PART VII

BIRDS OF THE DRYSDALE RIVER NATIONAL PARK NORTH KIMBERLEY, WESTERN AUSTRALIA

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INTRODUCTION

This paper is based on data obtained during a biological survey of the Drysdale River National Park in August 1975. Sites visited are described in Kabay, George and Kenneally (this publication); a map showing their position and reference codes (Al to A4, B1 to B4 and C1 to C5) appears in Fig. 1 in Kabay (this publication). Johnstone was responsible for gathering information from sites A4, B4 and C4; Dell from sites A2, B2 and C2; Smith from sites A3, B3, C3 and C5; and Fuller from sites A1, B1 and C1. Additional data were obtained by Johnstone and Smith during brief visits on 7 August to a gorge in the north-west of the Park in 14° 34′ S, 127° 02′ E (reference code G), to the upper King George River in 14° 37′ S, 127° 14′ E (reference code UKG), and to the upper Berkeley River in 15° 06′ S, 127° 18′ E (reference code UB). The last two localities are respectively 1 and 10 km outside the eastern boundary of the Park and are therefore enclosed in square brackets in the following list, as is Old Doongan Homestead (reference code OD) which is 6 km out-Side the south-western boundary of the Park, and Galaxy Swamp (reference Code S) in 14° 37' S, 126° 55' E which was visited by Smith on 21 August 1975.

In the list of species we present the following data:

- (1) The sites from which each species was recorded.
- (2) The number of specimens collected (these are lodged in the Western Australian Museum under registered numbers A 14038-14131); unless otherwise stated specimens are study skins.
- (3) Relative abundance.
- (4) Habitat preferences.
- (5) Evidence of breeding in the Park.
- (6) Taxonomic notes.

LIST OF SPECIES

FAMILY CASUARIIDAE

Dromaius novaehollandiae (Latham). Emu.

Recorded at A1, A3, A4 and B4.

Moderately common by Kimberley standards; largest party 6. Usually near watercourses.

FAMILY PODICIPITIDAE

Podiceps novaehollandiae novaehollandiae Stephens. Little Grebe.

Recorded at B1 and C1.

Single birds on small pools.

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FAMILY PHALACROCORACIDAE.

Phalacrocorax sulcirostris (Brandt). Little Black Cormorant.

Recorded at A1, B2, B4 and C4.

Mainly larger pools along the Drysdale, but one seen once on an alga-choked pool on Woorakin Creek.

Phalacrocorax carbo novaehollandiae Stephens. Black Cormorant.

Recorded at B4.

Moderately common about the confluence of Johnson Creek and the Drysdale, where it outnumbered P. sulcirostris.

Fast-flowing rocky pools.

Phalacrocorax melanoleucos (Vieillot). Little Pied Cormorant.

Recorded at A1, A4, B1, B2, B3, B4, C1, C2 and [UKG]. Widespread but scarce; usually single, but once two together. Pools on small creeks as well as major watercourses.

Anhinga novaehollandiae (Gould). Australian Darter.

Recorded at A1, A4, B1, B3, B4 and C4.

Scarce; single birds except for one pair. Usually on large open pools on major watercourses; also one on a long but shallow lily pond at the foot of the Ashton

FAMILY ARDEIDAE

Ardea pacifica Latham. White-necked Heron.

Recorded at A1. B1, B2, B4, C1, C3, C4 and [S].

Widespread but scarce; usually single, occasionally two together. Small drying pools on creeks and the Drysdale flood-plain, as well as large river-pools.

Ardea novaehollandiae Latham. White-faced Heron.

Recorded at A1, B1, B3, B4, C1, C3, C4, [S] and [OD]. Widespread but scarce; usually single, occasionally two together. Large pools along major watercourses and occasionally small lagoons on the Drysdale flood-plain.

Egretta alba modesta (Gray). Great Egret.

Recorded at A1, A4, B1, B2, B3, B4, C4 and [S].

Widespread but scarce; single birds. Pools on large and small watercourses and on the Drysdale floodplain.

Nycticorax caledonicus hilli Mathews. Nankeen Nightheron.

Recorded at A1, B1, B2, B3, B4, C1, C3, C4 and [UB]. One specimen (male).

Scarce to moderately common. Usually found in daytime perched in dense waterside vegetation (cadjeputs, pandanus, and occasionally figtrees); observed feeding at dawn at sandy and rocky margins of river pools.

Ixobrychus flavicollis Latham. Black Bittern.

Recorded at B2, B3, B4, C2 and C3. One specimen (male).

Scarce; single birds, including juveniles. Usually perched in daytime in pandanus lining pools on large and small watercourses.

FAMILY CICONIIDAE

Xenorhynchus asiaticus (Latham). Black-necked Stork. Recorded at A1, B1, B2, B4, C1 and C4.

Scarce; single birds. Larger pools on major watercourses (Drysdale and Carson Rivers and Palmoondoora Creek).

FAMILY THRESKIORNITHIDAE

Threskiornis moluccus moluccus (Cuvier). White Ibis. Recorded at B2 and [S].

Scarce; two on a drying billabong and one on a drying swamp, both localities on the Drysdale flood-plain.

Threskiornis spinicollis (Jameson). Straw-necked Ibis. Recorded at A1, B1 and B4.

Scarce; single birds. Pools on the Carson and Drysdale.

Platalea regia Gould. Royal Spoonbill.

Recorded at B1.

One bird with a White-necked Heron on a large pool on the Carson.

FAMILY ANATIDAE

Anseranas semipalmata (Latham). Pied Goose.

Recorded at A1 and B4.

One bird at each site. Pools on the Drysdale River and lower Johnson Creek.

Anas superciliosa Gmelin. Black Duck.

Recorded at A3 and [S].

Two birds on a small pool on a creek, and twelve at the swamp.

FAMILY ACCIPITRIDAE

Elanus notatus Gould. Black-shouldered Kite.

Recorded at A1, A3, C3, and [OD].

Scarce; single birds. Open woodland.

Lophoictinia isura (Gould). Square-tailed Kite.

Recorded at A4. One specimen (wing and tail only). One bird in stunted *Melaleuca* on a swampy watercourse.

Hamirostra melanosternon (Gould). Black-breasted Buzzard.

Recorded at A4, B1, B2, B3, C1, C2, G and [UKG]. Scarce or uncommon; in ones or twos. Open country, especially at grass fires or in recently burnt areas.

Milvus migrans affinis Gould. Black Kite. Recorded at C3.

One appeared briefly at a camp late one afternoon.

Haliastur sphenurus (Vieillot). Whistling Kite.

Recorded at A1, B1, B2, B3, B4, C1, C2, C3 and C4. Locally common; usually in ones and twos, but up to four birds congregating at fires. Only a single bird was seen during the first week, but in the second and third weeks one or two birds attached themselves to each camp site, and they appeared soon after the outbreak of fires. At B4 one flew from a nest in a huge cadjeput.

Accipiter fasciatus subspp. Australian Goshawk.

Recorded at A2, A4, B1, B4, C1, C2 and C4. Three specimens: two females of the northern race A. f. didimus (Mathews) and one female in spirits of the southern A. f. fasciatus (Vigors & Horsfield).

Scarce or uncommon; single birds. Mainly along watercourses. At this time of the year the resident population is evidently augmented by southern visitors.

Accipiter cirrocephalus cirrocephalus (Vieillot). Collared Sparrowhawk.

Recorded at A1, A3, A4, B1, B2, B3, B4, C2, C3 and C4. Moderately common; in ones and twos. Mainly in forests and scrubs fringing watercourses. On 20 August two birds were building a nest in a *Eucalyptus miniata ca* 100 m from Woorakin Creek.

Aquila audax (Latham). Wedge-tailed Eagle. Recorded at A2, B1, C1, C3 and C4.

Scarce; ones and twos. Mainly over cliffs.

FAMILY FALCONIDAE

Falco peregrinus macropus Swainson. Peregrine Falcon. Recorded at B1, B3, B4, C1, and C4.

Scarce; ones and twos. Mainly about high cliffs.

Falco longipennis longipennis Swainson. Little Falcon. Recorded at A3, A4, B1, B4 and [OD].

Scarce; usually single birds. At B4 one bird hunting bats dropped an *Eptesicus pumilus* when fired at.

Falco hypoleucos Gould. Grey Falcon.

Recorded at A2, B1, and C4.

Scarce; single birds seen on three occasions.

Falco berigora Vigors & Horsfield. Brown Falcon. Recorded at A1, A2, A3, A4, B1, B2, B3, B4, C1, C2, C3, C4, G and [UKG].

Locally common; ordinarily in ones and twos, but up to six birds appearing within minutes of the outbreak of fires. The commonest diurnal raptor in the Park. As elsewhere in the Kimberley very dark birds were observed, but one bird was noted as very pale.

Falco cenchroides cenchroides Vigors & Horsfield. Nankeen Kestrel.

Recorded at A2, B3, C1, C2 and C4.

Scarce; single birds seen on six occasions; perhaps only a passage migrant in the Park.

FAMILY PHASIANIDAE

Coturnix ypsilophora australis (Latham). Brown Quail. Recorded at A2, C1 (?sp.) and C4.

Locally common; coveys of up to 16 birds.

Long grass, especially along creeks.

FAMILY TURNICIDAE

Turnix maculosa (Temminck). Red-backed Quail. Recorded at B2.

A bird observed by Dell at 1 m almost certainly belonged to this species. It was in closed grassland up to 1 m high on damp silty soil at edge of creek; at ground level the grass was dense and couch-like.

Turnix sp.

Recorded at B3 and [UKG].

A small greyish quail flushed from grass among scattered sandstone boulders at B3; and two small pale quail, possibly *T. pyrrhothorax* or *T. velox*, flushed from river bank.

FAMILY GRUIDAE

Grus rubicundus (Perry). Brolga.

Recorded at A1, A3, A4, B2, B4, C1, C2, C3, C4, [S], [UKG] and [OD].

Scarce to moderately common; usually in pairs or small parties (up to 9 birds), rarely singly. Watercourses and swamps.

FAMILY OTIDAE

Otis australis Gray. Australian Bustard.

Recorded at A2, B1, C1, and C2.

Common at C1, especially after all the grass was burnt, mostly in twos but one party of 5; elsewhere scarce.

FAMILY CHARADRIIDAE

Charadrius melanops Vieillot. Black-fronted Dotterel.

Recorded at A1, B1, B2, B4, C4 and S].

Moderately common. Pools on the Carson and Drysdale and at drying swamps and lagoons on the Drysdale flood-plain. Not observed on minor watercourses.

FAMILY SCOLOPACIDAE

Tringa hypoleucos Linnaeus. Common Sandpiper.

Recorded at B1 (? sp.) and B4. One specimen (female). Uncommon. Rocky pools and rapids on the Carson and Drysdale.

FAMILY BURHINIDAE

Burhinus grallarius (Latham). Southern Stone-Curlew. Recorded at A1, B2, B4, C1 and C4.

Uncommon.

FAMILY COLUMBIDAE

Geopelia humeralis (Temminck). Bar-shouldered Dove. Recorded at A1, B1, B2, B3, B4, C1, C2, C3, C4, and C5.

Locally common on the Carson and Drysdale; scarce to moderately common on other watercourses and along cliffs. Dense waterside vegetation (*Eugenia*, *Acacia*, *Pandanus*, etc.,), vine scrub and *Ficus* thickets.

Geopelia striata placida Gould. Peaceful Dove.

Recorded at A1, A2, A3, A4, B1, B2, B3, B4, C1, C2, C3, C4, C5, [S], [UKG], [UB], and [OD].

Common or very common about major watercourses, in ones, twos or small parties; scarce to moderately common elsewhere. Mainly grassy riverine flats, but also attracted to burnt country; occasionally feeding in sandstone/spinifex and open woodland up to 2 km from water.

Geopelia cuneata (Latham). Diamond Dove.

Recorded at A3, A4, C2, [S] and [UKG].

Scarce; in ones, twos and threes. As often in dry situations (plateaux and sandstone) as near water.

Chalcophaps indica longirostris Gould. Green-winged Pigeon.

Recorded at C4. Two specimens (females).

Two birds, possibly transient, were living in a patch of vine scrub on Carlia Creek, from which they visited a nearby sandstone hill to feed on minnarichi seeds (*Acacia* sp.).

Petrophassa albipennis Gould. White-quilled Rock Pigeon.

Recorded at B1, B3, B4, C1, C2, C3, C4 and C5. Six specimens (4 males, 1 female, 1 unsexed).

Common; mainly in ones and twos, occasional small parties (up to five birds). Rugged sandstone. Nest and two eggs collected at C2 on 20 August.

Phaps chalcoptera (Latham). Common Bronzewing. Recorded at C3.

Two birds regularly drinking at small pool.

Ocyphaps lophotes (Temminck). Crested Pigeon. Recorded at A1.

Two birds, possibly transient, seen on one occasion.

FAMILY PSITTACIDAE

Trichoglossus haematodus rubritorquis Vigors & Horsfield. Red-collared Lorikeet.

Recorded at A1, A2, A3, A4, B1, B2, B3, B4, C1, C2, C3, C4, [UKG], [UB] and [OD].

Uncommon (usually in pairs) to very common (in flocks of up to 60). Flowering trees, especially eucalypts

(E. tetrodonta, E. miniata and E. houseana), but also Melaleuca leucadendron, Bombax ceiba, Erythrina vespertilio and Verticordia cunninghamii. Two pairs occupying hollows in eucalypts.

Trichoglossus versicolor Lear. Varied Lorikeet.

Recorded at A1, A2, A3, A4, B1, B2, B3, B4, C1, C2, C3, C4, C5, G, [UKG] and [OD].

Moderately common to very common; occasionally in pairs but usually in flocks (up to 100 birds); generally about four times as numerous as *T. haematodus*. Mainly flowering eucalypts (*E. tetrodonta*, *E. miniata* and *E. houseana*), also *Melaleuca leucadendron*.

Calyptorhynchus magnificus (Shaw). Red-tailed Black Cockatoo.

Recorded at A1, A3, A4, B1, B2, B3, B4, C1, C2, C3, C4, [UKG], [UB] and [OD].

Locally common: usually in pairs or small parties, also several flocks of 40–150. Usually feeding in eucalypts, including *E. miniata* and *E. ptychocarpa*, well back from water, but often in big cadjeputs along larger watercourses (possibly when coming in to drink).

Cacatua galerita (Latham). Sulphur-crested Cockatoo. Recorded at B1, B2, B3, B4, C1, C2, C4 and C5.

Scarce or uncommon; in ones and twos. In forests (especially cadjeputs) fringing the major watercourses.

Cacatua tenuirostris sanguinea Gould. Little Corella. Recorded at A1, B1, B4, C1 and C4.

Locally common (e.g. about the Carson and its tributary, Palmoondoora Creek) but generally scarce; mainly in ones and twos, also in small flocks (up to 12). In or near river-fringing forests.

Aprosmictus erythropterus (Gmelin). Red-winged Parrot. Recorded at A1, A2, A3, A4, B1, B2, B4, C1, C2, C3, C4, G and [OD].

Locally common (e.g. on the Drysdale at A1) but generally scarce; mainly in ones and twos, occasionally in small parties (up to 7); a flock of 25 at A1. In a wide variety of habitats including tall open forest, open woodland with flowering *Grevillea*, vine scrub and *Ficus* and other waterside thickets.

Platycercus venustus (Kuhl). Northern Rosella.

Recorded at A1, A2, A4, B1, B2, C1 and C2.

Scarce; usually in pairs, one party of 5. Mainly in woodland (including *Callitris intratropica*, whose seeds they eat) on plateaux; also trees along minor watercourses.

FAMILY CUCULIDAE

Cuculus pallidus (Latham). Pallid Cuckoo.

Recorded at A1, A2, A3, A4, B1, B2, C3 and [OD]. Scarce; single birds; only one record after 15 August. Though many birds were calling, most of them were presumably passage migrants. Mainly in open woodland and open forest, occasionally on minor watercourses.

Cacomantis variolosus dumetorum (Gould). Brush Cuckoo.

Recorded at A4 (? sp.) and B4. One specimen (male). The two birds at B4 were in a dense thicket (*Barringtonia*, *Acacia* and creepers) along a flood channel of the Drysdale.

Chrysococcyx basalis (Horsfield). Horsfield Bronze Cuckoo.

Recorded at B3.

One calling early one morning.

Centropus phasianinus macrourus Gould. Pheasant Coucal.

Recorded at A1, A3, A4, B3, B4, C1, C2, C3, C4, C5 and [OD]. One specimen (male).

Uncommon (as the birds were mostly silent, they could have been more plentiful than our records indicate). Usually in long grass and pandanus along watercourses; rarely in sandstone/spinifex.

FAMILY STRIGIDAE

Ninox connivens connivens (Latham). Winking Owl. Recorded at A3, B2 and B4.

Locally common (e.g. at B2) but generally scarce. At B2 roosting by day in cadjeputs along the Drysdale, and at dusk feeding on insects above a river-pool; much calling at night and some calling by day.

Ninox novaeseelandiae boobook (Latham). Boobook Owl. Recorded at A1, A2, A3, A4, B4, C1, C3 and C4.

Uncommon. Open woodland on plateaux and back from major watercourses. Calling at night.

FAMILY PODARGIDAE

Podargus strigoides phalaenoides Gould. Tawny Frogmouth.

Recorded at A1, A2, A3, A4, B1, B3, B4, C1, C2 and G. Two specimens (males).

Uncommon. By day usually roosting in dense vegetation, especially cadjeputs along watercourses.

FAMILY AEGOTHELIDAE

Aegotheles cristatus leucogaster Gould. Owlet Nightjar. Recorded at A2, A3 and B3.

Scarce; in ones and twos. Mainly in open woodland on plateaux. Calling at night.

FAMILY CAPRIMULGIDAE

Eurostopodus guttatus (Vigors & Horsfield). Spotted Nightjar.

Recorded at C2 and C3.

Single records of single birds at each site, one of them calling at night.

FAMILY ALCEDINIDAE

Alcedo azurea ruficollaris (Bankier). Azure Kingfisher.

Recorded at A4, B2, B3, B4, C3 and C4. Two specimens (1 male, 1 unsexed).

Scarce; usually single birds, a pair seen once. Mainly on the smaller watercourses at pools with overhanging pandanus and cadjeputs.

Dacelo leachii leachii Vigors & Horsfield. Blue-winged Kookaburra.

Recorded at A1, A2, A3, A4, B1, B2, B3, B4, C1, C2, C3, C4 and [OD].

Moderately common. In many habitats ranging from forests along watercourses to open woodlands of plateaux.

Halcyon pyrrhopygia Gould. Red-backed Kingfisher.

Recorded at A1, A3, A4, B1, B3 and C4.

Scarce; single birds. Open woodland. Old nesting tunnels found in termitaria.

Halcyon sancta sancta Vigors & Horsfield. Sacred Kingfisher.

Recorded at A4, B2, B4, C4, and C5.

Scarce; single birds. In cadjeputs and other trees along watercourses.

FAMILY MEROPIDAE

Merops ornatus Latham. Australian Bee-eater.

Recorded at A1, A2, A3, A4, B1, B2, B3, B4, C1, C2, C3, C4, C5, G, [UKG], [UB] and [OD].

Common; mainly in pairs and small parties (up to 6); a flock of 50 flying south on 17 August were probably passage migrants. In most habitats from vicinity of river pools to open woodlands of plateaux.

FAMILY ALAUDIDAE

Mirafra javanica Horsfield. Singing Bushlark.

Recorded at A3, B1 (? sp.), B2 and [OD]. One specimen (female).

Scarce. Grassland.

FAMILY HIRUNDINIDAE

Hirundo nigricans nigricans Vieillot. Tree Martin.

Recorded at A1, B1 and B2.

Scarce; usually in small parties (up to 5). Not recorded after 13 August. Presumably only a winter visitor to the Park.

Hirundo ariel (Gould). Fairy Martin.

Recorded at B1, B4 and C4. One specimen (a mummified nestling).

Common at B4 in flocks of up to 80; only a few birds seen at C4 and none elsewhere. Cliffs about the Drysdale River falls at B4 and along the Carson Escarpment. Many old nests found in cliffs at B1 and B4.

FAMILY CAMPEPHAGIDAE

Coracina novaehollandiae novaehollandiae (Gmelin). Black-faced Cuckoo-shrike.

Recorded at A1, A2, A3, A4, B1, B2, B3, B4, C1, C2, C3, C4, C5, G and [UKG].

Common at C1, C2, C3 and C4, often in small parties (up to 8); elsewhere scarce to moderately common, usually in ones and twos. In all wooded habitats, including vine scrub at C4 where they were feeding on the whitish fruits of a *Ficus virens* var. *sublanceolata*. The birds were most plentiful and most often appeared in flocks during the last week of our survey; most of the birds were probably passage migrants on their way south.

Coracina papuensis hypoleuca (Gould). White-breasted Cuckoo-shrike.

Recorded at A1, A2, A4, B1, B2, B4, C1, C2, C3, C4, C5, [UKG] and [OD]. Two specimens (females).

Common at B2 in pairs and small parties (up to 8); elsewhere scarce to moderately common, in ones and twos. Mainly in river-fringing forests (especially of cadjeputs); occasionally in vine scrub and at flowering trees (Eucalyptus and Brachychiton) in woodland.

Lalage sueurii tricolor (Swainson). White-winged Triller.

Recorded at A3, A4, B1, B4, C2, C4, [S] and [UKG]. One specimen (female).

Common at A4, where it was attracted to flowering eucalypts (E. tetrodonta, E. miniata and E. houseana) along a small creek and to flowering Grevillea pteridifolia; scarce to moderately common elsewhere; mainly in ones and twos, occasionally in small parties (including a flock of 6 immatures). Open woodland, especially with flowering trees and shrubs (including Erythrina vespertilio and Cochlospermum fraseri).

FAMILY MUSCICAPIDAE

Poecilodryas superciliosa cerviniventris (Gould). Buff-sided Robin.

Recorded at C5. Two specimens (males).

At least four birds lived in the thicket of *Xanthostemon* and *Alphitonia* at the head of Dysphania Gorge.

Microeca leucophaea leucophaea (Latham). Brown Flycatcher.

Recorded at A2, A3, A4, B2, C3, C4, [S] and [OD]. Common at A3 in far south-east of Park; scarce or uncommon elsewhere. Mainly open eucalypt woodland; also in small groves of *Melaleuca* and of flowering *Grevillea pteridifolia*.

Petroica cucullata (Latham). Hooded Robin.

Recorded at A3 and [OD].

A single male seen at A3 (in far south-east of Park) on two occasions (5 and 9 August) in a *Cochlospermum fraseri*.

FAMILY PACHYCEPHALIDAE

Pachycephala rufiventris rufiventris (Latham). Rufous Whistler.

Recorded at A1, A2, A3, A4, B1, B2, B3, B4, C1, C2 C3, C4, C5, G, [UKG], [UB] and [OD]. One specimen (unsexed).

Uncommon to moderately common; usually single birds. All kinds of wooded country, but generally preferring the river-fringing forests to the more open and lower woodlands of plateaux.

Colluricincla harmonica harmonica (Latham). Brown Shrike-thrush.

Recorded at A4 and [UKG].

Single birds on one occasion at each site.

 ${\it Colluricincla\ woodwardi\ Hartert.\ Brown-breasted\ Shrike-thrush.}$

Recorded at B1, B3, B4, C1, C2, C3, C4 and [S]. Five specimens (4 males, 1 female).

Locally common but generally uncommon; usually single birds. Sandstone cliffs and boulders.

FAMILY RHIPIDURIDAE

Rhipidura leucophrys leucophrys (Latham). Willie Wagtail.

Recorded at A1, A2, A3, A4, B1, B2, B3, B4, C1, C2, C3, C4, C5, [S], [UKG], [UB] and [OD].

Locally common but generally scarce to moderately common. Mainly on watercourses.

Rhipidura rufiventris isura Gould. Northern Fantail. Recorded at A2, A4, B1, B2, B3, B4, C1, C2, C3, C4, C5 and G.

Locally common. All kinds of dense vegetation, e.g. forests (mainly of cadjeputs) fringing larger water-courses, vine scrubs in gullies and gorges, and thickets of *Ficus*, *Livistona* and *Gardenia* along cliffs or among sandstone boulders. At A2 a nest and two eggs found on 6 August, and a nest and sitting bird on 7 August. An unoccupied nest found on 19 August at C3 probably belonged to this species.

FAMILY MONARCHIDAE

Myiagra rubecula concinna Gould. Leaden Flycatcher. Recorded at A2, A4, B1, B3, B4, C1, C2, C4 and C5. Moderately common at C4; scarce or uncommon elsewhere. Figtree thickets and vine scrubs along cliffs and in gorges; also forests (Melaleuca, Terminalia, Ficus etc.) fringing major watercourses.

Myiagra inquieta nana (Gould). Restless Flycatcher. Recorded at A1, A3, A4, B1, B2, B3, B4, C1, C2, C3, C4, C5, [S], [UKG] and [OD].

Moderately common at B4; scarce or uncommon elsewhere. Mainly in denser vegetation (especially cadjeputs and pandanus) fringing watercourses and swamps; occasionally in vine scrubs and mixed woodlands (e.g. Eucalyptus, Banksia and Melaleuca).

Myiagra alecto rufolateralis (Gray). Shining Flycatcher. Recorded at B4 and C2. One specimen.

A female was collected in dense pandanus around a large pool on Johnson Creek, and a bird in female plumage was seen by K. F. Kenneally on the Carson.

FAMILY GRALLINIDAE

Grallina cyanoleuca (Latham). Magpie-lark.

Recorded at A1, A3, A4, B1, B2, B3, B4, C1, C2, C4, [S] and [OD].

Common in well-watered areas, mainly in ones and twos, also occasional flocks (up to 14); scarce or absent in dry south-east sector of Park. On watercourses and lagoons. Status in Park uncertain; no old nests were seen, and the larger flocks probably consisted of winter visitors.

FAMILY TIMALIIDAE

Pomatostomus temporalis rubeculus (Gould). Redbreasted Babbler.

Recorded at A1, A2, A3, A4, B1, B2, C1, C2, C3, C4 and [OD].

Locally common but generally scarce. Open woodland. At C4 copulation observed on 16 August, and on 18 August another pair seen entering a new nest. Old nests found at A1 and [OD].

FAMILY ACANTHIZIDAE

Gerygone olivacea rogersi Mathews. White-throated Warbler.

Recorded at A3, A4, B2, B4, C4 and C5. Three specimens (2 males, 1 female).

Scarce or uncommon. Mainly in wattle (Acacia) thickets; also in Melaleuca, Eucalyptus and Callitris.

We follow Hall (1974, p. 169) in recognising *rogersi* of the Kimberley and Northern Territory as distinct from the north Queensland subspecies, *G. o. flavigasta*.

Gerygone chloronotus chloronotus Gould. Green-backed Warbler.

Recorded at B1, B4, C1, C2, C3, C4 and C5. Seven specimens (3 males, 2 females, 1 unsexed, 1 in spirits). Locally common but generally scarce. Mainly vine scrub at foot of cliffs; also *Ficus* and other thickets in gullies and along watercourses.

Smicrornis brevirostris (Gould). Weebill.

Recorded at A1, A2, A3, A4, B1, B3, B4, C1, C2, C3, C4, C5, G, [UKG], [UB] and [OD]. One specimen (in spirits).

Common on plateaux; moderately common in gorges and about major watercourses. Mainly open woodland (especially with flowering eucalypts). At A2 on 3 August a pair feeding three flying young.

FAMILY MALURIDAE

Malurus dulcis rogersi Mathews. Lavender-flanked Wren. Recorded at A1, B1, B3, B4, C1, C2, C3, G and [UB]. One specimen (female).

Scarce to moderately common. Rugged sandstone and rocky watercourses.

Malurus melanocephalus (Latham). Red-backed Wren. Recorded at A1, A2, A3, A4, B1, B2, B3, B4, C1, C2, C4, [UKG], [UB], and [OD]. One specimen (male).

Locally common. Mainly in long grass and pandanus near water; also in more open grass and shrubbery of woodlands.

FAMILY SYLVIIDAE

Acrocephalus stentoreus australis Gould. Australian Reed-warbler.

Recorded at B4. One specimen (male with small testes).

The only bird recorded was making strange chuckling notes in dense pandanus fringing Johnson Creek. We agree with Mees (1964, p. 91) that Reed-warblers from the three sectors of their Western Australian range are inseparable. Bill length, measured to base of skull, in the Western Australian Museum's three Kimberley specimens ranges from 22 to 24 mm (mean 23·0); in 9 specimens from the Pilbara, 21–23 (22·0); and in 5 specimens from the South-west, 22–24 (22·6).

Cincloramphus mathewsi Iredale. Rufous Songlark.

Recorded at A4, B1, B2, and [UKG]. Two specimens (1 male, 1 in spirits).

Scarce. Mainly long grass beside watercourses and at foot of cliffs; also in more open long grass of woodlands.

Cincloramphus cruralis (Vigors & Horsfield). Brown Songlark.

Recorded at A3.

At least two in closed grassland on small watercourse.

Cisticola exilis (Vigors & Horsfield). Golden-headed Fantail-warbler.

Recorded at A2, A3, A4, B1, B2, B4, C1, C2, C4, [S] [UKG] and [OD]. One specimen (in spirits).

Moderately common. Mainly denser grass (1-2 m high) and pandanus beside water; also in long grass on basalt flats and under open forest.

FAMILY NEOSITTIDAE

Neositta chrysoptera leucoptera (Gould). White-winged Sittella.

Recorded at A1, A2, A3, A4, B1, B2, B4, C3, C4 and [OD].

Moderately common on plateaux in south-east of Park; elsewhere scarce. Mainly open eucalypt woodland on plateaux; also trees (especially *Melaleuca*) along watercourses.

FAMILY CLIMACTERIDAE

Climacteris melanura melanura Gould. Black-tailed Tree-creeper.

Recorded at A1, A3, A4, C4 and [OD].

Moderately common in far south of Park (A3 and A4) and at [OD]; elsewhere scarce. Open woodland. At C4 one was flushed from hollow limb of a dead eucalypt on 19 August.

FAMILY DICAEIDAE

Dicaeum hirundinaceum hirundinaceum (Shaw). Mistle-toe-bird.

Recorded at A1, A2, A3, A4, B1, B2, B3, B4, C1, C2, C3, C4, C5, G and [UKG].

Moderately common to very common. All kinds of wooded country, but favouring the denser forests and scrubs of rivers, gorges and cliffs.

Pardalotus rubricatus Gould. Red-browed Pardalote. Recorded at B2 (? sp.).

On 13 August Dell heard but did not see a bird calling in low open woodland on top of a siltstone hill. This species has been recorded about 100 km south of the Park, on the Gibb River-Wyndham road.

Pardalotus striatus uropygialis Gould. Black-headed Pardalote.

Recorded at A1, A3, A4, B1, B2, B3, B4, C1, C2, C3, C4, C5, G, [UKG] and [UB].

Common at A4; scarce to moderately common elsewhere. Open woodland and waterside forests (*Melaleuca* spp.). Many old nesting tunnels found at A1 and C4; also at latter a bird flushed from a fresh tunnel.

FAMILY MELIPHAGIDAE

Lichmera indistincta indistincta (Vigors & Horsfield). Brown Honeyeater.

Recorded at A1, A2, A3, A4, B1, B2, B3, B4, C1, C2, C3, C4, C5, [S], G, [UKG] and [UB].

Scarce to very common. All wooded habitats, but favouring river-fringing forests (especially of cadjeputs) and flowering trees and shrubs (e.g. Eucalyptus houseana, E. tetrodonta, E. miniata, Brachychiton sp., Verticordia cunninghamii and Grevillea pteridifolia). At B2 on 9 August a pair feeding two nestlings, which were almost ready to leave the nest on 15 August.

Meliphaga albilineata (White). White-lined Honeyeater. Recorded at B4, C3, C4 and C5. Three specimens (2 females, 1 unsexed).

Moderately common. In thickets of *Xanthostemon* and *Ficus* in gorges and gullies.

Meliphaga virescens (Vieillot). Singing Honeyeater.

Recorded at A1, A2, A3, A4, B1, B4, C3, [UKG] and [OD]. One specimen (male).

Locally common in far south-east of Park (A3); elsewhere scarce. Mainly in thickets of *Melaleuca* and *Acacia* in otherwise open country.

Meliphaga fusca flavescens (Gould). Yellow-tinted Honeyeater.

Recorded at A1, A4, B2, B4, C4 and [UKG]. Five specimens (3 males, 2 females).

Locally common. River-fringing forest (especially of cadjeputs); also minor watercourses lined with flowering trees and shrubs (Eucalyptus houseana, E. miniata, E. tetrodonta, Melaleuca spp. and Grevillea pteridifolia). On 13 August a pair at B2 feeding a young bird unable to fly properly.

Meliphaga plumula (Gould). Yellow-fronted Honeyeater. Recorded at A2, A3 and [OD]. One specimen (unsexed).

Scarce to moderately common in south-east sector of Park. In trees and flowering *Grevillea pteridifolia* along minor watercourses.

Meliphaga unicolor unicolor (Gould). White-gaped Honeyeater.

Recorded at A2, A4, B1, B2, B3, B4, C1, C2, C3, C4, C5, G, [UKG], [UB] and [OD].

Common on larger watercourses and in gorges; scarce to moderately common elsewhere. River-fringing forests (especially of cadjeputs, but also *Ficus*, *Terminalia*, *Barringtonia*, *Pandanus* and *Acacia*); also vine scrubs in gorges and gullies and at foot of cliffs; occasionally visiting flowering trees and shrubs in open country (*Erythrina vespertilio* and *Grevillea pteridifolia*).

Melithreptus albogularis Gould. White-throated Honeyeater.

Recorded at A1, A2, A4, B1, B3, B4, C1, C2, C3, C4, C5, S, [UKG], [UB] and [OD]. One specimen (female).

Scarce to very common, greatly preferring the valleys to the plateaux. Mainly river-fringing forests (especially Melaleuca leucadendron and M. argentea; also Ficus, Terminalia and Eucalyptus) and vine scrubs in gullies and gorges and at foot of cliffs; commonly attracted to flowering eucalypts and Grevillea pteridifolia; one seen in a grove of Callitris intratropica.

Melithreptus gularis laetior Gould. Golden-backed Honeyeater.

Recorded at A4, B2, B4, C2 and C4. One specimen (male).

Locally moderately common but generally scarce. In woodlands (especially with flowering eucalypts); also attracted to flowering cadjeputs along the Drysdale.

Entomyzon cyanotis albipennis (Gould). Blue-faced Honeyeater.

Recorded at A1, A4, B1, C2 and C4. Two specimens (1 male, 1 female).

Scarce to moderately common; often in small parties (up to 10). In various habitats, especially those with flowering trees and shrubs (*Erythrina*, *Eucalyptus*, *Grevillea* and *Brachychiton*).

Philemon citreogularis citreogularis (Gould). Little Friarbird.

Recorded at A1, A3, A4, B1, B2, B4, C1, C4, [S], G. [UKG] and [OD]. One specimen (male).

Scarce to common. In most wooded habitats, especially those associated with watercourses and alluvial soils; attracted to flowering trees and shrubs (Melaleuca leucadendron, Eucalyptus miniata, E. tetrodonta, Grevillea pteridifolia, Erythrina vespertilio and Brachychiton sp.).

Philemon argenticeps argenticeps (Gould). Silver-crowned Friarbird.

Recorded at A1, A2, A4, B1, B3, B4, C1, C2, C3, C4, C5, G, [UKG] and [UB]. Two specimens (males).

Scarce to common; occasionally in small parties (up to 9). In most wooded habitats, favouring those associated with sandstone; attracted to fruiting trees (e.g. Ficus virens var. sublanceolata) and flowering trees and

shrubs (Erythrina vespertilio, Bombax ceiba and Grevillea pteridifolia). An old nest found in a Cabbage Gum at C4.

Ramsayornis fasciatus fasciatus (Gould). White-breasted Honeyeater.

Recorded at A1, A2, A3, A4, B1, B2, B3, B4, C2, C3, C4, G, [UKG] and [UB]. One specimen (male).

Scarce to common; often in small parties (up to 10). Mainly about watercourses at flowering trees and shrubs (Melaleuca argentea, M. leucadendron, Eucalyptus house-ana, E. tetrodonta, E. miniata, Grevillea pteridifolia and Brachychiton sp.).

Conopophila rufogularis (Gould). Rufous-throated Honeyeater.

Recorded at A1, A3, A4, B1, B2, C3, C4, C5 and [OD]. Scarce to common. Ordinarily in cadjeput forests along watercourses, but commonly attracted to nearby flowering trees and shrubs (Eucalyptus miniata, E. tetrodonta, E. houseana, Erythrina vespertilio and Grevillea pteridifolia).

Cissomela pectoralis (Gould). Banded Honeyeater.

Recorded at A1, A2, A3, A4, B1, B2, B3, B4, C2, C3, C4, C5, G, [UKG] and [UB]. One specimen (female).

Scarce to very common; often in flocks (up to 10). Mainly at flowering trees and shrubs (Melaleuca leucadendron, M. argentea, Eucalyptus houseana, E. tetrodonta, E. miniata, Brachychiton sp. and Grevillea pteridifolia). Many birds were in juvenile plumage.

Manorina flavigula (Gould). Yellow-throated Miner. Recorded at A3, B2, B3, C1, C2, C3, C4, (S) and G. One specimen (in spirits).

Very common, in pairs and small parties (up to 5) at B3, mainly in cadjeputs along Johnson Creek; moderately common at C1 along Palmoondoora Creek; elsewhere scarce.

FAMILY ESTRILDIDAE

Neochmia phaeton phaeton (Hombron & Jacquinot). Crimson Finch.

Recorded at A1, A2, A4, B1, B2, B3, B4, C1, C2, C3, C4 and [UB].

Scarce to common; usually in small parties (up to 9), one flock of 20 birds. Pandanus and long grass on watercourses.

Poephila bichenovii annulosa (Gould). Black-ringed Finch.

Recorded at A1, A4, B1, B2, B3, B4, C1, C2, C3, C4, C5 and [OD].

Scarce at A4; elsewhere moderately common to very common, usually in small parties (up to 12).

Mainly in grassy areas close to water; at B2 feeding in grassy open woodland up to 1.5 km from water. At C3 a nest and three eggs found on 16 August, and three fledglings flushed from another nest on 20 August.

Poephila personata personata Gould. Masked Finch. Recorded at A4.

A flock of 10 feeding in grassy open woodland on 8 August.

Poephila acuticauda (Gould). Long-tailed Finch.

Recorded at A1, A2, A3, A4, B1, B2, C4, [S], [UKG] and [OD]. Two specimens (males with bill yellow-orange).

Scarce to common; usually in small parties (up to 6), also flocks of 10-15. Mainly in grass along watercourses; seldom in dry woodlands.

Chloebia gouldiae (Gould). Gouldian Finch.

Recorded at B2 and [S].

Scarce. It was estimated that a bird collected but not retained was barely two weeks out of the nest; it was in low open woodland ca 2 km from water. All the other birds were close to water, including a flock of 10 at [S] (about half of them were red-headed).

Lonchura castaneothorax castaneothorax (Gould). Chestnut-breasted Finch.

Recorded at A3, B2 and C2. Three specimens (2 males, 1 female).

Small parties (up to 4 birds) in pandanus along watercourses; two at A3 with Long-tailed Finches on a grassy watercourse.

FAMILY ORIOLIDAE

Oriolus sagittatus (Latham). Olive-backed Oriole.

Recorded at A4, B2, B3, B4, C1, C2, C3, C4, C5 and [UKG]. Seven specimens (5 males, 1 female, 1 unsexed).

Locally common (up to 8 feeding in a single figtree), but generally scarce or uncommon. Mainly in cadjeputs and figtrees (it was especially fond of the small whitish fruits of *Ficus virens* var. *sublanceolata*).

FAMILY ARTAMIDAE

Artamus leucorhynchus (Linnaeus). White-breasted Wood-swallow.

Recorded at A4, B2, B4 and C2. One specimen (male). Locally common but generally scarce. At large pools on the major watercourses and at nearby lagoons, usually resting in fringing cadjeputs.

Artamus personatus (Gould). Masked Wood-swallow. Recorded at A2, A3, A4, C2 and [OD].

Locally common in small flocks (up to 20); occasional large flocks in transit (up to 200 birds), flying high.

Artamus cinereus melanops Gould. Black-faced Wood-swallow.

Recorded at A1, A2, A3, A4, B1, B4, C1, C2, C4, S, [UB] and [OD].

Locally common (e.g. on basalt flats near the Carson River) but generally scarce or uncommon; in pairs or small parties (up to 12). Open woodlands.

Artamus minor Vieillot. Little Wood-swallow.

Recorded at A1, A2, A3, A4, B1, B2, B3, B4, C1, C2, C3, C4, G, [UKG] and [OD].

Scarce to very common (the most abundant aerial insectivore in the Park), often in small parties (up to 8).

Mainly in open woodland; occasionally attracted to flowers of *Eucalyptus miniata*. On 4 August a pair entering hollow limb of dead tree at A4.

FAMILY CRACTICIDAE

Cracticus torquatus argenteus Gould. Silver-backed Butcherbird.

Recorded at A2, A4, B2, B3, B4, C1, C2, C4, C5, [S], G and [UB]. Seven specimens (3 males, 4 females).

Scarce to common. Mainly river-fringing forests (especially of cadjeputs; also *Pandanus* and *Barringtonia*); also in vine scrubs. On 8 August a bird sitting on a nest at A2; also breeding at B3.

Cracticus nigrogularis (Gould). Pied Butcherbird.

Recorded at A1, A2, A3, A4, B1, B2, B3, B4, C1, C2, C3, C4, G, [UB] and [OD].

Scarce to uncommon; generally outnumbered by Silver-backed Butcherbird except on plateaux. Open woodlands.

FAMILY PTILONORHYNCHIDAE

Chlamydera nuchalis nuchalis (Jardine & Selby). Great Bowerbird.

Recorded at A1, A2, B1, B2, B3, B4, C1, C2, C3, C4 and C5. One specimen (in spirits).

Locally common. Mainly in fruiting *Ficus* spp. (in sandstone, along watercourses and in vine scrubs). Birds active at bowers; copulation observed on 16 August at C4.

FAMILY CORVIDAE

Corvus orru cecilae Mathews. Australian Crow.

Recorded at A1, A3, A4, B1, B2, B3, B4, C1, C2, C3, C4 and [OD]. Two birds, not retained, weighed 595 and 610 g.

Locally common but generally scarce; one party of 15 near a fire. Open woodlands.

DISCUSSION

Most birds that could be expected in winter were in fact recorded during this survey of the Park. A summer survey would doubtless add breeding visitors like the Koel (Eudynamys scolopacea) and Dollar-bird (Eurystomus orientalis) and Palaearctic migrants such as the Chinese Snipe (Gallinago megala), Oriental Pratincole (Glareola maldivarum), Oriental Cuckoo (Cuculus saturatus), Fork-tailed Swift (Apus pacificus) and Yellow Wagtail (Motacilla flaya).

The avifauna of the Drysdale River National Park, not unexpectedly, is generally intermediate between that of the subhumid north-west Kimberley (as exemplified by the Prince Regent River Reserve) and the semiarid east Kimberley (as exemplified by the vicinity of Lake Argyle). In addition to the many birds shared by all three regions, there are four species of north-west Kimberley birds that reach the Drysdale but not to Lake Argyle: the Red-backed Quail (Turnix maculosa), Green-winged Pigeon (Chalcophaps indica), Shining Flycatcher (Myiagra alecto) and Silver-backed Butcherbird (Cracticus torquatus). And there are eight species of Lake Argyle

birds that reach west to the Drysdale but not to the Prince Regent: the Crested Pigeon (Ocyphaps lophotes), Singing Bushlark (Mirafra javanica), Hooded Robin (Petroica cucullata), Brown Songlark (Cincloramphus cruralis), Red-browed Pardalote (Pardalotus rubricatus), Yellow-fronted Honeyeater (Meliphaga plumula), Masked Finch (Poephila personata) and Gouldian Finch (Chloebia gouldiae).

The families showing most differences between northwest, north and east Kimberley are the pigeons (Columbidae) and finches (Estrildidae). The members of

TABLE 1

PIGEONS AND FINCHES RECORDED ON THE PRINCE REGENT RIVER RESERVE AND ADJACENT ISLANDS, IN THE DRYSDALE RIVER NATIONAL PARK, AND AROUND LAKE ARGYLE

	Prince Regent River	Drys- dale River	Lake Argyle
COLUMBIDAE	1		
Ptilinopus regina ewingii	XX		
Ducula spilorrhoa spilorrhoa Geopelia humeralis		V	37
	X	X X	X
	X	÷	X
Chalanhana indian langingship	X	X X	Λ
Petrophassa albipennis (brown-	^	Λ	
backed form) (orown-	X	X	
Petrophassa albipennis (rufous-	^	Λ	
backed form)	F 3		X
Phaps chalcoptera	X	X	X
Phaps histrionica	F 11 74	0.0	X
Geophaps smithii blaauwi	X		
Geophaps plumifera plumifera			X
Ocyphaps lophotes		X	X X
ESTRILDIDAE		1	
Emblema pictum	1-		X
Neochmia phaeton phaeton	X	X	X
Neochmia ruficauda clarescens			X
Poephila guttata castanotis			X
Poephila bichenovii annulosa	X	X X	X
Poephila personata personata		X	X
Poephila acuticauda	X	X	X
Chloebia gouldiae		X	X
Lonchura castaneothorax castaneo-	46		
thorax	X	X	X
Lonchura pectoralis			X

these families occurring on the Prince Regent River Reserve and adjacent islands, in the Drysdale River National Park, and around Lake Argyle, are listed in Table 1.

The considerably lower rainfall of the Drysdale River National Park compared to the Prince Regent River is reflected in the fact that 14 north-west Kimberley birds do not extend to the Drysdale. Eleven of these species are primarily inhabitants of closed-forests, and almost half of them are wholly or mainly frugivorous: the Rose-crowned Pigeon (Ptilinopus regina), Torres Strait Pigeon (Ducula spilorrhoa), Varied Triller (Lalage leucomela), Yellow Oriole (Oriolus flavocinctus) and Yellow Figbird (Sphecotheres viridis). The other closed-forest species are the Scrub Fowl (Megapodius freycinet), Rufous Owl (Ninox rufa), Rainbow Pitta (Pitta iris), Cicada-bird (Coracina tenuirostris), Little Shrikethrush (Colluricincla parvula) and Spangled Drongo (Dicrurus bracteatus). Three non-forest species complete the list of Prince Regent birds that were not recorded in the Drysdale River National Park, namely the King Quail (Coturnix chinensis), Partridge Pigeon (Geophaps smithii) and Black Grass-wren (Amytornis housei.)

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