

IV BIRDS OF EAST YUNA AND BINDOO HILL NATURE RESERVES AND ADJACENT AREAS

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INTRODUCTION

Birds were recorded on East Yuna Reserve (EYR) and Bindoo Hill Nature Reserve (BHR) from 7-18 May 1973 and 12-18 October 1976 as part of the biological survey of the Western Australian wheatbelt outlined by Kitchener (1975). For location of reserves and geological details see Dell (Introduction this report). Previously published reports of this survey are listed in Dell (1979) and Chapman (1981). In addition to the data compiled during the Museum survey, one of us (D.J.M.) had been recording daily sightings of birds in the area since December 1972. In this paper we have extensively used D.J.M.'s data for the period up to December 1976. Prior to this, D.J.M. had been making occasional notes on migrants or seasonally occurring birds since 1922. This information was included in rainfall and other weather data compiled for the Commonwealth Bureau of Meteorology.

This paper is a summary of all information available on EYR and BHR reserves and adjacent areas. D.J.M.'s farm borders the western boundary of EYR, and much of these data refer to the area between EYR and Yuna, ca 20 km north-west of EYR.

In the annotated list we summarize for each species the data available on:

- 1 Status and relative abundance. This is a subjective assessment of whether the bird is common, moderately common, uncommon or scarce and is based on the experiences of J.D. elsewhere in the wheatbelt. Comments on how this judgement is derived are in Dell & Johnstone (1977).
- 2 Local distribution and broad habitat divisions.
- 3 Flock size.
- 4 Vegetation location numbers (referable to Muir, this report) in which the species were recorded on EYR and BHR during the Museum survey. If no vegetation location numbers are listed it implies that the species was not recorded in the reserve during the Museum survey.
- 5 Breeding information.
- 6 Feeding information.

ANNOTATED LIST

Emu (*Dromaius novaehollandiae*)

Common, probably resident. Single birds or groups of up to ca 20, larger groups of up to 70 in wheat crops from August to January during which they are sometimes serious pests and numbers are shot. Recorded every month since December 1972. Woodland, mallee, shrubland, heath and farmland. In EYR loc. 2.7, 2.8, 3.15, 3.22 and 3.23 in May; in EYR loc. 2.2, 2.6, 2.8, 3.10, 3.19, 3.22, 4.4, 4.5 and 4.8 in October. In October ca 70 were feeding in wheat paddock on north side of BHR Reserve. Remains of nests in EYR loc. 2.2 in October; birds drumming in May, trumpet calls in August. Several nests recorded in BHR. Smallest chicks recorded in August; chicks remain with adult until at least March by which time the number of young per group has declined from up to 16 to sometimes only 2 birds. Scats contain seeds of *Santalum acuminatum*, *Persoonia* sp., *Casuarina campestris* and *Conostephium* sp. Also noted eating grasses, Doublegee (*Emex australis*), Wild Turnip (*Brassica tournefortii*) and berries of native plants.

Black-throated Grebe (*Podiceps novaehollandiae*)

Scarce visitor. Freshwater pools and farm dams. Two on Noondamurra Pool in October 1976, 1 on farm dam in April 1974.

Australian Pelican (*Pelecanus conspicillatus*)

Uncommon visitor. Several records of up to 20 birds on pools on Greenough west of Noondamurra Pool and once over farmland.

Little Black Cormorant (*Phalacrocorax sulcirostris*)

Uncommon visitor. Freshwater pools. Several sightings along Greenough including Noondamurra Pool. Three perched in *Casuarina obesa* on edge of Noondamurra Pool in May 1973 and 1 in October 1976.

Little Pied Cormorant (*Phalacrocorax melanoleucos*)

Uncommon. Freshwater pools; several sightings along Greenough including Noondamurra Pool. One perched in *Casuarina obesa* on edge of Noondamurra Pool in 1973.

Darter (*Anhinga melanogaster*)

Scarce visitor. Freshwater pools. Single birds at Noondamurra Pool in August 1971 and May 1973.

White-faced Heron (*Ardea novaehollandiae*)

Uncommon, possibly resident along Greenough. Dams, flooded claypans and pools on Greenough River. Single birds or pairs in March (1974), April

(1975), May (1973, 1974), June (1974), July (1974, 1975), August (1974, 1975), September (1974, 1975), October (1974), and November (1974, 1975). Also recorded in October 1945, November 1945, March 1951, September 1951, August 1954, 1956, June 1960, 1961, and March 1962.

Pacific Heron (*Ardea pacifica*)

Uncommon, possibly annual visitor. Dams, flooded claypans, paddocks after rain, and spillages from sheep troughs. Single birds, occasionally up to 4; one record of 14 in June 1975. Recorded each month from May to September 1975 and in June 1976. Also recorded in May 1951, September 1951, October 1951, August 1954, May 1957, June 1957, August 1957, July 1958, August 1958, September 1958, October 1958, November 1958, August 1959, September 1959, July 1961, August 1961, September 1961, and October 1961.

Egret (?*Egretta alba*)

Scarce visitor. One near dam in September 1968.

Straw-necked Ibis (*Threskiornis spinicollis*)

Moderately common visitor. Paddocks, sometimes perching in trees. Flocks sometimes up to 200 birds. In March and November 1973, October 1974, August and November 1975, January and August 1976. Also recorded in April 1959, June 1943, 1951, July 1948, 1949, August 1949, 1956, 1957, 1967, September 1951, 1957, 1959, 1970, October 1951. Usually appears when grasshoppers or other insects are abundant.

Yellow-billed Spoonbill (*Platalea flavipes*)

Scarce, visitor. One at dam in August 1967.

Black Swan (*Cygnus atratus*)

Uncommon, status unknown. Several sightings on Noondamurra Pool including 3 in May 1973. Occasionally shot by duck-shooters.

Mountain Duck (*Tadorna tadornoides*)

Uncommon seasonal visitor. Small temporary lakes, dams and paddocks. Mostly pairs, occasionally up to 14 birds, especially in winter. Recorded each month between April and September 1973; between April and October 1974; between February and August 1975 and between May and July 1976. Also recorded in May 1945, 1950, 1955, 1961, June 1947, 1956, 1971, July 1947, 1950, 1956, 1960, 1967, 1970, 1971, August 1946, 1971, September 1957, and November 1950. Nest with eggs and young *ca* 1 m up leaning York Gum (*E. loxophleba*) in paddock on 21 July 1977. Same nest occupied for several years previously.

Black Duck (*Anas superciliosa*)

Uncommon visitor (possibly resident along Greenough). Freshwater pools and dams. Twelve on Noondamurra Pool in December 1972, single birds or pairs on dams in June 1974 and July 1975. Also recorded in May 1955.

Grey Teal (*Anas gibberifrons*)

Uncommon visitor (possibly resident on Greenough). Freshwater pools, temporary lakes and dams. About 10 on Noondamurra Pool in May 1973, groups of 1-4 birds on dams in July 1975, September 1975, October 1975 and November 1974. Also recorded in May 1945.

Wood Duck (*Chenonetta jubata*)

Uncommon visitor, possibly resident on Greenough. Dams and nearby paddocks and pools along Greenough. Single birds or groups of up to 4 birds. Recorded each month between July and October 1973, April and December 1974, April and September 1975 and in July and September 1976. Also recorded in January 1944, April 1951, July 1969, August 1958, 1969, 1970 and November 1958. Adults with 12 chicks near dam, nest in dead York Gum (*E. loxophleba*) nearby.

Black-shouldered Kite (*Elanus caeruleus*)

Uncommon, probably nomadic. Mainly over farmland. Single birds or pairs. Most records in May to September but has been recorded every month. Nest in tree in paddock and in tree along Wandin Creek through farmland.

Letter-winged Kite (*Elanus scriptus*)

Scarce nomad. Pair in farmland in October 1951 increased to 7 birds in December 1951. Nest in York Gum in paddock ca 2 km north-west of EYR. This was part of an extensive irruption into Western Australia (Serventy 1953). Birds were frequently seen perched on fences and trees. House Mouse (*Mus musculus*) was abundant.

Whistling Kite (*Haliastur sphenurus*)

Generally common, but moderately common from May to November 1975. Usually over paddocks and along roads. Recorded every month. Over EYR in April 1973 and January 1975. Bird flushed from nest in York Gum (*Eucalyptus loxophleba*) in August 1973.

Brown Goshawk (*Accipiter fasciatus*) and Collared Sparrowhawk (*A. cirrocephalus*)

Status uncertain; possible resident. Woodland, mallee and farmland. Single birds or pairs. In EYR loc. 2.14 in October 1976 and BHR loc. 1.1 in

October 1976. Some birds were probably confused with the Collared Sparrowhawk (*Accipiter cirrocephalus*). An *Accipiter* species was recorded on 38 out of 49 months between December 1972 and January 1977. Mainly in shelter belts and along fence-lines in farmland. A hawk hunting rabbits in August 1976 was shot and identified as *A. cirrocephalus*. Identity of those hunting Ring-necked Parrots in November 1973 and February 1975 and Galahs in June 1976 was not determined. *A. cirrocephalus* was also recorded over BHR in October 1976. McGauran believes *A. cirrocephalus* to be more abundant than *A. fasciatus*.

Little Eagle (*Aquila morphnoides*)

Moderately common resident. Mainly over farmland. Single birds or pairs; once 8 were seen circling over EYR after 1080 poison had been laid for rabbits. Recorded on 42 of 49 months between December 1972 and January 1977. Nest with 2 eggs in York Gum woodland in October 1971 and nest in York Gum woodland in August 1975. Frequently seen hunting rabbits; one killed a Little Crow (*Corvus bennetti*) by vertically diving at it. An adult bird wounded in 1961 has been kept in captivity since. This bird prefers to eat Galahs or Ring-necked Parrots, only occasionally will it eat mutton or rabbit. Over EYR in December 1967.

Wedge-tailed Eagle (*Aquila audax*)

Moderately common resident. Woodland, mallee, shrubland, farmland and overhead. Mainly single birds or pairs. Recorded on 45 of 49 months between December 1972 and January 1977. Breeding in shrubland near Yuna, in York Gum woodland in Falkirk Forest (6 nest sites), in EYR loc. 2.10, 3.10 and in scattered trees on edges of breakaways, and in BHR loc. 1.1. In 1970, 4 occupied nests were observed. Nest with large chick on EYR on 15 October 1976, nest with 2 chicks in gorge on EYR on 4 September 1975, nest with 2 chicks in shrubland near Yuna on 3 October 1973, nest with 2 chicks in *Actinostrobus arenarius* in shrubland near Yuna on 8 September 1968 (same nest had 2 eggs on 4 November 1970), nest in *Xylo-melum angustifolium* in shrubland near Yuna in 1970, nest with 1 chick ca 5 km north-west of EYR on 21 December 1969 (young flew from nest on 15 January 1970). Main food for nestlings near Yuna were rabbits, but the remains left by the adults were chiefly young kangaroo without fur (i.e. out of the pouch of the doe). At another nest the main food was birds including Red-tailed Black Cockatoo, Galah, Magpie, Pied Butcherbird, Magpie-lark, Raven and Little Crow. Wool from one lamb was also at this nest. Two other nests had no remains of lambs.

Spotted Harrier (*Circus assimilis*)

Generally scarce, more frequent in spring and summer following good winter rains. Regarded as a resident by D.J.M. Mainly singly, occasionally

pairs coursing over wheat paddocks. Recorded in January 1972 and 1974, November 1974 to February 1975, May 1975, August 1975 to January 1976. Also recorded in July, November and December 1967 and September 1970. Nested 3 times: in Falkirk Forest in July 1967, at ridge north of Falkirk Forest and in tree along Wandin Creek *ca* 2 km west of EYR. Seen collecting food over farmland for nestlings.

Peregrine Falcon (*Falco peregrinus*)

Scarce; single birds over farmland. Eighteen sightings between December 1972 and January 1977. Recorded in every month except March and October. Seen chasing Galahs five times and eating one once, chasing a Corella once and catching a Yellow-throated Miner once.

Australian Hobby (*Falco longipennis*)

Uncommon. Single birds or pairs chiefly over farmland. Sixty-nine sightings between December 1972 and January 1977. Recorded each month, most frequently in March, May, June, July and December although it is probably non-seasonal. General aerial predator hunting Galah, Ring-necked Parrot, Black-faced Cuckoo-shrike, Yellow-throated Miner, Magpie and various small birds; sometimes hunting in co-operation with Pied Butcher-bird. Nest in mallee and nest in York Gum (*E. loxophleba*), and nest in Sugar Gum on 24 December 1976. Seen over EYR in March and August.

Brown Falcon (*Falco berigora*)

Moderately common resident. Mainly in farmland and along roads, also in shrubland and heath. Single birds or pairs. Recorded every month. Recorded over EYR loc. 2.8 and over breakaway in May 1973 and over loc. 3.19 in October 1976. Also recorded in EYR in October 1975 and 1969, July and August 1971 and November 1971. Nesting in tree in farmland in October 1973 and in York Gum in Wandin Creek in farmland in October 1976. Also breeds along Wandin Creek in EYR. Breeds throughout farmland if suitable trees are present.

Australian Kestrel (*Falco cenchroides*)

Moderately common resident. More frequent following good winter rains. Not recorded in March 1973 but recorded every other month between December 1972 and January 1977. Mainly farmland; also shrubland and heath. Breeds each year. Nest with 2 eggs 7 m from ground in York Gum in paddock adjacent to EYR loc. 2.9 on 12 October 1976. Seven other nests in hollow trees in farmland: 2 being attended by adults on 3 December 1972, 1 attended by adults on 2 September 1973 (young still present on 1 December), 1 being attended by adults on 16 September 1973, 1 being

attended by adults on 10 August 1974 (young present on 12 November), 1 with young on 5 November 1974, 1 being attended by adults on 4 August 1975 (young present on 27 October). Also breeds in rock ledges along EYR breakaways. Occasionally seen over BHR.

Mallee Fowl (*Leipoa ocellata*)

Scarce; 1 in EYR near loc. 3.12 and 1 in 2.7 in May 1973. Presumably more common in past judging from the number of old nest mounds throughout the area.

Stubble Quail (*Coturnix novaezelandiae*)

Moderately common visitor. Mainly in farmland; most frequently in hay paddocks from August to October. Uncommon in other months. Has been recorded in all months except February and April; 74% of all records are in August/September. Nests with 11 and 12 eggs in spring.

Painted Button-quail (*Turnix varia*)

Status uncertain owing to possible confusion with Little Quail. Positive sightings on both EYR and BHR in mallee and shrubland and in shrubland and in uncleared bush in farmland. In EYR loc. 2.6 and 3.22 in October 1976. In BHR loc. 3.21 in October 1976 and adult with 2 young in loc. 3.1 on 20 October 1976. Egg fragments collected in uncleared vegetation in farmland on 10 November 1974. Possibly more common than the few confirmed records indicate.

Little Button-quail (*Turnix velox*)

Status uncertain; common in farmland between July 1974 and October 1975. Egg fragments collected in farmland in December 1973 and under spinifex in January 1969, and nest with 2 eggs in stubble on 15 January 1974. Calling prominently at night in September and October 1974.

Black-tailed Native Hen (*Gallinula ventralis*)

Moderately common on dams and flooded claypans during July and October 1975. Feeding in open paddocks during daytime and retreating to water at night. First record was 19 July and latest was 21 October. Occasional other winter records.

Coot (*Fulica atra*)

Scarce on farm dam, uncommon on pools along Greenough. Group of up to 8 birds on Noondamurra Pool in August 1971, May 1973 and October 1976. One on dam between 27 May and 4 June 1974.

Australian Bustard (*Otis australis*)

Scarce; occasional pairs in farmland. Recorded in August 1976. Also recorded in February 1959, June 1944, November 1950, 1954, 1957 and December 1950. Previously common (e.g. in May 1921 there were hundreds on paddocks west of Yuna), nested on burnt country before being cleared and sometimes in cleared paddocks. Heard frequently at night in past but now considered rare.

Banded Plover (*Vanellus tricolor*)

Moderately common resident in farmland. Recorded on 48 of the 49 months between December 1972 and December 1977. Prior to agricultural clearing it was restricted to samphire flats or otherwise open areas. Present each breeding season from 1921 onwards; also irregularly recorded other months. Gradually increased with agricultural clearing and by 1949 was recorded each month. Nests in paddocks; breeding commencing in May; chicks are present from June to September.

Black-fronted Plover (*Charadrius melanops*)

Uncommon resident at margins of Greenough River pools, nomad at farm dams. Mainly single birds. Most records in farmland are birds calling overhead at night, mainly April to October although recorded all months except January and February.

Black-winged Stilt (*Himantopus himantopus*)

Uncommon visitor to farm dams. Recorded each month except April; most records are in July and August. Only recorded at dams with water, although most records are of birds calling overhead at night.

Red-necked Avocet (*Recurvirostra novaehollandiae*)

Scarce; 1 on dam in January 1944.

Bush Stone-curlew (*Burhinus grallarius*)

Scarce; heard at night 3 times in July 1976 and once in November 1941.

Silver Gull (*Larus novaehollandiae*)

Scarce; 2 in December 1944.

Tern sp. (?*Sterna leucoptera*)

Scarce; several in August 1956.

Common Bronzewing (*Phaps chalcoptera*)

Moderately common resident. Single birds or pairs. Woodland, mallee, shrubland, heath and farmland. Drinks at rockholes on breakaways on EYR, and dams and mills in farmland. In EYR loc. 2.4 and 3.3 in May 1973, and EYR loc. 3.22 in October 1976; in BHR loc. 1.1 in October 1976. Recorded in 41 out of 49 months between December 1972 and January 1977. Nest with 2 eggs on EYR on 26 May 1974; numerous nests have been found in uncleared parts of farmland but the only recorded nest data was one with 2 eggs on 21 December 1969. Numerous at rockholes on EYR in 1924.

Crested Pigeon (*Ocyphaps lophotes*)

Common resident. Pairs or groups of up to *ca* 10 birds; larger groups when congregating at mills or rockholes. Farmland, and mallee and shrubland adjacent to farmland. First recorded in May 1942; rapidly became more common and by July 1944 appeared to be resident. In EYR loc. 3.20 and 3.22 in May 1973 and in EYR loc. 2.6 in October 1976. In BHR loc. 1.3 in October 1976. Small groups come to drink at Noondamurra Pool. Breeds throughout year; nests with eggs in January, February, April, May, July, September, October, November and December.

Purple-crowned Lorikeet (*Glossopsitta porphyrocephala*)

Uncommon nomad. Groups of up to 12 birds. Woodland, mallee and overhead. Recorded each month between September and December 1975. Also recorded in February 1941, 1956, March 1959, April 1960, May 1961, July 1961, September 1945, 1956, 1961, October 1945, 1960, 1961, November 1958, 1961, and December 1956.

Regent Parrot (*Polytelis anthopeplus*)

Now scarce, only record since 1972 was 6 birds over paddock in June 1975. Present from 1921, but regarded as a visitor. Frequent in farmland between 1941 and 1955; became scarce by 1958, after which it was only seen infrequently. Largest flock was *ca* 50 birds in 1942. No breeding record.

Ring-necked Parrot (*Platycercus zonarius*)

Common resident. Farmland, woodland and mallee, occasionally feeding in shrubland and heath. Usually in small flocks of up to 15 birds, sometimes congregating into larger groups to feed on ripening or spilt wheat. Drinking at mills, dams, pools along Greenough River and Wandin Creek and rockholes on breakaways on EYR. In EYR loc. 2.6, 2.8, 3.22 and along Wandin Creek in May 1973; in EYR loc. 2.12 and 4.8 in October 1976; in BHR loc. 1.1 in May 1973; in BHR loc. 1.1 and 3.1 in October 1976. Breeds in York

Gums in EYR along Wandin Creek and in BHR loc. 1.1. Breeds in York Gums throughout farmland, also in mallee (*E. leptophylla*, *E. oleosa* and *E. dongarraensis*). Breeding commences in July; many young birds feed on ripening wheat in October. Also feeds on buds of mallee and York Gum, young shoots and branches of various trees including *Cassia*, *Hakea*, Quondong (*Santalum acuminatum*) and seeds of Doublegee (*Emex australis*), Capeweed (*Arctotheca calendula*), and Veldt Grass (*Ehrharta* sp.). Observed extracting the kernels and discarding the husks of Doublegee at the rate of one each 3 seconds. No alteration of status since 1921.

Mulga Parrot (*Platycercus varius*)

Moderately common resident. Woodland, mallee, shrubland and farmland. Groups of 2-16 birds. In EYR loc. 2.5, 2.8 and 2.10 in May 1973; in BHR loc. 1.1 and 3.30 in May 1973 and in paddock adjacent to BHR in October 1976. Pair in nesting hollow in York Gum in EYR loc. 2.10 in May. Frequent in farmland in vicinity of uncleared patches of woodland and mallee. Drinks at dams, mills, flooded claypans and in rockholes along breakaways on EYR. Nest in *E. leptophylla* tree in farmland in July 1971.

Elegant Parrot (*Neophema elegans*)

Uncommon visitor. Recorded in August 1942 (nesting), March 1947, September 1947 and October 1949, in farmland.

Budgerigar (*Melopsittacus undulatus*)

Scarce nomad. Recorded in March 1974 over farmland.

Cockatiel (*Nymphicus hollandicus*)

Usually scarce; sometimes common breeding visitor. Common from August 1974 to March 1975 and from July 1975 to January 1976. During these months there were flocks of *ca* 100 birds throughout farmland. Young birds present from October 1974. Previous major irruptions were in 1942 (when they caused damage to wheat crops), August 1956 to January 1957, October to December 1957 and September to December 1960. Breeds in York Gums and mallee (*E. oleosa*, *E. dongarraensis* and *E. leptophylla*). When abundant feeds on standing wheat.

Red-tailed Black Cockatoo (*Calyptorhynchus magnificus*)

Common resident in farmland, breeding in woodland. Status unaltered since 1922. Usually small groups, sometimes as many as 300 birds feed in paddocks. Possible passage migrant in April and August. Nests in York Gums in BHR loc. 1.1 and in uncleared parts of farmland. Eggs in nests in April, September, October and November. Six nests had 1 egg. By interpolation

from data on other nestlings and from times they left the nest, egg dates range from February to May and from July to November. Saunders (1977) discussed double breeding season in this species. All nest sites are attended by adult birds throughout the year, possibly indicating shortage of nest sites. Drinking at mills, dams and flooded claypans. Main food in farmland is Doublegee (*Emex australis*); they also snip off twigs and bite limbs and bark of trees possibly in search of insect larvae, and they feed on *Banksia* and *Grevillea* seeds.

Galah (*Cacatua roseicapilla*)

Common resident. Farmland, woodland and mallee. Flocks of 5-50 birds; occasionally larger groups gather to feed on spilt wheat or standing crops. Status has not changed since records were first kept in 1921. Causes considerable damage to wheat crops. Breeds in York Gums in EYR along Wandin Creek and in loc. 2.12, and in BHR in loc. 1.1. Breeds throughout farmland wherever there are suitable trees of York Gum, *E. dongarraensis*, *E. leptophylla*, and *E. oleosa*. Adults renovate nests in April. Young present in nests in October; eggs in August-October. Clutch usually 4, sometimes 3 or 5. Mostly drinks at mills and dams in farmland and pools on EYR after rain. Apart from wheat it also feeds on seeds of Doublegee (*Emex australis*) and roots of Crowsfoot (*Erodium cygnorum*) being adept at removing the leaves and lower portion of the taproot. It also bites limbs, trunks and twigs of trees apparently searching for insect larvae. Galls on Jam (*Acacia acuminata*) are also eaten, as are buds and flowers of various trees. When removing bark from nesting trees sometimes completely ringbarks and kills the tree. Dead trees continue to be used as nest sites.

Corella (*Cacatua tenuirostris*)

Moderately common resident although locally nomadic. Forages considerable distance to feed mainly in paddocks. Flocks of 5-100 birds are usual although flocks of 500-1000 have been recorded. Apparently status unaltered since 1921. Breeds in August in York Gum woodland in Falkirk Forest and nearby areas. Drinks at mills and dams and pools along Greenough (including Noondamurra Pool). Roosts in flocks in dead trees on salt-flats. Does not cause damage to crops.

Major Mitchell's Cockatoo (*Cacatua leadbeateri*)

Scarce; 1 on tree in farmland in March 1975.

Pallid Cuckoo (*Cuculus pallidus*)

Seasonally common migrant, otherwise uncommon. Usually single birds or pairs in woodland, mallee, shrubland, heath and farmland. Most records

are from May to October; occasional records in November, December, January, February, March and April (mostly birds in juvenile plumage). Frequent on EYR.

Fan-tailed Cuckoo (*Cuculus flabelliformis*)

Uncommon migrant. Single birds occur in gullies and ravines on EYR and BHR and in uncleared areas in farmland from May to August during most winters. Dead bird seen at Yuna.

Horsfield's Bronze Cuckoo (*Chrysococcyx basalis*)

Moderately common migrant in July and August; occasional in May, June, September, October and December. Mainly in shrubland and heath on EYR, BHR, and in uncleared woodland, shrubland and windbreaks in farmland.

Shining Bronze Cuckoo (*Chrysococcyx lucidus*)

Migrant status unknown owing to confusion with the preceding species. Possible records most years in July and August, occasional sightings in September and November. Similar habitat to preceding species.

Barn Owl (*Tyto alba*)

Resident, moderately common between November 1973 and October 1975, otherwise uncommon. Recorded every month between November 1973 and December 1975. Mainly calling at night in farmland or seen in car headlights, or flushed from hollow York Gums (*E. loxophleba*) in Falkirk Forest. Occasionally flushed from mallee along fencelines in daytime. Peak calling was from May to August 1974 and January to June 1975. At least part of the 1975 peak corresponded to a major mouse irruption in the wheatbelt. Dead fledglings at base of tree in Falkirk Forest on 18 July 1975.

Masked Owl (*Tyto novaehollandiae*)

Possible record of a pair flushed from *Eucalyptus dongarraensis* mallee along fence in farmland in July 1975 during major mouse plague and one flushed from hollow York Gum (*E. loxophleba*) in paddock. Feathers from a Wedge-tailed Eagle nest in December 1969 appeared to belong to this species.

Boobook Owl (*Ninox novaeseelandiae*)

Common resident. Recorded every month; peak calling usually July to November. Mainly patches of woodland and mallee in farmland. Occasionally seen roosting in mallee along fences in paddocks and in hollow York Gum (*E. loxophleba*) in Falkirk Forest. Juvenile calls are frequent in November and December. Occasional records on EYR.

Tawny Frogmouth (*Podargus strigoides*)

Common resident. Frequently heard at night in farmland. Roosting in tree on breakaway on EYR in May 1973; several along boundary of BHR at night in May 1973. Nest with 2 eggs in York Gum on EYR on 6 September 1970; 2 nests in York Gums near farmhouse in August 1973 (2 young flew from 1 nest on 9 November); nest in York Gum (in similar area to preceding nests) in August 1974 (young out of nest on 8 October); adult sitting on nest in York Gum in August 1975 (same area as preceding nests). Also nests in mallee (*E. eudesmoides*), *Melaleuca*, *Exocarpus* and *Acacia*.

Australian Owlet-nightjar (*Aegotheles cristatus*)

Common resident. Frequently calling at night in farmland near woodland and mallee. Heard along breakaways and in woodland and mallee on EYR. Occasionally flushed from hollow York Gums and mallee (*E. leptophylla* and *E. dongarraensis*), and *Eucalyptus leptopoda* trees on edges of breakaways, and in small breakaway caverns on EYR. Young birds calling from hollow tree in farmland on 8 January 1973. Frequently flushed from trees during clearing.

Spotted Nightjar (*Eurostopodus guttatus*)

Moderately common resident. Mainly heard at night on EYR and BHR. One on track through EYR in May 1973 and single birds on roads in farmland in December 1975, August and October 1976.

Fork-tailed Swift (*Apus pacificus*)

Infrequent migrant. Eighteen records since 1945 during December to March. Sometimes numerous; usually associated with tropical cyclones or stormy weather.

Red-backed Kingfisher (*Halcyon pyrrhopygia*)

Uncommon migrant between October and January. Pairs mainly along creeks and in farmland. Breeds in banks along Wandin Creek in EYR. Pair excavating burrow on 17 October 1976.

Sacred Kingfisher (*Halcyon sancta*)

Uncommon migrant, probably mainly passage migrant. Single birds. In EYR loc. 3.22 in October, in farmland in July and December and at Yuna in December.

Rainbow Bee-eater (*Merops ornatus*)

Common migrant from October to January, occasional records in September, February and March. Passage migrant in September/October and January/February/March. Breeding commences in October. Nests throughout

area in woodland and mallee, along edges of paddocks, fences and wind-breaks; in mallee loc. 2.15 on EYR; and presumably BHR (they were frequent there in October 1976). Nests are occasionally dug out by foxes. Nests are occupied until January. Burrows usually go uphill on sloping ground.

White-backed Swallow (*Cheramoeca leucosterna*)

Moderately common resident mainly feeding over farmland, shrubland and heath. Usually groups of up to 5 birds. Burrows in banks of Wandin Creek and in road-cuttings and sandpits. Over EYR in October 1976 and BHR in May 1973. Recorded every month between August 1973 and January 1975; possibly partial passage migrant as highest number of sightings are between April and September. Lowest number of sightings are between December and February.

Welcome Swallow (*Hirundo neoxena*)

Uncommon; usually associated with buildings. Mainly feeding over farmland, shrubland, heath and along creeks. Pairs and small groups. Recorded every month between August 1973 and April 1976 (wet winters), then became scarce or absent during drought. Breeding in buildings between April and December. Nested in 1973, 1974 and 1975 but not in 1976.

Fairy Martin (*Hirundo ariel*)

Uncommon breeding visitor. Most records are August to February. Breeding in November in breakaways.

Tree Martin (*Hirundo nigricans*)

Moderately common, status uncertain but probably mainly winter visitor and passage migrant. Mainly overhead and in woodland. Groups of 5 to 40 birds. Recorded every month between December 1972 and November 1976. Birds entering hollows in York Gums each month between November 1973 and May 1974 and between September and December 1975.

Richard's Pipit (*Anthus novaeseelandiae*)

Common resident in farmland. Pairs and small groups recorded each month between December 1972 and January 1977. Nest with 3 eggs on 26 April and new empty nest on 17 October. Nests found frequently but data not recorded.

Ground Cuckoo-shrike (*Coracina maxima*)

Scarce nomad. Recorded 9 times between April and July and in November and December. Usually in farmland.

Black-faced Cuckoo-shrike (*Coracina novaehollandiae*)

Moderately common; in all vegetation formations and farmland with scattered trees or shrubs. Mainly in groups of 1 to 3 birds. Recorded every month between May 1974 and January 1977. Most records are from May to January, hence it is probably mainly a passage migrant and breeding visitor. Recorded in EYR loc. 2.8, 3.16, 3.18 and along Wandin Creek and BHR loc. 1.1 in October 1976. Nest building in August 1975 in tree near farm sheds; young flew on 11 October. Sometimes numerous in July when they feed on pasture caterpillars.

White-winged Triller (*Lalage sueurii*)

Uncommon migrant and passage migrant in spring (August to October). Recorded mainly in farmland. Nesting in October.

Jacky Winter (*Microeca leucophaea*)

Uncommon, status unknown. Occasional records including a nest with eggs in Falkirk Forest in October 1921.

Red-capped Robin (*Petroica goodenovii*)

Status uncertain; considered to be a resident by D.J.M. Woodland, mallee, shrubland, heath and farmland. Single birds or pairs. Present every month between March 1974 and December 1975 (although scarce between January and March 1975); not recorded between January and March 1976. Not recorded in EYR in May 1973 but moderately common in October 1976 when it was recorded in loc. 2.5, 2.7, 2.9, 3.8, 3.9, 3.16, 3.17, 3.22, 6.2; recorded in BHR loc. 1.1 in May 1973; and in BHR loc. 1.1, 3.1, 3.15, 3.21, 3.22 and 3.35 in October 1976. Empty nest in October 1976, nest with chicks on 27 August 1976, nest with 1 egg on 29 October 1976, and nest with young on 2 September 1978, were all in Falkirk Forest.

Yellow Robin (*Eopsaltria australis*)

Moderately common resident. Woodland (in understory thickets) and shrubland including breakaway slopes and gullies. Single birds or pairs. Recorded in EYR loc. 6.2 in May and EYR loc. 3.2, 3.6, 3.12 and 3.17 in October 1976. Frequent in vegetation remnants especially around breakaways in farmland. Nest with 1 chick in *Acacia* shrubland on 3 November 1974.

Golden Whistler (*Pachycephala pectoralis*)

Uncommon resident or breeding visitor. Mallee and shrubland especially on breakaway slopes and in gullies. Single birds or pairs. Possibly seasonal as there are no records between 8 December and 30 March, most records are

July to October. Perhaps ceases calling during dry weather. Recorded in EYR loc. 2.6, 3.12, 3.15, 3.16, 3.17, 3.20 and 3.22 in October 1976; and BHR loc. 3.11, 3.24, 3.33 and 3.34 in October 1976. Nesting locality EYR loc. 2.6.

Rufous Whistler (*Pachycephala rufiventris*)

Moderately common resident. Woodland, mallee and partially cleared farmland, occasionally in shrubland. Mainly single birds or pairs. Recorded in EYR loc. 2.3, 2.5, 2.7, 2.8, 2.14, 2.16, 3.1, 3.16 and along Wandin Creek; in BHR loc. 1.1 and 3.21. Most records are in patches of woodland, mallee or shrubland in farmland. Usually present at all times on EYR and BHR.

Grey Shrike-thrush (*Colluricincla harmonica*)

Common resident. Woodland, mallee, and shrubland including breakaway slopes and patches of uncleared vegetation in farmland. Usually singly or in pairs. Recorded in EYR loc. 2.4, 2.5, 2.6, 2.7, 2.8, 2.16, 2.18, 3.8, 3.9, 3.10, 3.12, 3.14, 3.16, 3.17, 3.22 and 6.2; BHR loc. 1.1, 3.1, 3.8, 3.9, 3.11, 3.12, 3.21, 3.24, 3.27 and 3.28. Breeding in shrub in EYR loc. 3.8 and on ledges of breakaways near loc. 3.14.

Grey Fantail (*Rhipidura fuliginosa*)

Moderately common winter visitor and passage migrant during April to October. Most sightings are in May and August, there are slightly fewer recordings in June and July, and few in April, September and October. Earliest record is 14 April and latest 3 October. Woodland, mallee, shrubland and patches of uncleared vegetation in farmland. Recorded in EYR loc. 2.7, 2.11, 3.12, 3.17, 3.20, 3.22, 3.32 and 6.2, in BHR loc. 1.1 and 3.2 in May. No evidence of breeding.

Willie Wagtail (*Rhipidura leucophrys*)

Common resident. All types of country especially farmland. Usually in ones and twos. Recorded in EYR loc. 2.5, 2.6, 2.7, 2.8, 3.9, 3.10, 3.16, 3.17, 3.18, 3.22, 6.2 and 8.1, and in BHR loc. 1.1, 3.1, 3.21 and 3.35. Breeding between August and December. Egg dates 5, 14, 29 September and 4 November. Clutch 2(3) and 3(1). Extreme nesting dates (data not specified) are 10 August and 30 December.

Crested Bellbird (*Oreoica gutturalis*)

Moderately common resident. Mainly in shrubland, heath, occasionally in mallee. Present throughout farmland in patches of uncleared vegetation, less common along fencelines and road verges. Usually singly or in pairs. Most records are from April to September, probably due to increased calling

during the breeding season. Recorded in EYR loc. 2.7, 2.8, 2.11, 3.20, 3.21, 3.22, 4.5 and 6.2, in BHR loc. 3.1, 3.9, 3.20 and 3.22. Nesting in December (no data). Nests in *Acacia* and *Melaleuca eleutherostachya*, in holes in rocks and on ledges in caves in farmland and EYR.

Chestnut Quail-thrush (*Cinclosoma castanotum*)

Status unknown, calling birds recorded in EYR on two occasions.

Southern Scrub-robin (*Drymodes brunneopygius*)

Status unknown, probably moderately common resident in undisturbed shrubland including EYR and BHR. Recorded 10 times in EYR, and once in BHR. Also recorded in shrubland 2 km west of EYR and on Reserve 19613 ca 10 km west of EYR. Recorded in EYR loc. 3.10 and 3.20 and in BHR loc. 3.33. Nest with 1 egg (later 1 chick).

White-browed Babbler (*Pomatostomus superciliosus*)

Moderately common resident. Mainly in undisturbed shrubland, occasionally in woodland and mallee and in uncleared patches of vegetation in farmland, along fencelines and road verges. Usually in groups of up to 6 birds. Recorded in EYR loc. 2.7, 3.9, 3.10, 3.11, 3.12, 3.15 and 6.2, and BHR loc. 1.1, 3.12 and 3.33. Old nests in EYR loc. 3.12, 3.23, 6.2 and slopes of breakaways, and in BHR loc. 1.1, 3.24 and 3.33. Old nests were in the following shrubs: *Acacia signata* (1), *A. tetragonaphylla* (1), *Actinostrobus arenarius* (2), *Casuarina campestris* ♂ (2), *Eremophila duttonii* (4), *Melaleuca adnata* (1), and *M. uncinata* (1). Nests also in *M. eleutherostachya*, *M. nematophylla* and *Casuarina acutivalvis*. Mostly nesting in thickets in gullies.

Western Flyeater (*Gerygone fusca*)

Uncommon visitor and passage migrant. Recorded between March and November. Most sightings are in May and August. Extreme dates are 28 March and 2 November. Mainly single birds, sometimes 2 together. Throughout area in trees in paddocks, uncleared patches of vegetation in farmland and undisturbed areas including EYR. No evidence of breeding, although an old nest may have belonged to this species.

Weebill (*Smicrornis brevirostris*)

Common resident. All types of eucalypts in woodland, mallee, shrubland and wherever trees remain in paddocks, frequently seen in other trees or shrubs especially *Acacia*. Mainly in pairs during breeding season, otherwise in groups of up to 6 birds. Recorded in every loc. where eucalypts occur at EYR and BHR. Nesting in York Gums (*E. loxophleba*), mallee and in mistletoe (*Amyema*) growing on eucalypts. Nest with eggs in Falkirk Forest in October.

Broad-tailed Thornbill (*Acanthiza apicalis*)

Common resident. All types of woodland, mallee, shrubland and heath including uncleared patches in farmland. Usually in pairs. Recorded in EYR loc. 2.6, 2.7, 2.8, 3.8, 3.9, 3.10, 3.14, 3.16, 3.19, 3.22, 3.23, 3.27, 4.4, 4.5 and 6.2, and in BHR loc. 1.1, 3.9, 3.10, 3.11, 3.12, 3.15, 3.21, 3.23, 3.25, 3.31 and 4.8. Breeding in July. Nests less than 1 m from ground in *Ricinocarpus velutinus*, *Verticordia polystricha* and *Baeckea* sp.

Chestnut-rumped Thornbill (*Acanthiza uropygialis*)

Common resident. Woodland, mallee and shrubland (in the latter mainly in less dense parts) and patches of uncleared vegetation in farmland. Usually in groups of 2-4 birds. Recorded in EYR loc. 2.5, 2.8, 2.11, 2.13, 2.14, 2.16, 3.15, 3.16, 3.18, and 6.2, and in BHR loc. 1.1 and nearby partly grazed areas. Usually in *Acacia* shrubland in semi-open areas or in woodland/mallee ecotones. Nested in hollow gatepost and hollow branch of York Gum (*E. loxophleba*).

Yellow-rumped Thornbill (*Acanthiza chrysorrhoa*)

Common resident. Mainly in woodland and mallee whether undisturbed or as uncleared remnants in farmland and along road verges. Occasionally in undisturbed shrubland. Usually in pairs or groups of up to 5 birds, occasionally as many as 12 together. Recorded in EYR loc. 2.6, 2.10, 3.10, 3.17, 6.2 and 8.1, and in BHR loc. 1.1. Nests with eggs on 26 July and 3 September. Other nests being attended by adults on 27 July, 20 August, 9 September and 18 October. Young still being fed out of nest on 23 December. Nests in all kinds of shrubs especially fallen branches or pendulous foliage including *Acacia tetragonaphylla*, *Casuarina campestris*, *Melaleuca acuminata* and various mallees and in thorny shrubs including *Bursaria* and *Hakea recurva*. Occasionally nests are built into bases of old crow or Wedge-tailed Eagle nests. Mainly feeds on ground, occasionally in shrubs during flowering.

White-browed Scrub-wren (*Sericornis frontalis*)

Moderately common resident. Shrubland and heath including isolated patches in farmland. Common in thickets on breakaway slopes especially at EYR and BHR. Usually in pairs. Recorded in EYR loc. 2.8, 3.10, 3.12, 3.27, 4.4, 4.5 and 6.2, and in BHR loc. 3.8, 3.9, 3.11, 3.12, 3.13, 3.15, 3.20, 3.24, 3.31, 3.32 and 4.8. Nests in shrubs close to the ground, known nest areas are EYR loc. 3.10 and 3.12 and uncleared parts of farmland. Nest with young 1 m from ground in *Calothamnus blespherasperma* covered with dodder (*Cassytha*) on 28 June 1978. The relative abundance of this bird in windbreaks and scrub along fencelines and road verges in this area is characteristic of this species in the extreme northern wheatbelt (Dell & Johnstone unpublished).

Shy Hylacola (*Sericornis cautus*)

Status uncertain. Shrubland and heath. Infrequent records of single birds or pairs in undisturbed vegetation. Recorded in EYR loc. 3.24. This is the most inland record of this species in the northern part of its range. Regarded as resident by DJM who would expect to record it anywhere in shrubland or heath.

Calamanthus (*Sericornis fuliginosus*)

Moderately common resident. Shrubland and heath. Mainly pairs. Frequently recorded in remnant shrubland or heath vegetation in farmland and in vegetation flattened during chaining. Recorded in EYR loc. 4.4 and 4.6. Nest with 3 eggs near ground in *Baeckea* on 12 August.

Redthroat (*Pyrrholaemus brunneus*)

Common resident. Woodland, mallee, shrubland and heath including remnants of vegetation in farmland. Mainly in pairs, occasionally up to 5 together especially in autumn. Recorded in EYR loc. 2.3, 2.4, 3.1, 3.8, 3.9, 3.11, 3.12, 3.22, 3.23, 3.27, 4.3, 4.5 and 6.2, and in BHR loc. 1.1, 3.1, 3.8, 3.9, 3.11, 3.12, 3.20, 3.24, 3.31, 3.32 and 4.8. Occupied nest found in recess in boulder on breakaway on EYR.

Splendid Fairy-wren (*Malurus splendens*)

Common resident. Shrubland and heath throughout area including undisturbed vegetation, road verges, fencelines and shelter belts in farmland. Occasionally woodland, usually in groups of 3-4 birds. Recorded in EYR loc. 3.4, 3.8, 3.17, 6.2 and in several places along Wandin Creek, and in BHR loc. 1.1, 3.24 and 3.31. Thickets of *Ricinocarpus velutinus* around overflow from mills and troughs is a favoured habitat. Nest with eggs in EYR on 12 October. Five nests found in ca 1 km of fenceline on west boundary of EYR.

Variegated Fairy-wren (*Malurus lamberti*)

Common resident. Shrubland and heath, occasionally in mallee. Common in road verges, along fencelines and in remnant vegetation in farmland. Usually in groups of 3-4 birds. Probably more abundant than preceding species. Recorded in EYR loc. 2.8, 3.10, 3.15, and 4.4, and BHR loc. 3.1, 3.8, 3.9, 3.11, 3.12, 3.15, 3.20, 3.25, 4.6 and 4.8. Usually in drier areas than *M. splendens*; usually the slopes of breakaways, deep ravines, creekside thickets and lush vegetation resulting from mill overflows are occupied by *M. splendens*, whereas *M. lamberti* generally occupies shrubland furthest from runoff areas. Both species occur in *Ricinocarpus velutinus* thickets at mill overflows.

White-winged Fairy-wren (*Malurus leucopterus*)

Moderately common. Mainly in farmland especially in *Ricinocarpus velutinus* clumps around mills and trough overflows, in windbreaks, fence-lines and along road verges and in low bushes in samphire flats. Sometimes occupying wheatfields prior to harvest. Mainly in small groups similar to the other two *Malurus*.

Rufous Songlark (*Cincloramphus mathewsi*)

Generally uncommon, sometimes moderately common visitor or passage migrant. Seventy-three per cent of sightings are in July/August. Recorded all months except January, March and October. Usually in or over paddocks. Single birds or two together.

Brown Songlark (*Cincloramphus cruralis*)

Generally uncommon, sometimes moderately common visitor or passage migrant. Eighty-one per cent of sightings are in July to October; 14% of sightings are in December/January. Recorded in all months except February to April. Usually in or over paddocks. Single birds or two together. Nesting (no details) in August and September. Nest in dry Wild Turnip (*Brassica tournefortii*) in road verge. Occasional summer records in shrubland.

Rufous Tree-creeper (*Climacteris rufa*)

Generally uncommon; moderately common in Falkirk Forest, an area of York Gum woodland on Nangetty sandstone ca 1 km west of EYR. This species was probably restricted to but moderately common in the chain of York Gum woodland along the Nangetty sandstones south of EYR before they were cleared. Number of birds in Falkirk Forest is unknown, but at least 10 pairs were noted in October 1976. Breeding in hollows in standing and fallen York Gums; egg shells found on 15 October.

Mistletoe-bird (*Dicaeum hirundinaceum*)

Uncommon visitor or passage migrant. Usually single birds flying overhead, occasionally in trees or at water (March). Most records are in December-February, but it has been recorded in all months except July, September and October.

Striated Pardalote (*Pardalotus striatus*)

Common; status uncertain. DJM considers it to be resident. Recorded every month between December 1972 and November 1976. In all kinds of eucalypts at EYR, BHR and in farmland and flying overhead. Our data are not in accord with Sedgwick's (1971) hypothesis on movements. The following indicates the percentage of days that this species was recorded each

month between December 1972 and November 1976: January 45%, February 51%, March 71%, April 71%, May 65%, June 60%, July 64%, August 67%, September 64%, October 87%, November 69% and December 84%. Breeding season not definitely known; birds usually occupy nesting hollows from mid-September until *ca* mid-December; young recently out of nest have been recorded on 5 February. Sometimes occupies nesting hollows in May.

Grey-breasted White-eye (*Zosterops lateralis*)

Uncommon, status uncertain. Probably an infrequent visitor using the Chapman and Greenough Rivers as corridors. Only recorded between August and March, most records in December/January and from just east of Yuna to Geraldton and on EYR near Noondamurra Pool. Nest with eggs *ca* 1 m from ground in *Grevillea* in EYR west of Wandin Creek (date not known).

Brown Honeyeater (*Lichmera indistincta*)

Moderately common breeding visitor and passage migrant. Present for long periods during good seasons, uncommon or absent in periods of drought. Recorded every month between June 1974 and February 1976. In all types of country especially where there are flowering proteaceous plants and eucalypts. Visits mills and troughs in summer. The following shows the percentage of days each month that records were made between December 1972 and November 1976: January 21%, February 16%, March 8%, April 8%, May 6%, June 9%, July 24%, August 14%, September 10%, October 19%, November 7% and December 21%. Not recorded at either EYR or BHR in October 1976; 2 birds on flowering *Banksia ashbyi* at EYR loc. 3.22 in May 1973. Large numbers of birds flying south-east in January 1973, December 1973, January 1974, December 1975 and January 1976. Visits species of *Hakea*, *Calothamnus*, *Grevillea*, *Banksia* and *Eucalyptus* during flowering.

Pied Honeyeater (*Certhionyx variegatus*)

Uncommon visitor. Recorded 8 times in shrubland east of Yuna in August and September 1975.

Singing Honeyeater (*Meliphaga virescens*)

Common resident. Recorded every month between December 1972 and January 1977. Mainly in ones and twos; generally aggregating but not flocking to feed on flowering plants. Mainly shrubland and heath; also in woodland and mallee and throughout farmland wherever there is relictual vegetation. Recorded in EYR loc. 2.5, 2.6, 2.7, 2.14, 2.16, 3.10, 3.16, 3.17, 3.20, 3.22, and 6.2, and in BHR loc. 1.1, 3.1, 3.11, 3.22, 3.32 and 4.8. Breeds in EYR loc. 2.6 and shrubland near Yuna (nest in *Actinostrobus arenarius* with 2 chicks on 28 November, nest with 2 chicks on 7 December). No data available on 2 other nests in *A. arenarius*. Visits all kinds of flowering plants especially those mentioned for Brown Honeyeater.

White-eared Honeyeater (*Meliphaga leucotis*)

Uncommon resident. Woodland, mallee and shrubland especially undisturbed areas. Usually in ones or twos. Recorded in EYR loc. 2.6, 2.7, 3.17, 3.20, 3.22 and 3.27 and in Falkirk Forest and nearby areas. Drinks at rockholes in EYR loc. 6.2 in January and in claypans near Falkirk Forest in February. Usually first bird to arrive when rockholes on EYR are being hand-filled in summer.

Brown-headed Honeyeater (*Melithreptus brevirostris*)

Moderately common resident. Usually in woodland, mallee or shrubland with some eucalypts. Mainly in pairs or small groups in spring increasing to groups of up to 15 birds in autumn. In EYR loc. 2.7, 3.20 and 3.22, and in BHR loc. 1.1 and 4.8. Frequently recorded in Falkirk Forest and nearby areas; visiting nearby mills and troughs in summer.

White-fronted Honeyeater (*Phylidonyris albifrons*)

Moderately common passage migrant. Seventy-seven per cent of all records are between December and April, but occasional records in every month. From December to April large number of flocks of tens to hundreds of birds move through the area in a south-easterly direction. During other months individuals and small groups feed among flowers of *Balaustion*, *Eucalyptus* (including *E. leptopoda*) and *Banksia ashbyi*, *B. sceptum* and *B. attenuata* in shrubland throughout the area.

Tawny-crowned Honeyeater (*Phylidonyris melanops*)

Uncommon visitor; recorded every month except February and March. Shrubland and heath including EYR. Nest with 2 eggs in *Actinostrobus arenarius* ca 0.6 m from ground (no date).

Yellow-throated Miner (*Manorina flavigula*)

Moderately common resident. Woodland and shrubland especially uncleared remnants in farmland. Usually in groups of 4-12 birds, occasionally 50-100. Locally nomadic visiting flowering shrubs especially *Banksia*, *Hakea* and *Grevillea*. Often associated with homesteads and farm gardens, and frequently visits mills and troughs. Recorded on EYR loc. 3.22 and BHR loc. 1.1, 3.1 and 3.22. Breeding commences in June and continues until at least November. Eggs have been recorded on 2, 5, 8, 11 and 16 August, 30 September, and 9, 10 and 11 October; chicks in nests on 26 July, 2, 5 and 8 August, 23 September and 4 October; young out of the nest are recorded from 11 August until March. Clutch 2(1) or 3(1). DJM believes it was not present in 1921 but arrived ca 1941.

Spiny-cheeked Honeyeater (*Acanthagenys rufogularis*)

Uncommon breeding resident and passage migrant. More frequent before agricultural clearing. Recorded every month. In all types of country including uncleared remnants in farmland. In ones, twos or small flocks. Recorded in EYR loc. 3.19 and BHR loc. 1.1 and 3.1. Flocks flying west in November and south-west in January.

Red Wattlebird (*Anthochaera carunculata*)

Uncommon visitor or passage migrant. Usually moving through all types of vegetation, particularly in flowering *Banksia* etc. In ones, twos or small groups. Seventy-five per cent of all sightings are between April and August. Recorded in all months except January, March and November. DJM believes that Little Wattlebird (*A. chrysoptera*) was quite common though possibly seasonal prior to clearing and that nests were often found when clearing with the axe.

White-fronted Chat (*Epthianura albifrons*)

Moderately common nomad. Mainly in farmland, occasionally in heath and regenerating suckers. Usually in groups of 3-7 birds. Recorded every month; more frequently recorded in March to May and July to August. Recorded in EYR loc. 4.4 and BHR loc. 3.1. Nesting in July and August. Nest with 3 eggs. Other nests in *Ricinocarpus velutinus*, *Baeckea pentagonantha* and *Grevillea* sp. usually less than 0.5 m from ground.

Crimson Chat (*Epthianura tricolor*)

Uncommon nomad. Farmland and edges of remnant vegetation in farmland. In groups of up to 50 birds. Recorded on nine occasions between 1972 and 1976 in April (3), September (2), October (1), November (2), and December (1). Nest with 3 eggs in *Grevillea* sp. ca 0.2 m from ground.

Zebra Finch (*Poephila guttata*)

Moderately common. Status uncertain. Recorded every month. Numbers usually increase in November and decline after April, possibly indicating summer movement into the area from perhaps further inland. More plentiful in drought years, e.g. 1976. Nesting in shrubland in January. Recorded in EYR loc. 2.8 (old nests present) and 3.19, and in BHR loc. 1.1 (old nests in *Acacia tetragonaphylla*). Usually nests in prickly or thorny trees including *Hakea recurva* and *Bursaria* and in 'cane-grass' and *Acacia acuminata*. Frequently drinking at mills and troughs and hand-filled rockholes on EYR in summer.

Magpie-lark (*Grallina cyanoleuca*)

Common resident. Throughout farmland (particularly in vicinity of mills, troughs and dams) and along margins of Greenough. Mainly in pairs or small groups. Recorded every month between December 1972 and January 1977. Occasionally in undisturbed vegetation near farmland; recorded in EYR loc. 2.9. Breeding in late April (young left nest before 16 June) and August to October. Nesting in trees including York Gums (*E. loxophleba*) in farmland and occasionally on mills.

White-browed Wood-swallow (*Artamus superciliosus*)

Irregular visitor between September and January. Usually associated with flocks of Masked Wood-swallow.

Masked Wood-swallow (*Artamus personatus*)

Moderately common visitor. Overhead. Usually in groups of 20 to several hundred birds. Recorded between September and mid-May. Recorded over EYR. Nested in October 1950. Flocks usually occur during periods of strong northerly winds, the air being filled with myriads of birds. Settled on fence and ground once when cyclone was approaching.

Black-faced Wood-swallow (*Artamus cinereus*)

Uncommon resident, possibly locally nomadic. Mainly along roads and edges of farmland; also in shrubland and heath. Groups of up to 5 birds. Recorded in and around edges of EYR and BHR. Breeding from November to January; nest with 3 eggs on 14 December, nest with eggs in October 1921. Nesting in *Casuarina campestris* and *Actinostrobus arenarius* usually about 2 m from ground.

Little Wood-swallow (*Artamus minor*)

Uncommon resident. Confined to breakaways and nearby areas. Groups of up to 8 birds. Except for two records near breakaways on BHR Water Reserve all records are on EYR. Breeds in breakaways at EYR loc. 6.2 in August (dead bird in nest on 3 August) and November (eggs).

Grey Butcherbird (*Cracticus torquatus*)

Uncommon resident; numerous before clearing. Woodland, shrubland and mallee including larger remnants in farmland. Usually in ones and twos. Recorded in EYR loc. 2.6, 3.14, 3.16 and 6.2, and in BHR loc. 3.1. Breeds in EYR loc. 2.6, 3.14 and along Wandin Creek. Nests were frequently found when clearing with the axe.

Pied Butcherbird (*Cracticus nigrogularis*)

Common resident. Woodland and mallee and throughout farmland wherever there are scattered trees or mallee. Usually in ones and twos: recorded in EYR loc. 2.5 and 2.9 and flying over BHR. Breeding commences in July (young present in August 1978) and the last young leave the nest in mid-December. If the incubation and fledgling duration is similar to the Magpie (ca 48 days) then egg-laying occurs between mid-July and late October. Nests in trees in paddocks, in woodland and along creeks.

Australian Magpie (*Cracticus tibicen*)

Common resident. Throughout farmland wherever there are occasional trees, and in edges of woodland and mallee. Usually in groups of 2-5 birds. Recorded in EYR loc. 2.8, 3.3 and on firebreaks, and along firebreaks in BHR. Breeding commenced in late July and last young leave the nest in mid-December. By extrapolation from known incubation and fledgling times (ca 48 days) the last eggs would be laid in late October.

Grey Currawong (*Strepera versicolor*)

Moderately common resident; more abundant prior to clearing. Woodland, mallee and shrubland including larger remnants in farmland. Mainly in ones and twos. Frequently feeds in paddocks and occasionally drinks at troughs and rockholes. Recorded in EYR loc. 2.5, 2.8, 2.12 and 3.14, and BHR loc. 1.1. Nests in EYR loc. 3.14 and in woodland in gullies and in farmland.

Little Crow (*Corvus bennetti*)

Common resident and passage migrant. Mainly in farmland. Occasionally in pairs, more frequently in groups of up to ca 20 birds; larger groups when in transit. Recorded in and over EYR and BHR, but chiefly feeding in paddocks. Visits mills, troughs, dams and pools along Greenough to drink. Nests in trees and mallee throughout area. Breeds in August/September. Flocks in transit in August to October and in April/May.

Australian Raven (*Corvus coronoides*)

Common resident. In all types of country especially farmland. In pairs or groups of up to ca 20 birds especially when feeding on sheep carcasses or when paddocks are being ploughed. Recorded in EYR and BHR, but chiefly feeding in paddocks. Nests throughout area wherever there are trees or mallee. Breeding commences in May, July or August — varying in different years.

DISCUSSION

This paper includes data on 131 species of birds recorded in and near the East Yuna Nature Reserve (EYR) and Bindoo Hill Nature Reserve (BHR). Of these, 77 have been recorded in EYR and 55 in BHR. Of the 131 species 51 were only recorded outside the reserves. Apart from species confined to freshwater pools, claypans, farm dams or riparian vegetation along the Greenough, most species not recorded in EYR or BHR could be expected to occur there as much more time has been spent by DJM in adjacent areas than in either reserve.

Table 1 shows number of species in each reserve arranged into feeding categories. There are 3 times more diurnal birds feeding on invertebrates than any other category. These categories were devised after examination of diet in Frith (1976).

TABLE 1

Number of birds in different feeding categories on East Yuna Nature Reserve and Bindoo Hill Nature Reserve.

Feeding Category	EYR	BHR
Diurnal eating vertebrates	12	8
Nocturnal eating vertebrates	1	
Diurnal eating invertebrates	36	27
Nocturnal eating invertebrates	3	2
Diurnal feeding on nectar/invertebrates	6	2
Diurnal feeding on seeds	7	6
Diurnal omnivore	11	9
Diurnal feeding on fruit and berries	1	1
Total	77	55

There are few differences in the bird assemblage between each reserve. This is a little surprising since BHR has 3 vegetation formations and EYR has 5 (Muir, this report). However the reserves are connected by an area of uncleared vegetation (Dell, this report); therefore it is presumed that there is no barrier to movement between reserves.

Most species found on only one reserve are non-resident; they include passage migrants, irregular and winter visitors. Furthermore, EYR was visited more frequently by DJM than BHR; this accounts for relatively few non-residents being listed for BHR. Only 6 of the resident birds on EYR have not been recorded on BHR. These are Australian Owlet-nightjar, Yellow Robin, Chestnut Quail-thrush, Shy Hylacola, Calamanthus and White-eared Honeyeater. All of these probably occur on BHR, except perhaps White-eared Honeyeater.

This paper includes breeding data on 36 species. No attempt is made here to comment on breeding seasons or relationship between rainfall and breeding. This is being done in a separate paper by Dell and McGauran (in prep.), who also examine changes in status since clearing for agriculture.

An area of York Gum (*Eucalyptus loxophleba*) woodland ca 2 km west of EYR known as Falkirk Forest is a very important breeding area, especially for birds nesting in hollows. Muir (this report) has indicated that both BHR and EYR are low in senescent trees. The index of relative abundance of senescent trees on EYR is 0.0001, on BHR is 0.15 and Falkirk Forest is 10.8. Almost all the psittacids listed in the annotated list breed in senescent trees in Falkirk Forest. For some species, including Red-tailed Black Cockatoo, Galah and Ring-necked Parrot, Falkirk Forest has the largest breeding population in the area. Rufous Tree-creeper was not recorded outside Falkirk Forest.