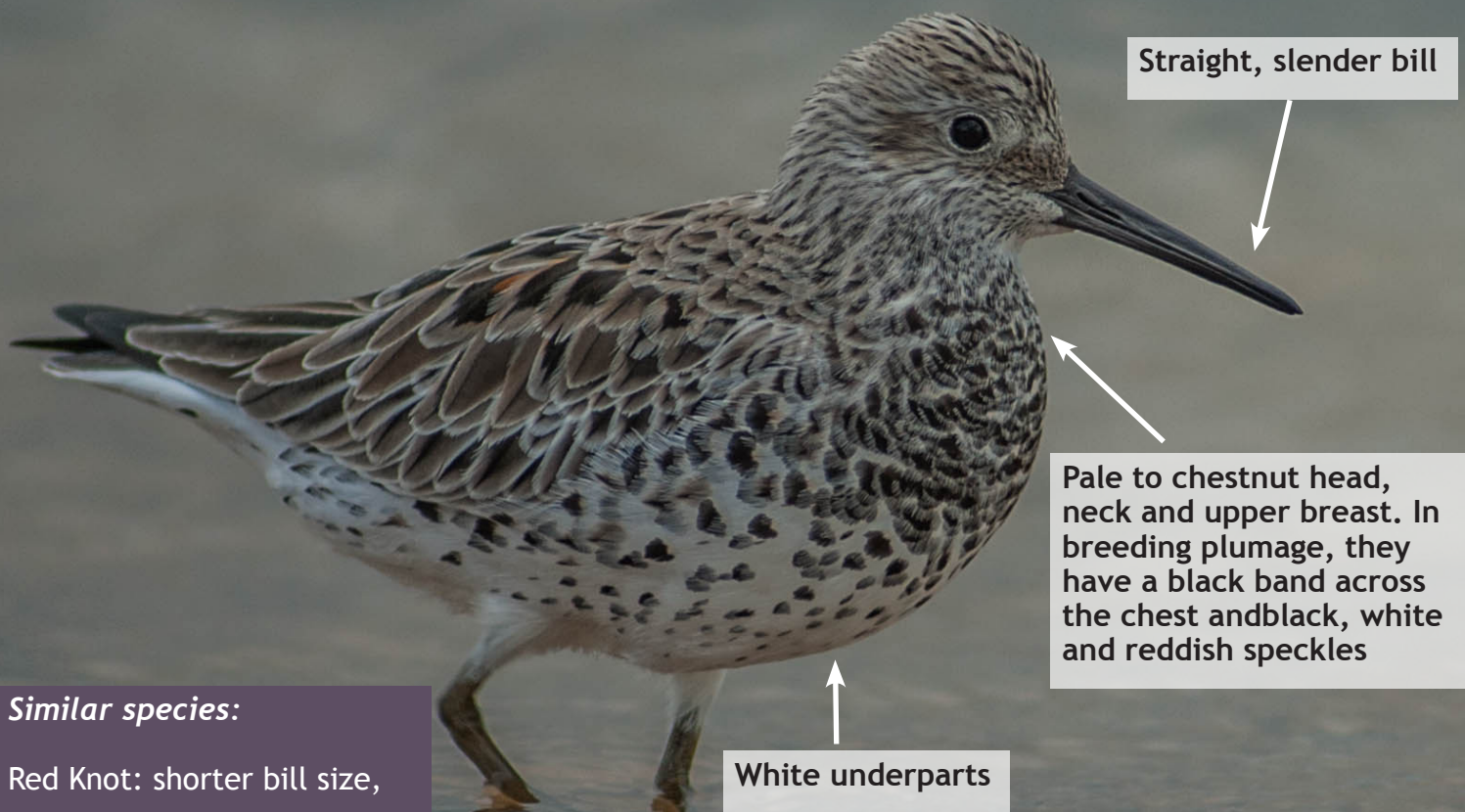
September to March



Great Knot *Calidris tenuirostris*

When to look:

Year-round. Migration from
September-March



Similar species:

Red Knot: shorter bill size, distinct dark eyeline with white eyebrow

Asian Dowitcher: much longer bill size

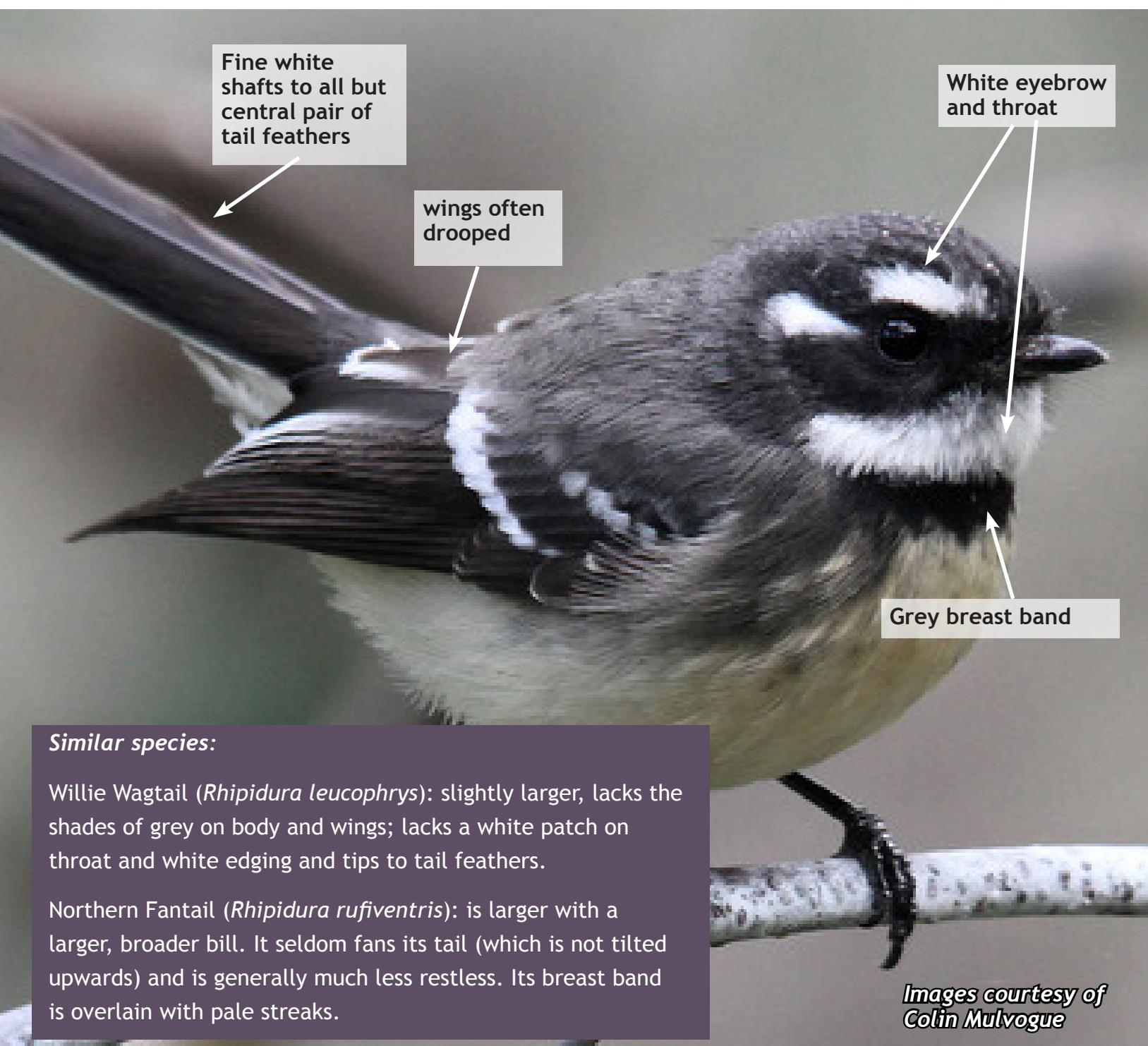
Curlew Sandpiper: smaller body size and has a down-curved bill

Image courtesy of Flickr user ken 2008

Grey Fantail *Rhipidura albiscapa*

When to look:

Some migrate north during winter; nests Jul to Jan



Similar species:

Willie Wagtail (*Rhipidura leucophrys*): slightly larger, lacks the shades of grey on body and wings; lacks a white patch on throat and white edging and tips to tail feathers.

Northern Fantail (*Rhipidura rufiventris*): is larger with a larger, broader bill. It seldom fans its tail (which is not tilted upwards) and is generally much less restless. Its breast band is overlain with pale streaks.

*Images courtesy of
Colin Mulvogue*

Magpie-lark *Grallina cyanoleuca*

When to look:

Throughout the year;
breeding is opportunistic

Similar species:

Australian Magpie (*Cracticus tibicen*): is almost twice as large (36 - 44 cm long) with a heavier beak, and wholly black underbody (the Magpie-lark is mostly white below).

Pied Butcherbird (*Cracticus nigrogularis*): has a completely black head and bib, separated from its black back by a white collar.

Another black-and-white bird: won't have the thin whitish bill and pale eye.

Horizontal black line through pale eye; whitish bill

Males will lack white throat

Call: a ringing 'pee-o-wit' or 'pee-wee', often sung by two birds together, giving rise to its venacular name of 'Peewee'

Images courtesy of
Angel Oo



Masked Lapwing *Vanellus miles*

When to look:

Throughout the year;
breeding is opportunistic

Black on top of head

Yellow bill and
wattle from
forehead to
behind its eye
hangs beside chin

White neck and
underparts

Brown and
black wings

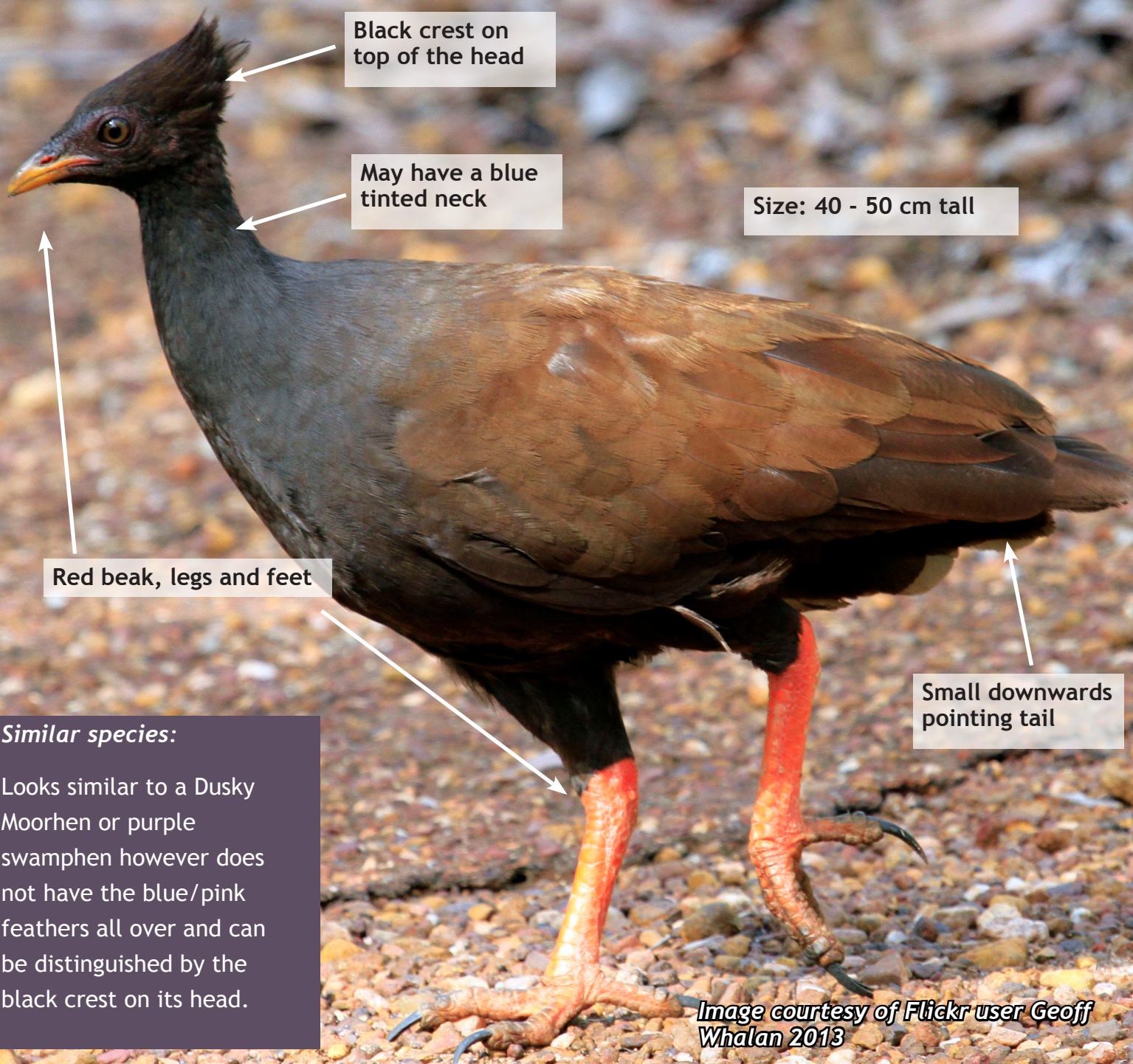
Similar species:

Banded Lapwing (*Vanellus tricolor*): is smaller (25 - 29 cm long) with much more black on the head and lower breast, with a distinct white eye-stripe and white throat and upper breast, forming a white 'bib'. There is also a distinctive red patch at the base of its bill.

Image: Earthwatch

Orange-footed Scrubfowl *Megapodius reinwardt*

When to look:
Often active at night.
Breeds July - March



Black crest on top of the head

May have a blue tinted neck

Size: 40 - 50 cm tall

Red beak, legs and feet

Small downwards pointing tail

Similar species:

Looks similar to a Dusky Moorhen or purple swamphen however does not have the blue/pink feathers all over and can be distinguished by the black crest on its head.

Image courtesy of Flickr user Geoff Whalan 2013

Pied Butcherbird

Cracticus nigrogularis

When to look:

August to November in
southern Australia,
May to June in the tropics

Black head and
dark brown eyes

Thick hooked bill

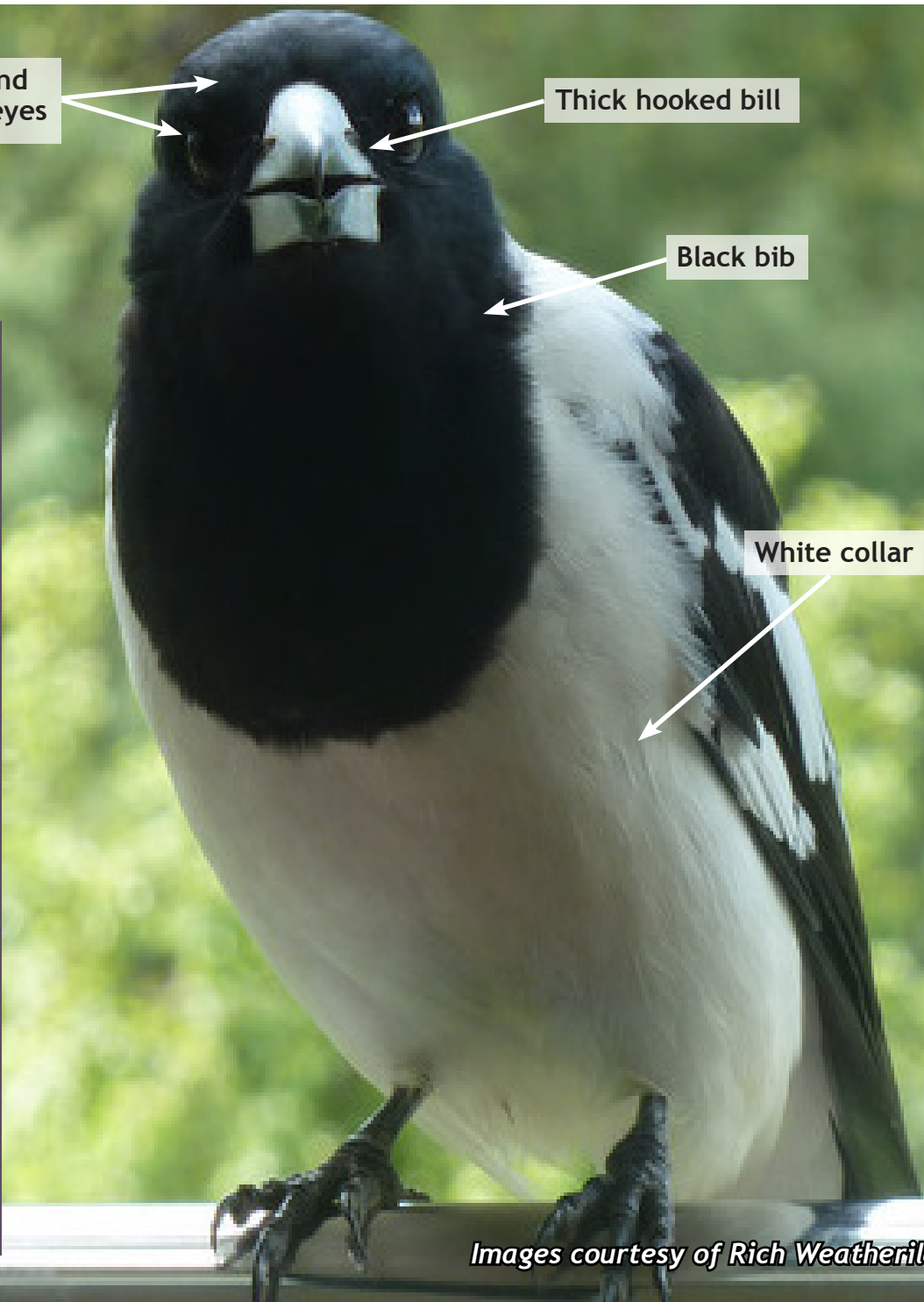
Black bib

White collar

Similar species:

The Pied Butcherbird is larger and more boldly marked than the Grey Butcherbird and can be separated from both this species and the Black-backed Butcherbird of Queensland by its distinct black bib.

It can be distinguished from other black and white birds, (i.e. Australian Magpie and the Magpie-lark) by the black head and bib separated from the black back by a complete white collar and underparts. The bill is much larger than that of the Magpie-lark.

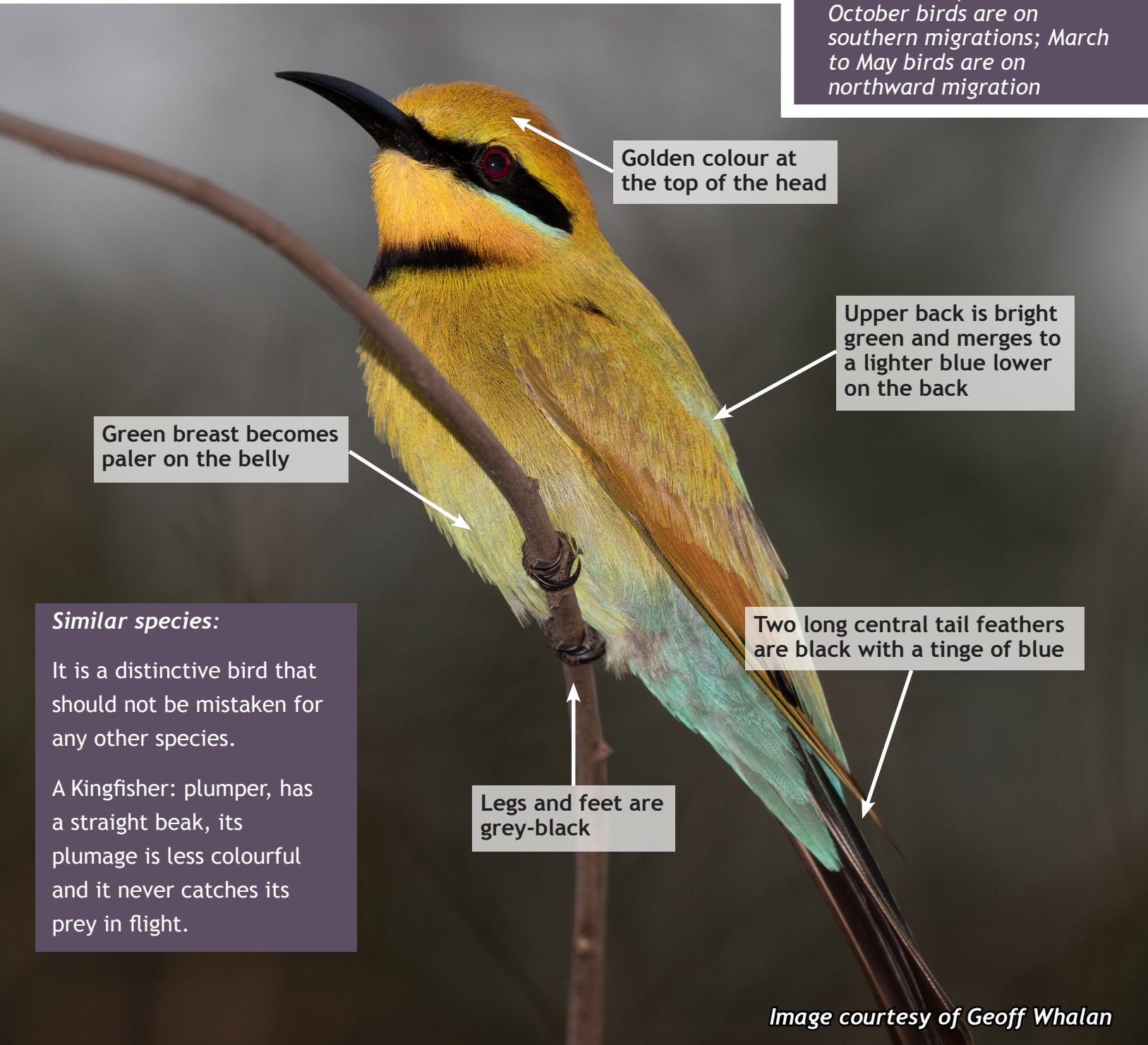


Images courtesy of Rich Weatherill

Rainbow Bee-eater *Merops ornatus*

When to look:

November to January in southern Australia; August to January in northern Australia; September to October birds are on southern migrations; March to May birds are on northward migration



Golden colour at the top of the head

Upper back is bright green and merges to a lighter blue lower on the back

Green breast becomes paler on the belly

Similar species:

It is a distinctive bird that should not be mistaken for any other species.

A Kingfisher: plumper, has a straight beak, its plumage is less colourful and it never catches its prey in flight.

Two long central tail feathers are black with a tinge of blue

Legs and feet are grey-black

Image courtesy of Geoff Whalan

Red-necked Stint *Calidris ruficollis*

When to look:

Late August to mid-April,
some birds remain in
Australia year round

Pale eye-stripe

Brown and grey-
brown upperparts

Black rump and tail

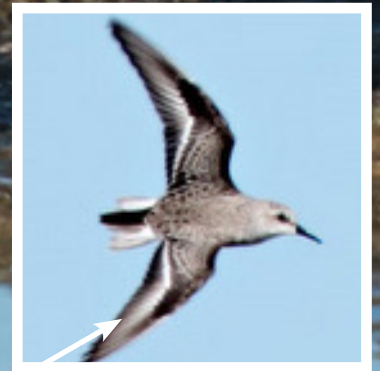
Decurved bill and
short legs are black

Pale wing-stripe in flight

Similar species:

The Little Stint is very similar in size, shape and plumage; however, they have longer legs, a blunter rear end, and are dumper. They also have a different call. The Little Stint is rarely encountered in Australia.

The Broad-billed Sandpiper is larger and has a longer, differently shaped bill.



Images courtesy of Aaron
Maizlish 2016 via FlickrCC

Ruddy Turnstone *Arenaria interpres*

When to look:

Year round. Migrates
August - April

Stocky, medium-sized shore-bird. Back, head and upper chest marked with black-brown and pale areas (tortoise-shell like)

Short black edge-shaped bill, slightly up-tilted

White breast

Short orange legs

Similar species:

Similar to other Sandpipers including the Red Knot that is distinguished by the robin-red colour on its chest. The Ruddy Turnstone's characteristic behaviour of turning over stones while foraging can help distinguish species.

Image courtesy of Flickr user Corine Bliek 2018

White-faced Heron

Egretta novaehollandiae

When to look:

Throughout year; breeds
October to December

White face and
pointed grey bill

Low,
bouncing
flight



Size: 60-70cm

Light blue-
grey colour

Similar species:

The White-necked Heron (*Ardea pacifica*) is a large heron with a white head and a long white neck with a double line of black spots running down the front. The Pied Heron (*A. picata*) is a similar slate-black heron with contrasting white throat and neck, but it is a much smaller (43 cm - 52 cm) bird, with a crested dark cap that extends below the eyes, yellow legs, and a bill that is mostly yellow.

Dull yellow legs

Images courtesy of Marj K.

Willie Wagtail *Rhipidura leucophrys*

When to look:

Throughout year; usually
nests Aug to Feb



Similar species:

Restless Flycatcher (*Myiagra inquieta*): has a black head crest which makes it look more angular, and lacks the white eyebrow. Its chin and throat are white, instead of black, and its tail is less rounded and doesn't wag.

Any other black-and-white fantail or flycatcher generally won't have the black throat and white eyebrows.

Images courtesy of Emily Fosbery

Australian Ebony *Diospyros compacta*

When to look:

Year-round

*Flowers during Feb,
Oct and Nov*

*Fruits from Jan -
May and Oct-Dec*

Berries that become
red when ripe

Thick leathery leaves
(approx. 7-9cm)

Small tree (approx.
11 metres) that can
be dark, mottled grey
to black bark on
the trunk body

Similar species:

Black Ebony (*Diospyros humilis*) is similar in appearance, however can be distinguished by its smaller and more bladed leaves. Dead bark is often quite dark, almost black and layered with brown brittle stripes in the blaze.



Images courtesy of Hartleys Creek Feb 2017

Grey Mangrove

Avicennia marina

Tall to small tree or shrub to 25m height, commonly 5m.

When to look:

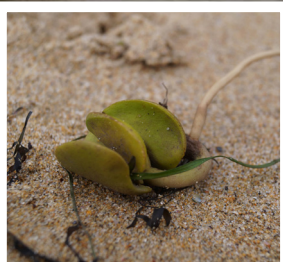
Year-round. Flowering occurs mid to late summer. Seeds may fall year-round

Pneumatophores (aerial roots specialised for gaseous exchange) are numerous and project from shallow lateral roots



Leaves leathery, glossy green, oval, pointed, grey underside

Dense clusters of yellow-orange or golden flowers



Fruit pod pale green, flattened, germinating before fruit falls. Pubescent seed coat encloses a solitary propagule with two large fleshy seed leaves.

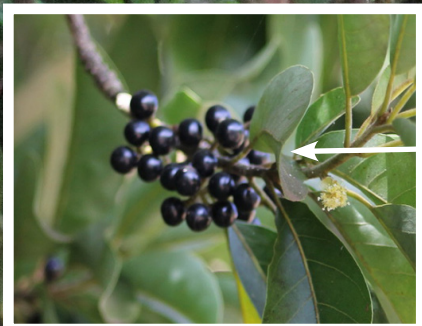
Images © Geoff Lay (tree), Neil Walsh (leaves and flowers) Nadiah Roslan (germinating seed)

Litsea

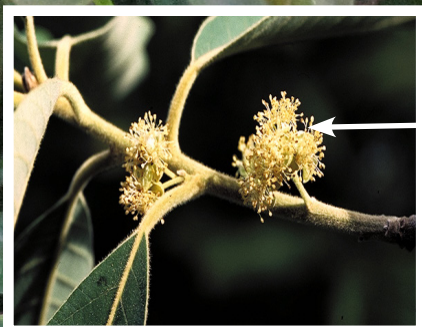
Litsea glutinosa

When to look:

Year-round. Flowers
March - June. Fruits
September - October



Rounded black
fruits, approx.
8mm in diameter
that bear seeds



Clusters of
cream to yellow
flowers

Oblong shaped leaf
blades that are covered
in white erect hairs

Similar species:

Litsea glutinosa is
native to the Northern
Territory and can be
distinguished by its
rounded black fruits and
clusters of cream to
yellow flowers.

Keep an eye out for Atlas
Moth larvae and enter any
sightings in 'comments'



Images courtesy of CSIRO and Flickr users
Edward Steven 2017 and guzhengman 2007

Lady Apple *Syzygium suborbiculare*

When to look:

Year-round. Flowering July to October in northern Australia. Fruit ripens October - December



Large cream flowers with long stamens

Large globular pink to red fruits, often conspicuously ribbed, 30-70 mm long

Similar species

No other *Syzygium* will have large globular red fruits that are conspicuously ribbed.



Large tree up to 14 m height. Leaves variable, oblong or spear-shaped

Images courtesy of Flickr; Paul Asman and Jill Lenoble (flowers), Tim Dickson (fruits)

Northern Black Wattle

Acacia auriculiformis

When to look:

Year-round. Flowers
February - August



Pods stripey, flat but strongly coiled, brown, linear to oblong that contain shiny black seeds

Grouped yellow flowers in a spike (up to 8 cm)

Long slightly curved leaves (approx. 10-20cm)

Similar species:

Other wattle species; *Acacia polystachya* can be distinguished by smaller bladed leaves that have a red or pink gland visible on the upper side. Flowers are also spiked, but are sparse and white, with pods that are usually twisted, curved or coiled to some extent.

A. auriculiformis shares the same common name (Black Wattle) as *A. mearnsii* which is unrelated and found in all states except Northern Territory.

Images courtesy of Flickr user Nagraj Salian 2007 and NT Flora; B.M. Stuckey (pods)

Yellow Flame Tree

Peltophorum pterocarpum

When to look:

Year-round

*Flowers March - June
and Sept - Nov*



Bright yellow flowers
with orange stamens

Black seed pods that
ripen to a dark red

Similar species:

Poinciana (*Delonix regia*) will look similar in appearance when not in flower. Poinciana will have dark-brown flattened seed pods 20-70 cm long that remain on the tree for most of the year.

Long strips of small leaves
approx. 30-60cm long

*Images courtesy of CSIRO and Flickr users
Dinesh Valke 2007 and Ria Tan 2017*

Cane Toad *Rhinella marina*

When to look:

Year-round. Adults readily seen during the night

Tough leathery skin that has a distinctive warty appearance

Pronounced bony ridge above nostril and venom producing gland behind the ear

Adult size: 10-15 cm

Pale underbelly

Similar species:

Toads can be distinguished by their bumpy skin, short forelimbs and poison glands behind their eyes. Many toad species also crawl rather than hop.

The Giant Frog (*Cyclorana australis*) is most likely confused with the exotic Cane Toad in western Queensland and northern Western Australia but the Giant Frog lacks prominent brow ridges and is a burrowing species.

Shiny black tadpoles. Eggs lain in long strings of transparent jelly



Images courtesy of Flickr user Mark Yokoyama 2017

Atlas Moth *Atticus Wardi*

When to look:

Year-round. Adults prominent during the wet season (Jan-March)

Rusty-brown in colour with a double white band

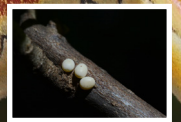
Large white spot on each wing

White spherical eggs

Wing span: approx 17 cm

Similar species:

The Hercules Moth is similar in appearance and pattern, however its range is restricted to Far North Queensland and Papua New Guinea. The Hercules Moth can be distinguished by an extended tail on each hindwing and overall larger size.



Caterpillar with floppy spines



Images courtesy of Flickr users Nieminski 2017, Garrys1 2015 and Jim Tuttle

Honey Bee *Apis mellifera*

When to look:

Early spring, from
temperature 13C

Hairy abdomen with
black and brown (or
yellow or orange)
stripes.

Black head, upper
body and legs

Similar species:

A wasp: has yellow legs,
brighter yellow bands on
its abdomen and lacks the
hairiness of the Honey Bee.
Native Australian Bees:
while it is difficult to see,
native bees don't have
hairy eyes like the Honey
Bee. Also a Honey Bee
usually has obvious
"baskets" full of pollen on
its legs.



*Images courtesy of ClimateWatch users
Luca Cav and Nicola Storey 2016*



Asian House Gecko *Hemidactylus frenatus*

When to look:

Throughout the year in tropical regions, Late spring to summer in Brisbane

About 10 cm in length
(including tail)

The tail has small spines
and can have a slightly
flattened appearance

Bulging eyes
with no eyelids

Fawn to grey body
with some mottling

Its call is a
distinctive clicking
“chuck, chuck,
chuck...”

Similar species:

Another gecko: some won't have spines on their tails, but all will have a softer and less frequent call.

Image courtesy of Oliver Bradshaw

Frill-necked Lizard *Chlamydosaurus kingii*

When to look:

Sept to Mar, hatchlings
emerge around Feb

70-95 cm in length,
about two-thirds of
length is tail



The frill around its
neck ranges from
yellow to black mixed
with orange and red

Similar species:

Common or Eastern
Bearded Dragon (*Pogona
barbata*): usually shorter
than the Frill-necked
Lizard, and doesn't have
the large loose frill sitting
around its neck (rather it
has a throat membrane
which it inflates if
threatened). It is also only
found in eastern Australia,
excluding Cape York
Peninsula and the cooler
regions of the south-east.

Grey-brown to
orange-brown body

Males have a
black belly

Images courtesy of Josh Freeman 2014 (full
body) via FlickrCC and B.G. Thomson (head)
via www.auswildlife.com

Carpet Python *Morelia spilota*

When to look:

Year round. Look during the day when the sun is out to catch them basking

Variable in colour and pattern, however often have pale, dark-edged blotches, stripes or cross bands). Seven geographical subspecies recognised

Size: up to 3 metres

Small scales present on top of head; more than 3 scales between the eyes

A row of deep heat-sensing pits along the lower jaw

Similar species:

In Northern Territory: Children's python - similar markings but significantly smaller (75cm). Banded tree snake (Night tiger) distinctive brown/red bands (hence "tiger"), slender body with bulging eyes. Black headed python - distinctive banded pattern and black head.

In Queensland: Amethystine Python (Scrub Python) have larger scales on their head and an iridescent purple sheen. Spotted Python are much smaller (100 - 140 cm)

Image of *M. s. mcdowelli* and *M. s. cheynei* (inset) courtesy of Stephen Zozaya

Agile Wallaby *Macropus agilis*

When to look:

*Year-round for adults
and young*

Body length 80 cm; tail
length 77 cm, Yellowish-
brown coat

Prominent white
face stripe leading
back from upper lid
to under eye

Similar species:

Similar to the Red-necked Wallaby and Black-Striped Wallaby, but the range of the latter does not extend to the Bay islands (QLD). No other wallabies will have the prominent white face stripe leading back from upper lid to under eye and a white thigh stripe

Prominent white
stripe on thigh

*Images courtesy of Flickr CC,
Geoff Whalan 2014 and 2016*



St Andrew's Cross Spider *Argiope keyserlingii*

When to look:
Summer and autumn

Similar species:

Painted Orb Weaver (*Argiope picta*): less common than the St Andrew's Cross Spider and doesn't normally produce a complete X pattern on its web.

Banded orb-weaving spider (*Argiope trifasciata*): has yellow, white and black bands on its abdomen, and dark brown and pale yellow bands along the entire length of its legs.

Often sits with legs in pairs, forming cross pattern.

It weaves zigzag patterns into its web, forming an X

Silver, yellow, red and black bands across abdomen

Females have a silvery head and dark brown legs with 1 or 2 yellowish bands, while males and juveniles will have brown and cream body and brown legs

Images courtesy of Volker Fremenau

Giant Golden Orb *Nephila pilipes*

When to look:
Summer to Autumn

Similar species:

Pirate spider (commonly called Quicksilver Spider): may be mistaken for a male orb spider, it has a conical-shaped abdomen (body).

Coastal Golden Orb Spider (*Nephila plumipes*): doesn't have the red colouring on its palps and has yellow bands near the end of each leg segment (the Giant Golden Orb Spider has discrete patches of bright yellow only on the underside of its leg joints).

Golden Orb Weaver (*Nephila edulis*): Same differences as with the Coastal Golden Orb, and it has black "brushes" or hairs along its legs which the Giant Orb lacks.

The body is 4-4.5 cm in length, legspan can reach up to 15 cm

Male:
Significantly shorter in length (only about 5-6 mm)

Female:
Brown to yellow abdomen with short, silvery-white hairs

Distinctive red palps

Black legs with bright yellow patches on the underside of its leg joints



Image courtesy of Oliver Bradshaw



Date: _____

Time: _____

Observer: _____

Map: City of Darwin's Interactive Science Trail at East Point Reserve.

Enter your observations through the free ClimateWatch mobile app or webpage: www.climatewatch.org.au/trails/darwin-east-point-reserve

How to Record on this sheet:
Mark each observation on the map in this format: Species/HowMany/Behaviour/Comments

There is no set direction for this ClimateWatch trail. It can be explored for short or long walks. Multiple individuals of each species can be monitored.

Data collected
contributes to



	Code	Common Name (Scientific Name)
Birds	APO	Australian Pied Oystercatcher (<i>Haematopus longirostris</i>)
	BK	Brahminy Kite (<i>Haliastur indus</i>)
	BSC	Bush Stone-curlew (<i>Burhinus grallarius</i>)
	CBC	Channel-billed Cuckoo (<i>Scythrops novaehollandiae</i>)
	EK	Eastern Koel (<i>Eudynamys orientalis</i>)
	GKn	Great Knot (<i>Calidris tenuirostris</i>)
	GF	Grey Fantail (<i>Rhipidura albiscapa</i>)
	MLark	Magpie-lark (<i>Grallina cyanoleuca</i>)
	MLap	Masked Lapwing (<i>Vanellus miles</i>)
	OFSF	Orange-footed Scrubfowl (<i>Megapodius reinwardt</i>)
	PB	Pied Butcherbird (<i>Cracticus nigrogularis</i>)
	RBB	Rainbow Bee-eater (<i>Merops ornatus</i>)
	RNS	Red-necked Stint (<i>Calidris ruficollis</i>)
	RT	Ruddy Turnstone (<i>Arenaria interpres</i>)
	WFH	White-faced Heron (<i>Egretta novaehollandiae</i>)
	WW	Willie Wagtail (<i>Rhipidura leucophrys</i>)
Plants	AE	Australian Ebony (<i>Diospyros compacta</i>)
	GM	Grey Mangrove (<i>Avicennia marina</i>)
	Lit	Litsea (<i>Litsea glutinosa</i>)
	LA	Lady Apple; Red Bush Apple (<i>Syzygium suborbiculare</i>)
	NBW	Northern Black Wattle (<i>Acacia auriculiformis</i>)
	YFT	Yellow Flame Tree (<i>Peltophorum pterocarpum</i>)
Amphibians and Insects	CT	Cane Toad (<i>Rhinella marina</i>)
	AM	Atlas Moth (<i>Attacus wardi</i>)
	HB	Honey Bee (<i>Apis mellifera</i>)
Reptiles and Mammals	FNL	Frill-necked Lizard (<i>Chlamydosaurus kingii</i>)
	AHG	Asian House Gecko (<i>Hemidactylus frenatus</i>)
	CP	Carpet Python (<i>Morelia spilota</i>)
	AW	Agile Wallaby (<i>Macropus agilis</i>)
Spiders	GGO	Giant Golden Orb (<i>Nephila pilipes</i>)
	SACS	St Andrew's Cross Spider (<i>Argiope keyserlingii</i>)

PLANT CODES	1F	First fully open flower
	FF	Full flowering
	EF	End of flowering
	NF	Not flowering
	1LO	First fully open leaf
	LC	Leaves changing colour
	1LD	First leaf to fall this year
	LD	≥50% leaves fallen
	NL	No leaves
	LO	Leaves open
	FR	Fruit fully ripened
	SD	Seeds dropped to ground
	OSP	Open seed pods

ANIMAL CODES	C	Calling
	CM	Courting/Mating
	F	Feeding
	FY	Feeding young
	BC	Bird on chicks
	BE	Bird on eggs
	BN	Bird on nest
	NP	Nest present
	EP	Eggs present
	Sw	Swarm
	YinP	Young in pouch