



Comparison of fauna recorded at two sites in Drysdale River National Park, 1975 and 1997.

A series of surveys in the Kimberley from the early 1970s now provide an important benchmark for monitoring fauna changes. As part of a workshop examining fire management around Kalumburu in June 1997, we took the opportunity to re-sample two sites ("B4: Solea Falls" and "C5: Forest Creek") within Drysdale National Park that had been sampled in August 1975.

Comparisons between the survey results may reflect real changes in abundance, differences in survey methodology and/or chance.

Unfortunately, the sampling procedure used in 1975 was not especially quantitative or repeatable (Kabay and Burbidge 1977). Site B4 was surveyed in 1975 by two zoologists over a six day period. Birds only were sampled at site C5 in 1975, by three biologists over a four day period. At B4, mammals were trapped using 20 kill rat-traps, 20 small live-traps and c8 large live-traps. Bats were shot and/or mist-netted. Sampling was apparently wide-ranging, rather than quadrat-based.

In contrast, the 1997 sampling was considerably more structured, and based mainly around six 50m x 50m quadrats at B4 and five quadrats (four of which were 50m x 50m, with one riparian strip sampled with a 100m x 25m quadrat) at C5. Sampling of quadrats followed the procedure outlined for a number of comparable studies in the NT (e.g. Woinarski and Fisher 1995). For every quadrat¹, 20 Elliot traps were placed around the perimeter, 4 cage traps at each corner, and two 20litre pitfall traps (each with 8m. of driftline) were placed randomly within the quadrat. All traps were left open for 3 days and nights. Each quadrat was searched intensively for herpetofauna (and mammals) for five 10 min. censuses (two in the morning, one in the afternoon, and two at night). Birds were counted in 8 day-time and 2 night-time instantaneous searches for every quadrat. For every species, the total number seen and trapped was tallied for every quadrat. Quadrats were placed to sample all main environments present, but to be as internally homogeneous as possible. Quadrats were not permanently marked, but their locations and broad habitat are listed in Table 1. More detailed environmental information was recorded for every quadrat. For the 1997 re-sampling, in addition to information compiled in quadrats we searched the two areas more extensively, by day and night. Two 30ft mist nests were erected for 2 hours at site B4. One 60ft and three 30ft mist nets were erected for 2 hours at site C5. No shooting was done at either site. The two teams comprised Phil Hauser (PWCNT), Trish Handsyde (WADA) and John Woinarski (PWCNT) (at site B4), and Tony Start (CALM), John McCartney (PWCNT) and Paul Llewellyn (WA SES) (at site C5). Sampling spanned the period 20-23 June.

¹. Quadrats B5 and B6 were exceptions. No pits could be established in the rocky B6, so the pits from this quadrat formed the basis of a nearby sandy quadrat, B5. Five Elliot traps and one cage trap were also taken from B6 to B5, leaving B6 with 15 Elliot traps and 3 cage traps; and B5 with 5 Elliot traps, 1 cage trap and 2 pitfalls. Searching procedure for birds, mammals and herpetofauna were identical in these two quadrats to that for all other quadrats.

Results are presented here as a series of species lists, describing status in 1975 and 1997. Note that for the 1975 sampling, the written description of status is not always unambiguously referable to a particular site (as opposed to the status in the Drysdale River National Park generally). Status for 1997 includes reference to all species recorded from each site (regardless of whether in quadrats or not). Species accounts also include a listing of the quadrats from which the species was recorded (in square brackets) and, for all quadrats where >1 individual was recorded, the number recorded from each quadrat.

The 1975 survey retained a large number of specimens. A much smaller number (<20) was collected in 1997. A listing of these is attached.

Table 1. Location of all quadrats sampled in 1997.

Note that quadrats B1-B6 were located around site "B4", and that quadrats C1-C5 were located around site "C5".

quadrat no.	lat.	long.	habitat
B1	14° 40.88'	127° 00.17'	<i>Eucalyptus miniata</i> tall open forest
B2	14° 40.95'	127° 00.15'	<i>Grevillea pteridifolia</i> woodland, with riparian <i>Banksia</i>
B3	14° 41.20'	126° 59.92'	<i>Melaleuca</i> forest with <i>Barringtonia/Pandanus</i> understorey beside Drysdale River
B4	14° 40.49'	126° 59.63'	dry creekline in rugged sandstone
B5	14° 40.78'	126° 59.71'	<i>Calytrix/Acacia/Syzygium eucalyptoides</i> shrubland on sandsheet
B6	14° 40.70'	126° 59.38'	<i>Livistona</i> thicket along creekline in sandstone
C1	14° 39.01'	126° 56.31'	shrubland (of <i>Owenia vernicosa</i> , <i>Xanthostemon</i> , <i>Livistona</i>) on sandstone
C2	14° 39.02'	126° 56.32'	shrubland (of <i>Grevillea refracta</i> , <i>Livistona</i>) on perched sandplain within sandstone
C3	14° 39.08'	126° 56.41'	low open woodland of <i>Eucalyptus miniata</i> with <i>Livistona</i> on sandstone
C4	14° 39.11'	126° 56.47'	<i>Melaleuca/Syzygium angophoroides</i> tall closed forest
C5	14° 39.08'	126° 56.45'	<i>Melaleuca</i> closed forest, along creek

Comparisons between survey periods

There were substantial differences in the vertebrate fauna recorded in the two sample periods, with a high proportion of species recorded from only one of the two survey periods (Table 2). The differences are particularly pronounced for frogs (of 13 species recorded from site B4 over both periods combined, only three species were recorded in both sampling periods, with nine species recorded only from 1997). However there were also substantial differences for mammals (of 14 species recorded from site B4, only five species were recorded in both sample periods) and reptiles (of 27 species recorded from site B4, only 10 species were recorded in both sample

periods). The similarity was greater for birds (with 66 of the 97 species recorded from site B4 reported in both sample periods).

Comparisons are hampered by the absence of mammal and herpetofaunal records (and relatively few bird records) from site C5 in 1975; and by the generally low numbers of mammals trapped in both surveys. Given the differences in methodology, and comparable data being available for only 1 or 2 sites, it is difficult to account for any apparent differences. Perhaps the most striking difference between the two survey periods is the reduced abundance or absence of a number of riparian grassland birds in the 1997 sample period (e.g. Golden-headed Cisticola, Clamorous Reed-Warbler). This probably relates to the scouring of riverside environments in the 1996-97 Wet season by exceptional floods. Many of the other differences concern species which have a relatively low probability of detection (e.g. because they are transients, difficult to trap or occur at low densities).

The limited re-sampling described here may provide a test run for more comprehensive re-sampling of the rest of Drysdale and also other early Kimberley surveys (notably Prince Regent). This exercise provides some guidance for such re-sampling:

- on the basis that declines are most likely in mammals, it may be most efficient to re-sample mammals only (but mammal sampling is substantially more labour-intensive than bird sampling);
- changes may be most detectable at sites which yielded reasonable numbers and/or diversity of mammals in the earlier survey (cf. the sites examined here);
- it is probably not possible (or necessarily) desirable to replicate the earlier (relatively unrigorous) sampling procedure, but rather to institute a sampling protocol which will be more readily repeatable in future surveys;
- the detection of trends in abundance from comparison of survey results may be given greater depth if complemented with information from Aboriginal residents/owners of the areas.

Notwithstanding these suggestions, the very low level of similarity in species recorded between the two sampling periods (and the very high proportion of species recorded in only the second survey period) suggests that the 1970s benchmarks may need to be treated very cautiously, and that comparisons arising from any more comprehensive re-sampling of the 1970s sites will need considerable interpretation.

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29.7.97

Table 2. Summary of species tallies for the two sample periods. Species names are given for only those species recorded in only one of the two survey periods.

group	site B4				site C5				both sites combined			
	total no. spp	in both 1975 and 1997	in 1975 only	in 1997 only	total no. spp	in both 1975 and 1997	in 1975 only	in 1997 only	total no. spp.	in both 1975 and 1997	in 1975 only	in 1997 only
birds	97	66	18	13	68	25	6	37	102	70	16 (emu, magpie goose, great cormorant, straw-necked ibis, peregrine falcon, australian hobby, common sandpiper, brush cuckoo, pheasant coucal, barking owl, sacred kingfisher, geen-backed gerygone, white-throated gerygone, grey butcherbird, clamorous reed-warbler, golden-headed cisticola)	16 (brown quail, wandering whistle-duck, australian white ibis, whiskered tern, common bronzewing, diamond dove, galah, northern rosella, owl nightjar, red-backed kingfisher, black-tailed treecreeper, grey-fronted honeyeater, jacky winter, cicadabird, long-tailed finch)
reptiles	27	10	5	12	12	-	-	12	27	13	2 (<i>Diplodactylus ciliaris</i> , <i>Diporiphora magna</i>)	12 (<i>Crocodylus johnstoni</i> , <i>Chelodina rugosa</i> , <i>Emydura victoriae</i> , <i>Heteronotia binoei</i> , <i>Delma borea</i> , <i>Varanus gouldii</i> , <i>Varanus tristis</i> , <i>Carlia gracilis</i> , <i>Cryptoblepharus megastictus</i> , <i>Cryptoblepharus plagiocephalus</i> , <i>Ctenotus robustus</i> , <i>Demansia simplex</i>)

frogs	13	3	1	9	6	-	-	6	13	5	-	8 (<i>Cyclorana australis</i> , <i>Limnodynastes convexiusculus</i> , <i>Limnodynastes ornatus</i> , <i>Litoria bicolor</i> , <i>Litoria nasuta</i> , <i>Litoria rubella</i> , <i>Litoria tornieri</i> , <i>Uperoleia</i> sp.).
mammals	14	5	3	6	11	-	-	11	18	5	3 (<i>Chalinolobus nigrogriseus</i> , <i>Myotis moluccarum</i> , <i>Eptesicus caurinus</i>)	10 (<i>Isoodon</i> sp., <i>Petropseudes dahli</i> , <i>Macropus robustus</i> , <i>Miniopterus schreibersii</i> , <i>Nyctophilus arnhemensis</i> , <i>Nyctophilus walkeri</i> , <i>Pseudomys nanus</i> , <i>Canis familiaris</i> , <i>Felis catus</i> , <i>Equus asinus</i>)

BIRDS

species	site B4 ("Solea Falls")		site C5 ("Forest Creek")	
	1975	1997	1975	1997
Emu <i>Dromaius novaehollandiae</i>	present	-	-	-
Brown Quail <i>Coturnix ypsilophora</i>	-	one covey of c. 10 birds	-	single birds recorded (?species)
Magpie Goose <i>Anseranas semipalmata</i>	one bird on pool	-	-	-
Wandering Whistle-duck <i>Dendrocygna arcuata</i>	-	one group of c 10 birds	-	-
Darter <i>Anhinga melanogaster</i>	single birds, usually on large open pools	at least three individuals, mostly seen around the Falls	-	single birds along river
Little Pied Cormorant <i>Phalacrocorax melanoleucos</i>	widespread but scarce; usually single	several individuals seen	-	single birds on river
Little Black Cormorant <i>Phalacrocorax sulcirostris</i>	present	several individuals seen [B3]	-	single birds on river
Great Cormorant <i>Phalacrocorax carbo</i>	moderately common about the confluence of Johnson Creek and the Drysdale	-	-	-
White-faced Heron <i>Egretta novaehollandiae</i>	widespread but scarce; usually single birds.	at least 5 individuals seen along Drysdale, and on Johnson Ck.	-	single bird seen twice [C4]
White-necked Heron <i>Ardea pacifica</i>	widespread, but scarce; usually single ... small drying pools on creeks .. as well as large river-pools	one individual seen	-	single bird seen

Great Egret <i>Ardea alba</i>	widespread but scarce; single birds.	several individuals seen	-	present
Nankeen Night Heron <i>Nycticorax caledonicus</i>	present	-	-	single bird roosting
Black Bittern <i>Ixobrychus flavicollis</i>	scarce; single birds	at least five individuals seen	-	-
Australian White Ibis <i>Threskiornis molucca</i>	-	at least one bird seen regularly [B3]	-	-
Straw-necked Ibis <i>Threskiornis spinicollis</i>	scarce: single bird	-	-	-
Black-necked Stork <i>Ephippiorhynchus asiaticus</i>	scarce; single birds	?single bird	-	pair overhead, flying along river
Whistling Kite <i>Haliastur sphenurus</i>	locally common; usually in ones or twos ... one flew from a nest in a huge cadjeput	?single bird	-	single bird [C2]
White-bellied Sea-eagle <i>Haliaeetus leucogaster</i>	-	pair of birds around cadjeputs c1 km upstream of falls; many turtle shells under tree; nest not in current use [B3]	-	-
Brown Goshawk <i>Accipiter fasciatus</i>	scarce or uncommon ... mainly along watercourses	appeared common - several individuals seen often [B3,B6]	-	-
Collared Sparrowhawk <i>Accipiter cirrhocephalus</i>	moderately common; in ones and twos ... mainly in forests and scrubs fringing watercourses	two individuals seen	-	single bird [C1]
Peregrine Falcon <i>Falco peregrinus</i>	scarce; ones or twos ... mainly about high cliffs	-	-	-
Australian Hobby <i>Falco longipennis</i>	scarce; usually single birds	-	-	-

Brown Falcon <i>Falco berigora</i>	locally common	several individuals recorded [B2]	-	?1 bird seen several times [C1]
Brolga <i>Grus rubicunda</i>	scarce to moderately common	several individuals recorded	-	small flock flying along river
Common Sandpiper <i>Actitis hypoleucos</i>	uncommon	-	-	-
Bush Stone-curlew <i>Burhinus grallarius</i>	uncommon	one group seen and heard [B3]	-	-
Black-fronted Dotterel <i>Elsyornis melanops</i>	moderately common	moderately common; one nest with 2 eggs	-	-
Whiskered Tern <i>Chlidonias hybridus</i>	-	one flock of 3 birds flying downstream	-	-
Common Bronzewing <i>Phaps chalcoptera</i>	-	moderately common; in ones and twos, mostly in <i>Acacia</i> thickets	-	-
White-quilled Rock-Pigeon <i>Petrophassa albipennis</i>	common; mainly in ones and twos ... rugged sandstone	scattered birds or small groups in rugged sandstone [B4,B6]	common; mainly in ones and twos ... rugged sandstone	single birds or pairs in rugged sandstone
Diamond Dove <i>Geopelia cuneata</i>	-	a few individuals recorded [B1(2),B3]	-	-
Peaceful Dove <i>Geopelia striata</i>	common or very common about major watercourses ... scarce to moderately common elsewhere. Mainly grassy riverine flats, but also attracted to burnt country	common, especially in recently burnt <i>Grevillea pteridifolia</i> woodland [B1(8),B2(21),B3(5),B4,B5(2)]	common or very common about major watercourses ... scarce to moderately common elsewhere. Mainly grassy riverine flats, but also attracted to burnt country	common [C2(2),C4,C5]
Bar-shouldered Dove <i>Geopelia humeralis</i>	locally common ... dense waterside vegetation, vine scrub	common, in riparian vegetation and burnt <i>Grevillea pteridifolia</i> woodland [B2(9),B3(3),B4,B6(2)]	locally common ... dense waterside vegetation, vine scrub	common [C2(3),C3(5),C4,C5(7)]
Red-tailed Black-cockatoo <i>Calyptorhynchus banksii</i>	locally common	-	-	flock flying over

Galah <i>Cacatua roseicapilla</i>	-	-	-	small flock [C2]
Little Corella <i>Cacatua sanguinea</i>	generally scarce; mainly in ones and twos, also in small flocks ... in or near river-fringing forests	small flock (c20 birds) roosting in tall cadjeputs	-	small flock
Sulphur-crested Cockatoo <i>Cacatua galerita</i>	scarce or uncommon: in ones and twos ... in forests (especially cadjeputs) fringing the water courses	small groups around the cadjeputs [B3(2)]	scarce or uncommon: in ones and twos ... in forests (especially cadjeputs) fringing the water courses	pairs [C4,C5]
Rainbow Lorikeet <i>Trichoglossus haematodus</i>	uncommon (usually in pairs) to very common (in flocks of up to 60)	uncommon - several small groups (2-5 birds) seen [B2(2)]	-	commonly seen flying over [C4]
Varied Lorikeet <i>Psitteuteles versicolor</i>	moderately common to very common: occasionally in pairs but usually in flocks (up to 100 birds)	very common in flowering <i>Grevillea pteridifolia</i> and, less so, <i>Eucalyptus miniata</i> [B2(8)]	moderately common to very common: occasionally in pairs but usually in flocks (up to 100 birds)	in small flocks (<5 birds), flying over
Red-winged Parrot <i>Aprosmictus erythropterus</i>	generally scarce; mainly in ones and twos, occasionally in small parties	a few small groups seen [B5]	-	-
Northern Rosella <i>Platycercus venustus</i>	-	moderately common - several pairs and small groups seen. birds entering hollow near camp [B1(2)]	-	-
Brush Cuckoo <i>Cacomantis variolosus</i>	two birds, in a dense thicket (<i>Barringtonia</i> , <i>Acacia</i> and creepers) along a flood channel of the Drysdale	-	-	-
Pheasant Coucal <i>Centropus phasianinus</i>	uncommon ... usually in long grass and pandanus along watercourses	-	uncommon ... usually in long grass and pandanus along watercourses	-
Barking Owl <i>Ninox connivens</i>	generally scarce	-	-	-

Southern Boobook <i>Ninox novaeseelandiae</i>	uncommon	one pair flushed from hollow tree	-	heard
Tawny Frogmouth <i>Podargus strigoides</i>	uncommon	-	-	single bird [C2]
Australian Owlet-nightjar <i>Aegotheles cristatus</i>	-	-	-	heard
Azure Kingfisher <i>Alcedo azurea</i>	scarce ... mainly on the smaller watercourses	one seen along creek behind camp	-	-
Blue-winged Kookaburra <i>Dacelo leachii</i>	moderately common	moderately common [B3]	-	common, especially in riparian vegetation [C3(2),C4(2),C5(5)]
Red-backed Kingfisher <i>Todiramphus pyrrhopygia</i>	-	-	-	one seen, in sandstone
Sacred Kingfisher <i>Todiramphus sanctus</i>	scarce; single birds ... in cadejeputs and other trees along watercourses	-	scarce; single birds ... in cadejeputs and other trees along watercourses	-
Rainbow Bee-eater <i>Merops ornatus</i>	common, mainly in pairs and small parties	moderately common, especially in tall trees beside river [B2,B3(4)]	common, mainly in pairs and small parties	common [C3(2),C4,C5(2)]
Black-tailed Treecreeper <i>Climacteris melanura</i>	-	moderately common - several small groups recorded	-	-
Variegated Fairy-wren <i>Malurus lamberti</i>	scarce to moderately common ... rugged sandstone and rocky watercourses	moderately common - several groups recorded in rugged sandstone [B4(4)]	-	scarce
Red-backed Fairy-wren <i>Malurus melanocephalus</i>	locally common ... mainly in long grass and pandanus near water; also in more open grass and shrubbery of woodlands	moderately common - several groups noted in open forest [B1(4),B2(4),B3(4)]	-	-

Striated Pardalote <i>Pardalotus striatus</i>	scarce to moderately common ... open woodland and <i>Melaleuca</i> forest	very common, many nest tunnels in use [B1(4),B2(2),B3(2),B4,B5(2),B6(2)]	scarce to moderately common ... open woodland and <i>Melaleuca</i> forest	common, entering burrows [C2(3),C3(3),C5(2)]
Weebill <i>Smicrornis brevirostris</i>	common on plateaux; moderately common in gorges and about major watercourses ... mainly open woodland	common in eucalypt forests and woodlands [B4(4),B6(2)]	common on plateaux; moderately common in gorges and about major watercourses ... mainly open woodland	common in eucalypts [C5(5)]
Green-backed Gerygone <i>Gerygone chloronotus</i>	locally common but generally scarce ... mainly vine scrub at foot of cliffs	-	locally common but generally scarce ... mainly vine scrub at foot of cliffs	-
White-throated Gerygone <i>Gerygone olivacea</i>	scarce or uncommon ... mainly in <i>Acacia</i> thickets; also in <i>Melaleuca</i> , <i>Eucalyptus</i> and <i>Callitris</i>	-	scarce or uncommon ... mainly in <i>Acacia</i> thickets; also in <i>Melaleuca</i> , <i>Eucalyptus</i> and <i>Callitris</i>	-
Silver-crowned Friarbird <i>Philemon argenteiceps</i>	scarce to common; occasionally in small parties ... in most wooded habitats, favouring those associated with sandstone	moderately common, especially in flowering <i>Grevillea pteridifolia</i> and <i>Eucalyptus miniata</i> [B2(5)]	scarce to common; occasionally in small parties ... in most wooded habitats, favouring those associated with sandstone	uncommon, except in flowering <i>Grevillea pteridifolia</i> [C3]
Little Friarbird <i>Philemon citreogularis</i>	scarce to common ... in most wooded habitats, especially those associated with watercourses and alluvial soils; attracted to flowering trees and shrubs	very common, especially in flowering <i>Grevillea pteridifolia</i> and <i>Eucalyptus miniata</i> [B2(12),B3(2),B5]	-	common [C3,C4]
White-lined Honeyeater <i>Meliphaga albilineata</i>	moderately common ... in thickets of <i>Xanthostemon</i> and <i>Ficus</i> in gorges and gullies	uncommon: individuals or pairs in at least two thickets	moderately common ... in thickets of <i>Xanthostemon</i> and <i>Ficus</i> in gorges and gullies	uncommon [C1(4)]
Singing Honeyeater <i>Lichenostomus virescens</i>	scarce ... mainly in thickets of <i>Melaleuca</i> and <i>Acacia</i> in otherwise open country	scarce - a few individuals seen around flowering <i>Grevillea pteridifolia</i> [B2]	-	-

White-gaped Honeyeater <i>Lichenostomus unicolor</i>	common on larger watercourses and in gorges; scarce to moderately common elsewhere ... river-fringing forests; also vine scrubs in gorges and gullies and at foot of cliffs; occasionally visiting flowering trees and shrubs in open country	moderately common in riparian vegetation, and some in flowering <i>Grevillea pteridifolia</i> [B2(2),B3(6)]	common on larger watercourses and in gorges; scarce to moderately common elsewhere ... river-fringing forests; also vine scrubs in gorges and gullies and at foot of cliffs; occasionally visiting flowering trees and shrubs in open country	common in riparian trees [C1(2),C4,C5(2)]
Grey-fronted Honeyeater <i>Lichenostomus plumulus</i>	-	moderately common in flowering <i>Grevillea pteridifolia</i> and <i>Eucalyptus miniata</i> [B1(2)]	-	-
Yellow-tinted Honeyeater <i>Lichenostomus flavescens</i>	locally common ... river-fringing forest (especially of cadjeputs); also minor watercourses lined with flowering trees and shrubs	moderately common, in <i>Melaleuca</i> beside river, and in flowering <i>Grevillea pteridifolia</i> and <i>Eucalyptus miniata</i> [B2(2),B3(15)]	-	occasional in riparian trees
Black-chinned Honeyeater <i>Melithreptus gularis</i>	locally moderately common but generally scarce ... in woodlands (especially with flowering eucalypts); also attracted to flowering cadjeputs along the Drysdale	several small groups noted, in <i>Melaleuca</i> beside river, and in flowering <i>Grevillea pteridifolia</i> and <i>Eucalyptus miniata</i> [B4]	-	scarce in tall riparian trees [C5(2)]
White-throated Honeyeater <i>Melithreptus albogularis</i>	scarce to very common, generally preferring the valleys to the plateaux ... mainly river-fringing forests; also vine scrubs in gorges and gullies and at foot of cliffs; commonly attracted to flowering eucalypts and <i>Grevillea pteridifolia</i>	moderately common, especially in eucalypt forests and woodlands [B1(2)]	scarce to very common, generally preferring the valleys to the plateaux ... mainly river-fringing forests; also vine scrubs in gorges and gullies and at foot of cliffs; commonly attracted to flowering eucalypts and <i>Grevillea pteridifolia</i>	common, mostly in riparian trees [C3(2),C4, C5(6)]

Brown Honeyeater <i>Lichmera indistincta</i>	scarce to very common ... all wooded habitats, but favouring river-fringing forests and flowering trees and shrubs	very common, in almost all vegetated habitats, but especially in flowering <i>Grevillea pteridifolia</i> . Nest with eggs in eucalypt forest [B1(9),B2(40),B3(7),B4(4),B5(26),B6(16)]	scarce to very common ... all wooded habitats, but favouring river-fringing forests and flowering trees and shrubs	very common, notably in flowering <i>Grevillea pteridifolia</i> and <i>Eucalyptus miniata</i> [C1(3),C2(2),C3(2),C4(2),C5(4)]
Bar-breasted Honeyeater <i>Ramsayornis fasciatus</i>	scarce to common ... mainly about watercourses at flowering trees and shrubs	very common, especially in flowering <i>Grevillea pteridifolia</i> near watercourses [B2(45)]	-	common, notably in flowering <i>Grevillea pteridifolia</i> and <i>Eucalyptus miniata</i> [C4,C5(3)]
Rufous-throated Honeyeater <i>Conopophila rufogularis</i>	-	moderately common, especially in flowering <i>Grevillea pteridifolia</i> [B2(25)]	scarce to common ... ordinarily in cadjeput forests along watercourses, but commonly attracted to nearby flowering trees and shrubs	scarce - only seen in flowering <i>Grevillea pteridifolia</i>
Banded Honeyeater <i>Certhionyx pectoralis</i>	scarce to very common ... mainly at flowering trees and shrubs	very common, especially in flowering <i>Grevillea pteridifolia</i> and <i>Eucalyptus miniata</i> [B1(31),B2(45),B3(2)]	scarce to very common ... mainly at flowering trees and shrubs	scarce, in flowering <i>Grevillea pteridifolia</i> and <i>Eucalyptus miniata</i>
Jacky Winter <i>Microeca fascinans</i>	-	-	-	one bird [C5]
White-browed Robin <i>Poecilodryas superciliosa</i>	-	two birds seen in <i>Barringtonia/Pandanus</i> thick shrubbery at different sites along the Drysdale River [B3(2)]	at least four birds lived in the thicket at the head of Dysphania Gorge	-
Varied Sittella <i>Daphoenositta chrysoptera</i>	scarce ... mainly open eucalypt woodland on plateaux; also trees along watercourses	moderately common in eucalypt forests and woodlands [B2(3)]	-	-

Rufous Whistler <i>Pachycephala rufiventris</i>	uncommon to moderately common ... all kinds of wooded country, but generally preferring the river-fringing forests	common in all woodlands and forests [B1(2),B2(2),B3]	uncommon to moderately common ... all kinds of wooded country, but generally preferring the river-fringing forests	single bird [C4]
Sandstone Shrike-thrush <i>Colluricincla woodwardi</i>	locally common but generally uncommon; usually single birds ... sandstone cliffs and boulders	only one seen	-	-
Leaden Flycatcher <i>Myiagra rubecula</i>	scarce or uncommon ... thickets along cliffs and in gorges; also forests fringing major watercourses	several birds seen [B1]	scarce or uncommon ... thickets along cliffs and in gorges; also forests fringing major watercourses	uncommon, in riparian vegetation [C5]
Shining Flycatcher <i>Myiagra alecto</i>	one in dense pandanus around a large pool on Johnson Creek	a few individuals in <i>Barringtonia</i> / <i>Pandanus</i> thick shrubbery at different sites along the Drysdale River and Johnson Creek [B3]	-	one female along creekline [C4]
Restless Flycatcher <i>Myiagra inquieta</i>	moderately common ... mainly in denser vegetation fringing watercourses and swamps	moderately common [B2,B3(5)]	scarce or uncommon ... mainly in denser vegetation fringing watercourses and swamps	one bird in riparian trees
Magpie-lark <i>Grallina cyanoleuca</i>	common in well-watered areas, mainly in ones and twos ... on watercourses and lagoons	common, mostly single birds or small groups, particularly in open areas near water; also common in burnt areas [B2(6),B3]	-	common in riparian zone along Forest Creek and Drysdale River [C3,C5]
Northern Fantail <i>Rhipidura rufiventris</i>	locally common ... all kinds of dense vegetation, e.g. forests fringing larger watercourses, vine scrubs in gullies and gorges, and thickets along cliffs or among sandstone boulders	moderately common, especially in denser vegetation [B2,B3]	locally common ... all kinds of dense vegetation, e.g. forests fringing larger watercourses, vine scrubs in gullies and gorges, and thickets along cliffs or among sandstone boulders	scarce, in riparian zones [C4,C5(3)]

Willie Wagtail <i>Rhipidura leucophrys</i>	locally common but generally scarce to moderately common ... mainly on watercourses	moderately common [B2(2),B3(3),B6]	locally common but generally scarce to moderately common ... mainly on watercourses	scarce [C3]
Black-faced Cuckoo-shrike <i>Coracina novaehollandiae</i>	scarce to moderately common, usually in ones and twos ... in all wooded habitats	several noted, mostly in ones and twos [B3,B4(2),B6]	scarce to moderately common, usually in ones and twos ... in all wooded habitats	common [C1(4),C2,C3(2)]
White-bellied Cuckoo-shrike <i>Coracina papuensis</i>	scarce to moderately common, in ones and twos ... mainly in river-fringing forests; occasionally in vine scrub and at flowering trees in woodland	moderately common in all forests and woodlands [B1,B5]	scarce to moderately common, in ones and twos ... mainly in river-fringing forests; occasionally in vine scrub and at flowering trees in woodland	common [C1(3),C2(5)]
Cicadabird <i>Coracina tenuirostris</i>	-	-	-	several birds in single flock
White-winged Triller <i>Lalage sueurii</i>	scarce to moderately common, mainly in ones and twos, occasionally in small parties ... open woodland, especially with flowering trees and shrubs	moderately common, especially in flowering <i>Grevillea pteridifolia</i> and <i>Eucalyptus miniata</i> [B2(7),B3]	-	-
Olive-backed Oriole <i>Oriolus sagittatus</i>	locally common, but generally scarce or uncommon ... mainly in cadjeputs and figtrees	moderately common [B2,B3]	locally common, but generally scarce or uncommon ... mainly in cadjeputs and figtrees	scarce, in riparian trees along Forest Creek
White-breasted Woodswallow <i>Artamus leucorhynchus</i>	locally common but generally scarce ... at large pools on the major watercourses and at nearby lagoons	several parties of 5-20 birds seen	-	-
Black-faced Woodswallow <i>Artamus cinereus</i>	generally scarce or uncommon, in pairs or small parties ... open woodlands	moderately common in woodlands [B2(2),B4]	-	-
Little Woodswallow <i>Artamus minor</i>	scarce to very common, often in small parties ... mainly in open woodland	common in woodlands and around rocky areas [B2(2),B3(4)]	-	common, mostly overhead [C1(2),C2(2),C5]

Grey Butcherbird <i>Cracticus torquatus</i>	scarce to common ... mainly river-fringing forests; also in vine scrubs	-	scarce to common ... mainly river-fringing forests; also in vine scrubs	-
Pied Butcherbird <i>Cracticus nigrogularis</i>	scarce to uncommon ... open woodlands	common in all forest and woodland [B1,B2,B4]	-	common [C2(2),C4,C5(3)]
Torresian Crow <i>Corvus orru</i>	locally common, but generally scarce ... open woodlands	small group, possibly attracted to our camp [B3]	-	occasional, mostly overhead [C2(3),C5]
Great Bowerbird <i>Chlamydera nuchalis</i>	locally common, mainly in fruiting <i>Ficus</i> spp.	a few birds seen	locally common, mainly in fruiting <i>Ficus</i> spp.	scarce; in sandstone and riparian vegetation along Forest Creek [C1(2),C3]
Double-barred Finch <i>Taeniopygia bichenovii</i>	moderately common to very common, usually in small parties ... mainly in grassy areas close to water	moderately common [B3(5),B6(2)]	moderately common to very common, usually in small parties ... mainly in grassy areas close to water	scarce, along Drysdale River
Long-tailed Finch <i>Poephila acuticauda</i>	-	several small groups (2-4 birds) noted [B1(3),B2(2),B3(2)]	-	-
Crimson Finch <i>Neochmia phaeton</i>	scarce to uncommon, usually in small parties (up to 9) ... pandanus and long grass on watercourses	moderately common in pandanus along watercourses [B1(2),B2(4)]	-	scarce, along Drysdale River
Mistletoebird <i>Dicaeum hirundinaceum</i>	moderately common to very common ... all kinds of wooded country, but favouring the denser forests and scrubs of rivers, gorges and cliffs	common in all forest and woodland [B1,B2(2),B3(3),B4,B5(2),B6]	moderately common to very common ... all kinds of wooded country, but favouring the denser forests and scrubs of rivers, gorges and cliffs	scarce, overhead
Fairy Martin <i>Hirundo ariel</i>	common in flocks of up to 80 ... cliffs about the Falls ... many old nests found	common, mostly above water and around cliffs ... some partly-built nests found [B4(2),B5]	-	-

Clamorous Reed-Warbler <i>Acrocephalus stentoreus</i>	the only bird recorded was ... in dense pandanus fringing Johnson Creek	-	-	-
Golden-headed Cisticola <i>Cisticola exilis</i>	moderately common ... mainly denser grass (1-2m high) and pandanus beside water	-	-	-

REPTILES

species	site B4 ("Solea Falls")		site C5 ("Forest Creek")	
	1975	1997	1975	1997
Freshwater Crocodile <i>Crocodylus johnstoni</i>	-	moderately common, seen in Drysdale below and above falls, small creek behind camp and Johnson Creek	not sampled	-
Northern Long-necked Turtle <i>Chelodina rugosa</i>	-	c10 shells found under Sea-eagle roost c1km above falls		-
?Northern Red-faced Turtle <i>Emydura victoriae</i>	-	c10 shells found under Sea-eagle roost c1km above falls		-
Clawless Gecko <i>Crenadactylus ocellatus</i>	-	-		one collected in leaf litter in sandstone
Spiny-tailed Gecko <i>Diplodactylus ciliaris</i>	5 individuals recorded ... in shrubs and trees, on boulders and on the dry sandy bed of the Drysdale	-		-
?Northern Dtella <i>Gehyra australis</i> [specimens from rocks may be an undescribed species known from sandstone in SE Kimberley and western Top End ranges]	20 individuals recorded ... on sandstone and tree trunks	one seen on large sandstone boulder around Falls		several under sandstone rocks and exfoliating bark [C2]
<i>Gehyra nana</i>	3 individuals recorded ... on flat sandstone rocks and in open eucalypt woodland with spinifex	one seen on large sandstone boulder around Falls		common, under exfoliating bark and sandstone boulders [C1(2),C2(2)]

<i>Heteronotia binoei</i>	-	common, especially within large termitaria [B2(6)]
<i>Heteronotia spelea</i>	one recorded ... in sandstone	-
Northern Velvet Gecko <i>Oedura marmorata</i>	2 individuals recorded ... in sandstone/spinifex	-
<i>Delma borea</i>	-	one caught in pitfall in eucalypt forest [B1]
<i>Diporiphora magna</i>	(as <i>D. bilineata margaretae</i>) one recorded ... in open grassy eucalypt woodland (or) in sandstone /spinifex	-
<i>Gemmatophora gilberti</i>	5 recorded ... mainly in debris, vegetation and rocks margining watercourses; also in sandstone/spinifex	common around watercourses
<i>Varanus glauerti</i>	2 recorded ... among sandstone boulders	3 seen in cracks of rugged sandstone
<i>Varanus gouldii</i>	-	many tracks and diggings seen; one caught in cage trap [B3]
Merten's Water Monitor <i>Varanus mertensi</i>	one recorded ... in pandanus and on rocks in pools and streams	several seen along watercourses [B2]
Black-headed Monitor <i>Varanus tristis</i>	-	2 individuals recorded in eucalypt woodland [B2]
<i>Carlia gracilis</i>	-	moderately common in <i>Banksia/Grevillea pteridifolia</i> woodland near creeks [B2(2)]

-
several in sandstone [C1(3),C2]
several in sandstone [C1,C2,C3]
-
-
-
-
one on Forest Creek
-
-

<i>Carlia johnstonei</i>	one recorded ... in leaf litter beneath trees in woodland	several recorded from woodlands on sandstone [B4,B6(2)]	-
<i>Cryptoblepharus megastictus</i>	-	moderately common on sandstone boulders [B4]	scarce [C2,C5]
<i>Cryptoblepharus plagiocephalus</i>	-	several individuals recorded across a range of forest and woodland habitats [B1,B3]	common, on sandstone
<i>Ctenotus inornatus</i>	3 individuals recorded ... this abundant skink was found in a wide variety of habitats	moderately common across most habitats [B4,B5]	in pit trap [C3]
<i>Ctenotus robustus</i>	-	1 individual trapped in spinifex/ <i>Acacia</i> on sand [B5]	-
<i>Morethia ruficauda</i>	one recorded ... in sandstone spinifex	-	very common in sandstone [C1(2),C2(3)]
<i>Notoscincus ornatus</i>	one recorded ... in sandstone spinifex (or) on the bank of a creek	several recorded in woodlands on sand [B1]	one in sandstone
Children's Python <i>Morelia childreni</i>	one recorded in a crevice in sandstone rocks	one recorded on a ledge in sandstone	-
Grey Whip Snake <i>Demansia simplex</i>	-	one captured from a termitarium	-
King Brown Snake <i>Pseudechis australis</i>	one recorded ... mainly about sandstone cliffs and screes	shed skin from termitarium [B2]	one in sandstone

FROGS

species	site B4 ("Solea Falls")		site C5 ("Forest Creek")	
	1975	1997	1975	1997
<i>Cyclorana australis</i>	-	several individuals seen in open forests and riparian habitats [B2,B3]	not sampled	common [C4,C5]
<i>Limnodynastes convexiusculus</i>	-	many individuals recorded from sands near watercourses [B2]		-
<i>Limnodynastes ornatus</i>	-	two individuals from sand near camp [B1,B3]		-
<i>Litoria bicolor</i>	-	moderately common in pandanus along watercourses [B3(3)]		-
<i>Litoria coplandi</i>	4 recorded	common in sandstone and on rocky areas beside pools		-
<i>Litoria meiriana</i>	one recorded	moderately common around rocky watercourses		recorded [C4,C5]
Rocket Frog <i>Litoria nasuta</i>	-	several recorded in relatively open areas near water [B2,B3(3)]		recorded [C4,C5]
<i>Litoria rothii</i>	[as <i>L. peronii</i>] 2 recorded	one caught in dense riparian vegetation on Johnson Creek		recorded [C4,C5]
Desert Tree Frog <i>Litoria rubella</i>	-	common in riparian areas; also many seen in cracks and shelves of rugged sandstone [B3]		-

<i>Litoria tornieri</i>	-	common in forest and woodland areas on sand [B1]	recorded [C4,C5]
<i>Litoria wotjulumensis</i>	1 recorded	-	common [C4,C5]
<i>Ranidella ?bilingua</i>	[as ' <i>Crinia signifera</i> '] one recorded	moderately common in seasonally inundated sands around watercourses [B2(5),B3(12)]	-
<i>Uperoleia sp.</i>	-	moderately common in seasonally inundated sands around watercourses, including in sandstone [B2,B4(3)]	-

MAMMALS

species	site B4 ("Solea Falls")		site C5 ("Forest Creek")	
	1975	1997	1975	1997
bandicoot <i>Isodon</i> sp.	-	-	not sampled	many diggings observed along Forest Creek
Rock Ringtail Possum <i>Petroseudes dahli</i>	-	many faeces found at several localities (mostly under fig trees)		-
Euro <i>Macropus robustus</i>	-	many faeces, mostly in sandstone country [B4(faeces),B5(faeces),B6(faeces)]		faeces
Short-eared Rock-wallaby <i>Petrogale brachyotis</i>	2-3 individuals collected ... mostly reported from rugged sandstone boulder country supporting low woodlands to tall open shrublands	at least 8 individuals seen; faeces common throughout rocky country [B4(faeces),B6(faeces)]		several seen in sandstone
[Nabarlek <i>Petrogale concinna</i>]	-	very small faeces in rocky country may be from this species		very small faeces in rocky country may be from this species
Black Flying-fox <i>Pteropus alecto</i>	several recorded from Cadjeputs and <i>Pandanus</i> fringing the Drysdale River	a few individuals seen in flowering <i>Grevillea pteridifolia</i> and <i>Eucalyptus miniata</i>		[flying-fox recorded, but species uncertain]
Hoary Bat <i>Chalinolobus nigrogriseus</i>	individuals collected over rugged sandstone country	-		-
Bent-winged Bat <i>Miniopterus schreibersii</i>	-	-		mist-netted over pool in riparian forest [C4(2)]
Large-footed Myotis <i>Myotis moluccarum</i>	17 individuals collected from Fairy Martin nests	-		-
Northern Long-eared Bat <i>Nyctophilus arnhemensis</i>	-	-		2 individuals mist-netted over water [C4,C5]

Pygmy Long-eared Bat <i>Nyctophilus walkeri</i>	-	-	2 individuals mist-netted over water [C4,C5]
Western Cave Eptesicus <i>Eptesicus caurinus</i>	individuals collected from Fairy Martin nest	-	-
Water Rat <i>Hydromys chrysogaster</i>	one collected from riparian vegetation on sandy soil	tracks and middens common beside watercourses [B3(tracks)]	tracks in soft mud along Forest Creek
Western Chestnut Mouse <i>Pseudomys nanus</i>	-	one trapped in eucalypt open forest [B1]	-
Common Rock-rat <i>Zyzomys argurus</i>	recorded in all types of rugged sandstone and siltstone country and in all the associated plant formations	5 individuals trapped, mostly from thicket along rocky creekline [B5,B6(3)]	2 individuals trapped
Dingo <i>Canis familiaris</i>	-	a few tracks seen	heard
Feral Cat <i>Felis catus</i>	-	2 seen	-
Feral Cattle <i>Bos taurus</i>	scats and pads recorded	common, at least 20 seen	tracks along Drysdale River
Feral Donkey <i>Equus asinus</i>	-	one heard	-

Odonatans (dragonflies and damselflies) recorded at site C, Forest Creek, Drysdale River National Park.

Species	1975	1997
PROTONEURIDAE <i>Nososticta kalumburu</i>	? recorded as <i>Notoneura</i> spp at C	common on pools under tall closed forest. 1 specimen C4
AESHNIDAE <i>Gynacantha nourlangie</i>	? recorded as <i>Gynacantha</i> spp at B1	Several crepuscular dragonflies seen over pools along Forest Creek. specimen (caught in mistnet at dusk) C4
AESHNIDAE <i>Hemianax papuensis</i>	Not recorded in Drysdale River NP	Several seen along Forest Creek and Drysdale River C4 C5
LIBELLULIDAE <i>Diplacodes haematodes</i>	Recorded at A1 & B1; not at C	Several seen along Drysdale River and in Sandstone C1
LIBELLULIDAE <i>Neurothemis stigmatizans</i>	Recorded at A1, B1 & C	Up to 50 roosting on a 1.5 metre shrub in sandstone. One specimen C3
LIBELLULIDAE <i>Orthetrum caledonicum</i>	Not recorded in Drysdale River NP	Several seen along Forest Creek and Drysdale River C4
LIBELLULIDAE <i>Orthetrum migratum</i>	Recorded at B1; not at C	One seen on Forest Creek C4
LIBELLULIDAE <i>Trapezostigma ? loewii</i>	No <i>Trapezostigma</i> spp recorded in Drysdale River NP	One specimen (caught in mistnet set over pool on Forest creek C4

These records add three species and two genera to the records for Drysdale River National Park. However they have little biogeographical significance as they all occur widely in Australia and elsewhere and have been recorded in the Kimberley before. Several other species, particularly damselflies, were seen but not recognised and not collected.