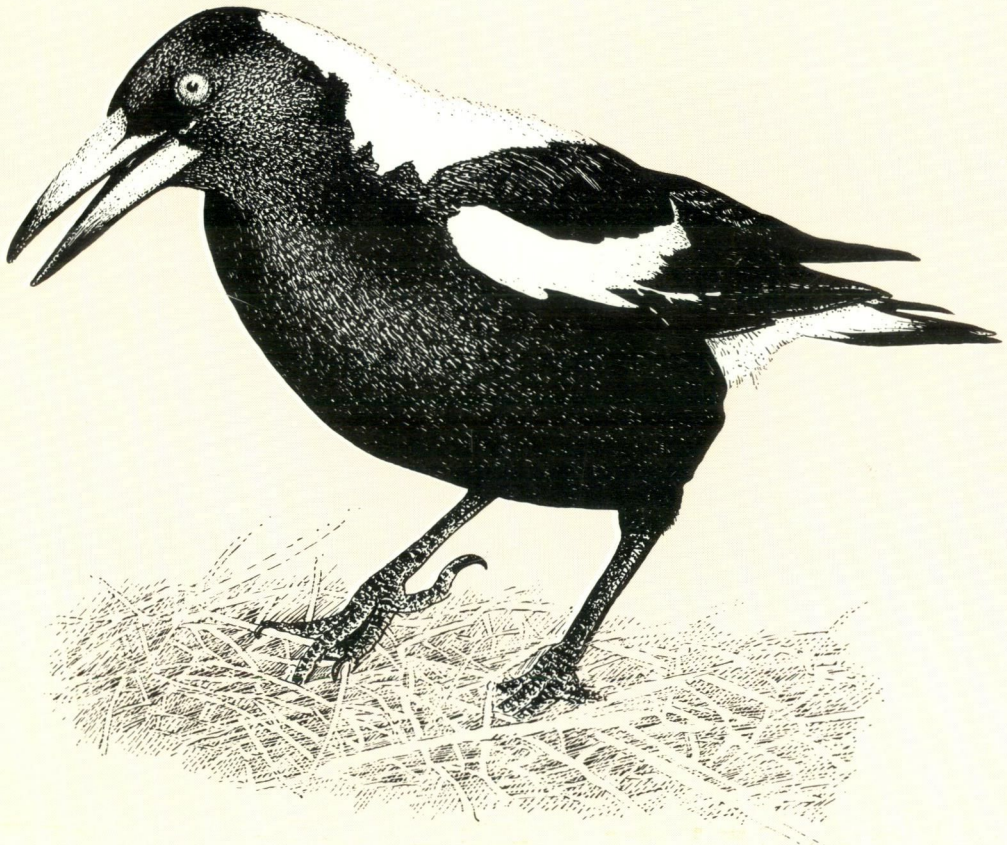


Records of the Western Australian Museum
Supplement No. 35

**Birds of the South-West Division
of Western Australia**

G.M. Storr



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1991

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Abstract

This paper is an annotated list of the 379 species and subspecies of birds resident in or visiting the South-west Land Division of Western Australia and the seas over the adjacent continental shelf. It is the most diverse part of the State, the climate varying between arid with hot summers in the far north-east and humid with cool summers in the far south-west. Almost all of the Division lies south of the mulga-eucalypt line and receives most of its rain between late autumn and early spring. Originally the dryland vegetation consisted almost wholly of forests, woodlands and shrublands; there was little grassland before European settlement. With more than 90% of the population this Division is by far the most environmentally disturbed part of Western Australia. The many changes resulting from these disturbances are dealt with in the species accounts.

Introduction

This is the last in a series of regional avifaunas covering Western Australia. Earlier papers dealt with the Kimberley Division (Storr 1980, *Spec. Publs West. Aust. Mus.* No. 11), North-eastern Interior (Storr 1981, *Rec. West. Aust. Mus.* 9: 65-99), Pilbara (Storr 1984, *Rec. West. Aust. Mus. Suppl.* No. 16), Gascoyne (Storr 1985, *Rec. West. Aust. Mus. Suppl.* No. 21), Mid-eastern Interior (Storr 1985, *Rec. West. Aust. Mus. Suppl.* No. 22), South-eastern Interior (Storr 1986, *Rec. West. Aust. Mus. Suppl.* No. 26) and Eucla Division (Storr 1987, *Rec. West. Aust. Mus. Suppl.* No. 27).

Annotated lists have been recently published on two important parts of the South-west Division, viz. the Houtman Abrolhos (Storr, Johnstone and Griffin 1986, *Rec. West. Aust. Mus. Suppl.* No. 24) and the Swan Coastal Plain and adjacent seas and islands (Storr and Johnstone 1988, *Rec. West. Aust. Mus. Suppl.* No. 28); the reader is directed to these papers for a finer-grained treatment of the two areas.

The aim of the present work is the same as the others, i.e. to summarize for each species and subspecies our knowledge of present and past distribution (localities just outside of the Division are enclosed in square brackets), ecological status (whether it is a vagrant, visitor or resident), relative abundance, whether it feeds alone or in groups, habitat preferences, breeding season (i.e. the months in which eggs are laid), clutch size*, movements and changes in status etc. following European settlement.

The South-west Division has an area of 254 500 sq. km. Lying on the west side of a continent between lat. 27°16' and 35°11'S, it has a Mediterranean (winter-rain) type of climate, which however is greatly modified by latitude and distance from the sea and to a lesser extent by elevation.

Mean annual rainfall ranges from 23 cm in the far north-east to 145 cm in the deep south-west. In the north and north-east the wettest months are March to August, and the driest September to December. In the south-west and south the wettest months are May to October, and the driest November to February. Mean daily maximum temperature in January and February ranges from 21°C in the far south to 38°C in the far north-east, and mean daily minimum temperature in July ranges from 4°C in the southern interior to 12°C on the north coast (and about 15°C in the Houtman Abrolhos). Frosts are rare or unknown near the coast but common from late autumn to early spring in the southern

* C/4(2), B/5(1) signify, for example, two clutches of four eggs (or broods of four nestlings) and a brood of five young out of the nest but still dependent.

and central interior. The warm south-flowing Leeuwin Current off the west coast favours tropical seabirds, which predominate in the Houtman Abrolhos and are still evident as far south as Cape Naturaliste.

Temperature itself is nowhere sufficiently extreme to be an important determinant in bird distribution, and its effects are generally minor and indirect, e.g. a shortage of aerial insects in autumn and winter induces bee-eaters and some swallows to emigrate. Rainfall, however, is a very important determinant, mainly through its effect on the vegetation but also on the seasonality of many wetlands. In this paper bird ranges are often expressed in zonal terms, i.e. the arid zone (mean annual rainfall <25 cm), semiarid zone (ca 25-60), subhumid zone (ca 60-100) and humid (>100 cm).

Most of the Division is occupied by the precambrian shield, largely an undulating plateau 150-500 m above sea level. Except in the far north (south to Bluff Point), far south of the west coast (between Capes Naturaliste and Leeuwin) and on the south-east coast (at the Barren Ranges), the plateau is flanked by coastal plains up to 40 km wide. The prevailing gentle relief of the plateau is broken in the middle and lower west by the heavily dissected strip known as the Darling Range, and still more so in the south by the jagged hills of the Stirling Range (rising to 1100 m).

On most of the west coast, sea cliffs and islands are composed of limestone. Granitic rocks predominate on coasts and islands south and east of Cape Naturaliste. The continental shelf varies in width from 35 to 100 km.

Of the watercourses reaching the sea, only short ones arising in the humid and subhumid zones are fresh; the longer streams draining the semiarid interior are salty. In the far interior the numerous lakes (actually sections of former rivers) are saline; approaching the coast an increasing number of lakes and swamps are fresh. In most of the semiarid interior fresh surface water was originally very scarce and confined to soaks in sandplains and to rockholes at granite outcrops and ironstone breakaways:

On coastal plains the soils are predominantly sandy. On the plateau locally higher areas tend to be covered by sandplains or laterite, and the lower (dissected) country by clays, loams and salt pans.

The vegetation is mainly controlled by rainfall and soil type. In the humid and subhumid zones the original vegetation was mostly eucalypt forest, regardless of soil type; only on the deepest sands, on islands and coasts and in swamps, was the forest replaced or intermixed with shrublands and sedgelands. In the semiarid zone eucalypt woodlands and scrubs dominated the heavier soils, and shrublands dominated the sands, laterites and saltlake margins. In the arid zone, i.e. north-east of the mulga-eucalypt line, the heavier soils usually carry scrubs or thickets of acacias, and the sandplains mostly scrubs or thickets of mallees (multistemmed eucalypts). Only the more important south-western plant associations and formations are noticed below.

Because of the paucity of good soils within the small area where the dry season is short, wet sclerophyll forest is restricted to a minute part of the deep south-west. The dominant tree is the karri *Eucalyptus diversicolor*. The low tree/tall shrub layer is dense and dominated by *Trymalium floribundum* and other relatively soft-leaved plants.

Dry sclerophyll forests occupy a much greater area and extend north to Mt Peron and New Norcia. By far the most extensive is the jarrah *Eucalyptus marginata*/marri *E.*

calophylla forest, which covers most of the Darling Range, deep south-west and eastern zone of the Swan Coastal Plain; its shrubby understory is lower and more sclerophyllous than in karri forest. On calcareous soils near the west coast, between the Swan River and Geographe Bay, tuart *Eucalyptus gomphocephala* forms a forest with a low tree layer of peppermint *Agonis flexuosa* (north of the Swan the tuart is lower, less dense and more appropriately termed woodland).

The most extensive eucalypt woodlands are the wandoo *E. wandoo* and salmon gum *E. salmonophloia*/gimlet *E. salubris*. They occur on medium to heavy soils, the first mainly in the wetter half of the semiarid zone, the second in the drier. The understory in these and other semiarid woodlands (e.g. the York gum *E. loxophleba* and flat-topped yate *E. occidentalis*) is sparser than in forests and more herbaceous and less shrubby. Except in the far south, streams are lined with woodlands of flooded gum *E. rudis*, which is replaced by the river gum *E. camaldulensis* north of the Hill River.

Scrubs include the *Melaleuca raphiophylla* and other paperbarks of humid and subhumid wetlands; *Acacia rostellifera* and *Melaleuca cardiophylla* and other wattles and teatrees of subhumid and semiarid west-coastal dunes; jam *Acacia acuminata* and sheoak *Allocasuarina huegeliana* of heavy soils in the semiarid zone; *Eucalyptus oleosa* and other mallees on light soils in the arid and semiarid zones; and *Acacia ramulosa* and other bowgadas on medium to heavy soils in the arid zone. Thickets include the tammar *Allocasuarina campestris* and wodjil *A. acutivalvis* of semiarid lateritic soils, and boree *Melaleuca lanceolata* around saltlakes and in the understory of drier eucalypt woodlands. The shrublands of sandplains are usually termed heaths when they largely comprise ericoid myrtaceous genera like *Kunzea*, *Darwinia* and *Verticordia*, but they are often mixed with or replaced by the generally taller, larger-leaved proteaceous genera *Banksia*, *Dryandra*, *Grevillea* and *Hakea*.

More than half of the original vegetation has been cleared for agriculture (wheat, barley, oats and lupin), meat and wool production, dairying, farmlets, orchards, vineyards, pine plantations, bauxite and other mining, wood chipping, cities and towns. At first cereal crops were only grown on the few naturally fertile soils, particularly the red-brown earths that carried York gum and jam. Early this century it was learnt that the less fertile clays and loams beyond Toodyay, Goomalling, Meckering and Greenhills were good for growing wheat after the addition of superphosphate, which resulted in the destruction of most of the salmon gum/gimlet woodlands in the 30-45 cm rainfall belt by World War II. Following that war, farmers have exploited the knowledge that certain trace elements render sandplains suitable for growing cereals and lupins; hence the recent disappearance of most heaths and other low shrublands in the 35-50 cm rainfall belt.

Before World War II the wandoo woodlands in the 45-65 cm rainfall belt east of the jarrah-marri forest were under-used by graziers because of the presence of poison-bushes (shrubs of the papilionaceous genera *Gompholobium* and *Oxylobium*). The post-war rise in wool and lamb prices have encouraged farmers to thin the living trees, burn fallen trees (essential to treecreepers and numbats) and remove the poison-bushes (whose seeds are eaten with impunity by bronzewing pigeons).

At present extensive tracts of uncleared land only remain in the arid zone, the outer semiarid zone (between the wheat belt and mulga-eucalypt line), forest reserves and the larger nature reserves. The uncleared lands are disturbed to a varying degree. Since the

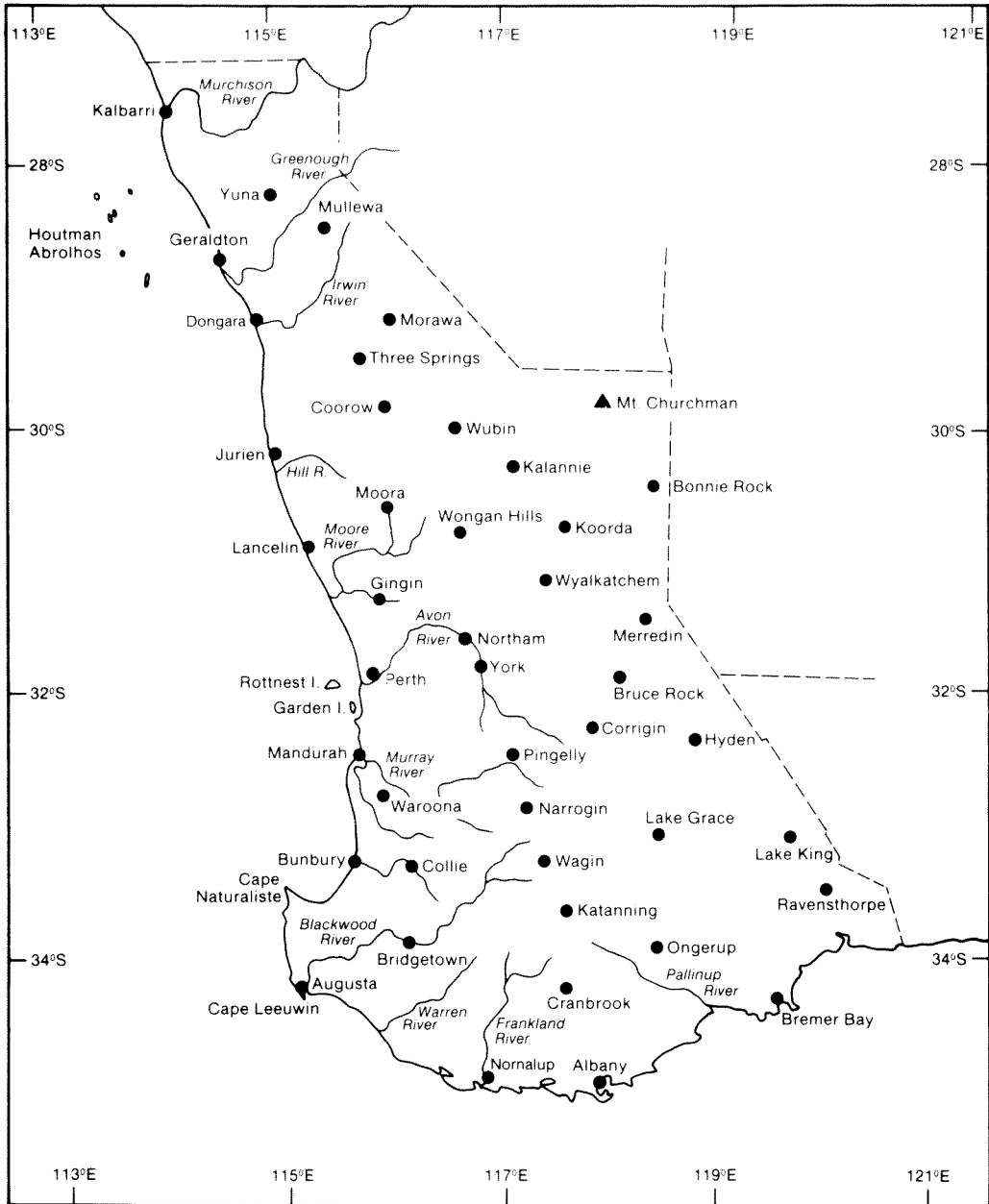
depasturing of sheep (from the middle of last century) and the arrival of rabbits (early this century) the chenopod flats around saltlakes and in the understory of woodlands in the arid and semiarid zones have been so degraded as no longer to support Western Wedgebills, Samphire Thornbills and Thick-billed Grasswrens. State forests are poisoned for dingoes and are fire-managed from the viewpoint of timber production, not the needs of the fauna (including nesting birds).

Although the Division had been visited by European navigators since early in the seventeenth century, little was learnt of the birds before the beginning of European settlement in 1829. On behalf of John Gould, the English ornithologist John Gilbert visited the Swan River Colony in 1839-40 and 1842-43. He worked mainly around Perth but also observed and collected birds in the Houtman Abrolhos, on the Victoria Plains, in the Wongan Hills, Toodyay and York districts, in the country between Perth and Augusta, on an island off Cape Leeuwin, and in Albany and the country between Albany and Perth. With some additional information and specimens from James Drummond, Johnston Drummond, G.F. Moore, L.C. Burges and other pioneers we have a fairly good picture of the avifauna in its pristine condition.

The next 40-50 years yielded very little information apart from the results of G. Masters' visit to King George Sound and the Pallinup River in 1866-67 on behalf of the Australian Museum. In that period, the 'barren years' of Serventy and Whittell (*Birds of Western Australia*), the birdlife of the Swan Coastal Plain and the farming country about the Avon, Great Southern and King George Sound was considerably modified, but details of the changes, e.g. the extermination of corellas on the Swan River, went unchronicled. Study of the avifauna resumed with the arrival or visits of several overseas and eastern Australian ornithologists late last century and early this century, notably T. Carter, O.H. Lipfert, A.W. Milligan, H.E. Hill, F.L. Whitlock, G.C. Shortridge and A.C. Crossman.

This paper is based on the literature, the collections of the Western Australian Museum (going back to 1892) and unpublished information from many naturalists, especially J.R. Ford, G.M. Storr, R.E. Johnstone, L.A. Smith, J. Dell, R.P. Jaensch, B.J. Newbey, A. Chapman, N. Kolichis, P.T. Sandland, C.L.E. Orton, P.J. Fuller, P. Griffin, R.H. Stranger, D.J. Saunders, P.M. Lambert, A.G. Mathews, R.W. Payne and D.J. McGauran.

I am grateful to the people who gave me unpublished data; to Messrs J. Dell, R.P. Jaensch and R.E. Johnstone for reading the manuscript; and to Mrs and Mr W.H. Butler, Mr N. Kolichis and the Department of Conservation and Land Management, whose grants to the Western Australian Museum met the expenses respectively of R.E. and C. Johnstone's trip to Lake Muir and the south coast in January 1985, R.E. Johnstone and L.A. Smith's trip to Lake Muir in February 1986, and L.A. Smith and R.E. Johnstone's trip to the far north and north-east of the Division in October 1986.



LIST OF BIRDS

Casuariidae

Dromaius novaehollandiae (Latham)

Emu

Range

Originally in all parts of mainland except the heaviest forests, but now extinct in densely populated and heavily cleared areas, e.g. most of Swan Coastal Plain south of Wanneroo and Bullsbrook, and the Great Southern and other parts of wheat belt.

Status etc.

Nomadic. Locally common but generally scarce or uncommon and patchily distributed; usually in ones, twos, family parties or small flocks, also much larger aggregations at food-rich sites (cereal and lupin crops) and where movements impeded by state vermin fences. Heathlands, chenopod flats, most scrubs and woodlands and the more open (including partly cleared) eucalypt forests, frequently visiting adjacent farmlands, especially wheat crops; also attracted to fresh herbage, fruiting *Santalum acuminatum*, *Persoonia* spp., *Podocarpus drouynianus*, *Macrozamia riedlei*, *Astroloma candolleianum* and *Schinus molle* and seeding *Allocasuarina campestris*, *Casuarina obesa* and *Conostephium*. Breeding from mid-May to early July (a month or more later in deep south-west according to informants of A.J. Campbell (1900), *Nests and Eggs* . . . , p. 1068); C/5 (1), 6(3), 7(2), 8(1), 9(4), 10(2); attended broods of 1(2), 2(5), 3(6), 4(5), 5(4), 6(5), 7(4), 8(2), 9(1), 10(1), 11(1), 12(2), 13(1); larger numbers (up to 40) of young attended by a single adult believed to result from fatherless broods attaching themselves to surviving males. Of adults banded near Cue in June 1969 one was shot near Ajana (440 km WSW) in September 1969 and one near Perenjori (360 km SW) in December 1969. Movements between wheat belt and pastoral country north and east of Division now largely prevented by state vermin fences. For management of Emu see T.L. Riggert (1975, *Wildl. Res. Bull.* No. 4).

Podicipedidae

Podiceps novaehollandiae novaehollandiae Stephens

Black-throated Grebe

Range

Greater part of mainland, breeding north to Hutt Lagoon (Utcha Swamp) and inland to the lower Murchison (Four Mile Pool), lower Greenough (Beetalyinna Pool), Coorow, Moora, Wannamal Lake, Lake Chittering, Northam, Lake Mears, Toolibin Lake, Lake Coomelberrup and Coyrecup Lake. Casual further inland (north and east to Eurardy, East Yuna, Mouroubra, Tammin, Kwolyin and Gibb Rock) and on Rottnest I.

Status etc.

Moderately common to common in subhumid zone and wetter parts of semiarid zone (e.g. Arrowsmith, Moora and Wagin districts), uncommon in humid zone, scarce in drier parts of semiarid zone; usually in ones, twos or family parties, also flocks (up to 150) on larger lakes in summer and autumn. Mainly freshwater lakes (especially the smaller), swamps, river pools, farm and railway dams, small reservoirs and seasonal ponds; occasionally saltlakes. Breeding from late July to early March, mostly September to December; C/2(1), 3(6), 4(8), 5(9), 6(1), 8(1).

Podiceps poliocephalus Jardine and Selby

Hoary-headed Grebe

Range.

Throughout the mainland. Casual on Rottnest I.

Status etc.

Uncommon to very common (most numerous in subhumid and semiarid zones, least in humid zone); in ones, twos and small flocks, also larger aggregations (up to 2000) on estuaries and larger lakes from January to August. Most waters fresh or salt. Breeding on fresh waters (including dams and rain-flooded sapphire flats and wheatfields, and reported from as far inland as Mullewa and Mouroubra): late July to early February; C/2(1), 3(10), 4(17), 6(1), 7(1).

Podiceps cristatus australis Gould

Great Crested Grebe

Range

Wetter half of mainland, north to Beermullah Lake and Wannamal Lake and east nearly to Goomalling, Yenyening Lakes, Lake Yealering, Toolibin Lake, Lake Coomelberrup, Coyrecup Lake and Jerdacuttup Lakes. Casual further north (Four Mile Pool, Hutt Lagoon, Arrowsmith Lake and Dandaragan) and east (Lake Ninan, Walyormouring Lake and Lake Bryde).

Status etc.

At present scarce to moderately common (most numerous on Swan Coastal Plain and in southern wheat belt); in ones or twos, occasionally small flocks (up to 50). Mainly the larger and deeper bodies of water fresh or salt, including estuaries and reservoirs. Breeding on fresh or slightly brackish waters north to Wannamal Lake and Walyormouring Lake and east to Lake Yealering, Toolibin Lake and Jerdacuttup Lakes: late September to early January; C/3(6), 4(13), 5(3).

Before mid-1930s evidently only an irregular visitor, usually rare but common around Perth in May 1919 (W.B. Alexander 1919, *Emu* 19: 60). Breeding first positively recorded in 1941 (K.G. Buller 1942, *Emu* 42: 54).

Spheniscidae

Aptenodytes patagonicus Miller

King Penguin

Very rare visitor. One came ashore near Busselton on 8 September 1979 (B.K.

Masters), and one near Albany on 4 March 1983 (R.P. Jaensch 1983, *West. Aust. Bd Notes* No. 26: 10); the latter was moulting (T. Spence).

An egg, which had evidently drifted from one of the south Indian Ocean breeding grounds, was found on beach 3 km E Augusta in January 1974 (G.A. Lodge 1976, *West. Aust. Nat.* 13: 146) [a few kilometres west of where in 1930 V.C. Roberts found a giant egg, probably that of the extinct Elephant-bird *Aepyornis maximus* of Madagascar].

***Eudyptes chrysolophus* (Brandt)**

Macaroni Penguin

Very rare visitor. One (WAM A21485) found on beach near Augusta on 2 March 1987 was moulting and died a week later. Presumably because of its white face it was allocated to the Macquarie Island 'subspecies' (Anon. 1987, *West. Aust. Seabd Grp Newsl.* No. 8).

***Eudyptes pachyrhynchus* Gray**

Fiordland Penguin

Rare visitor (early June to early September) to west coast north to 32°S, usually found exhausted or dying after winter storms.

***Eudyptes chrysome moseleyi* Mathews and Iredale**

Rockhopper Penguin

Range

South and west coasts and islands north to 32°S.

Status

Scarce to uncommon visitor (more numerous in south than north); mainly moulting birds in summer (early November to late February) and storm-bound immatures in winter (early July to late August).

Taxonomy

For subspecies see R.A. Falla (1938, *Emu* 38: 197), and nomenclature D.L. Serventy and H.M. Whittell (1952, *Emu* 52: 63).

***Eudyptula minor novaehollandiae* (Stephens)**

Little Penguin

Range

South and west coasts and islands, north to Carnac I. Casual further north (Houtman Abrolhos, Geraldton, Fisherman Is, Rottnest I. and Fremantle).

Status etc.

Moderately common to common visitor to breeding islands and their vicinity (more numerous off south coast than west). Breeding on Carnac I., Bird I., Seal I. (Shoalwater Bay), Shag Rocks, Penguin I., Seal I. (off Cape Leeuwin), St Alouarn I., Chatham I., Stanley I., Seagull I., Muttonbird (or Shelter) I., Eclipse I., Breaksea I., Michaelmas I., Mistaken (or Rabbit) I., Seal I. (King George Sound), Coffin I., ? Bald I., Cheyne I. and Doubtful Is: early March to late November (peaking in June in north, but seldom laying before July in south); C/ 1(3), 2(49), 3(2); largest colonies on Penguin, Carnac, Breaksea,

Mistaken and Stanley Is. Two birds banded on Penguin I. were found dead at Bunbury (110 km S).

Diomedidae

Diomedea exulans Linnaeus

Wandering Albatross

Status etc.

Scarce to moderately common visitor (early January to early November) to seas north to lat. 28°S (most numerous off south coast, in seas remote from land, and from April to August); usually single, but up to 12 birds following ships off south coast in winter. Recoveries include birds banded on Bird I. (South Georgia), Marion I. and Possession I. (Crozet) and at Thirroul and Bellambi, NSW.

Taxonomy

According to C.J. Robertson (pers. comm., 24 July 1986) most specimens in Western Australian Museum belong to the high-latitude subspecies *D. e. chionopectera* Salvin, but two from near Fremantle belong to the unnamed subspecies breeding on Auckland Is.

Diomedea epomophora epomophora Lesson

Royal Albatross

Very rare visitor. A nestling banded on Campbell I. in September 1965 was found dead at Ledge Point five and a half months later.

Diomedea melanophrys melanophrys Temminck

Black-browed Albatross

Status etc.

Scarce to common visitor (early April to late September, also January and November) to seas north to 28°S (much more numerous off south coast than west); usually in ones, twos or small parties, also flocks (up to 100) following ships off south coast from mid-May to September. One banded on Bird I. (South Georgia) and three on the Kerguelen Is have been found dead in the Division, all but one being birds of the year.

Nomenclature

The original spelling *melanophris* was evidently a *lapsus calami* or printer's error and can be corrected; see L.W. Loomis 1918, *Proc. Calif. Acad. Sci.* (4) 2 (2): 44.

Diomedea chrysostoma Forster

Grey-headed Albatross

Evidently an uncommon visitor (March to September) to seas well-offshore and north at least to 28°S. No observations at sea; only known from 24 beach derelicts and the remains of four birds in Osprey nests.

Diomedea chlororhynchos bassi Mathews

Yellow-nosed Albatross

Status etc.

Visitor (January to early November, mostly late March to early October) to all seas, especially close to land. Moderately common to very common (most numerous in seas

between Cape Leeuwin and King George Sound and in July and August, least in northern seas); usually in ones, twos or small flocks, occasionally large aggregations (up to 300) at food-rich sites, e.g. schools of tuna. Most birds close to west coast are immature, as are a good proportion of those close to south coast; adults predominate in the seas west and south of continental shelf. Eight birds banded on Amsterdam I. have been found dead on coasts, all but one being birds of the year.

Taxonomy

See Brooke *et al.* (1980, *Durban Mus. Novit.* 12: 171-180).

Diomedea cauta cauta Gould

Shy Albatross

Scarce visitor (late May to mid-October) to seas north to 31°S; in ones or twos. Two birds have been recovered within two months of being banded as nestlings on Albatross I., Bass Strait.

Diomedea cauta salvini (Rothschild)

One record: bird photographed off Albany (Serventy, Serventy and Warham 1971, *The Handbook of Australian Sea-birds*, p. 71).

Phoebetria fusca (Hilsenberg)

Sooty Albatross

Scarce visitor (January and from April to September) to seas off south coast; in ones or twos (much more numerous south of continental shelf, including parties of up to nine following ships). On west coast only known from four birds found dead (north to 31° 45'S) after storms in May and June; west of continental shelf observed no nearer to land than in 31° 05'S, 107° 50'E, i.e. 300 km W Lancelin.

Phoebetria palpebrata (Forster)

Grey-mantled Albatross

One record: a bird (WAM A12981) found dead at Busselton on 2 June 1974.

Procellariidae

Macronectes giganteus (Gmelin)

Southern Giant Petrel

Common visitor (February to November, mostly June to September) to seas close to land; usually single, occasionally in small parties. Attracted to fishing boats, waste from former whaling station near Albany, and schools of tuna. Seldom seen in seas remote from land. Very commonly found dead or dying on coasts, and occasionally inland (as far as Northam and Mt Barker), after winter storms. All specimens found with bands were birds of the year; 22 came from the South Orkneys, three from the South Shetlands, and one each from Marion I., Crozet Is, Heard I. and near Cormorant I.

Macronectes halli Mathews

Northern Giant Petrel

Moderately common visitor (February to September) to inshore seas, north to Jurien

Bay; usually single. All specimens found with bands were birds of the year, namely two from Bird I. (South Georgia) and three from Macquarie I.

Fulmarus glacialoides (Smith)

Southern Fulmar

Uncommon visitor (June to September), presumably to seas well offshore. Only known from 13 dead or dying birds found on beaches north to Jurien Bay.

Daption capense (Linnaeus)

Cape Petrel

Visitor (late April to early October) to inshore seas, including enclosed or partly enclosed waters, e.g. Geraldton harbour, Gage Roads and Geographe Bay. Common in south, uncommon north of 32°S; in ones, twos or small parties (up to 7). Follows ships and fishing boats.

Pterodroma macroptera macroptera (Smith)

Great-winged Petrel

Common breeding visitor (late January to early November) to seas off south coast. Usually feeding singly and occasionally resting on water in flocks (up to 40), but not often observed except in late afternoon and at dusk before and during flight to nest; presumably non-incubating birds mostly feed well south of continental shelf, e.g. those seen by W. Macgillivray (1920, *Emu* 19: 173) in ca. lat. 40°S on 19-20 June 1919. Breeding on islands south and east of Albany, viz. Eclipse (several thousand pairs), Breaksea (4 pairs), Mistaken (becoming extinct between 1911 and 1921), Gull (11), Coffin (a few thousand) and Bald (many thousands): early May (? late April) to late June; C/1 (invariably). Newly flying young vulnerable to southerly gales, several specimens having been found in interior of Division, north to Bullsbrook East, Northam, Wyalkatchem and Mukinbudin, between 20 October and 1 December; the Bullsbrook East bird still had down on nape.

Status off west coast uncertain. A few observations west of continental shelf north to 27°S, including 12 following a ship. Also 16 birds found derelict on west coast from Green Head south to Busselton, between mid-June and late December (mostly in winter).

Pterodroma macroptera gouldi (Hutton)

Very rare visitor from New Zealand. A specimen collected at Busselton on 26 April 1985 (R.E. Johnstone 1987, *West. Aust. Nat.* 17: 16-17). Another possible record is the grey-faced bird observed by P. Harrison (1979, *A'sian Seabd Grp Newsl.* No. 12: 134) among *P. m. macroptera* 140 km WNW Kalbarri on 4 November 1978.

Pterodroma lessonii (Garnot)

White-headed Petrel

A few observations (May to July) of birds west of continental shelf. Possibly more plentiful off south coast but not observed north of 39°50'S. Also known from 31 specimens found on Rottne I. and west coast from Waterman south to Busselton and inland to Gosnells from late May to early November, mostly after winter storms.

Pterodroma brevirostris (Lesson)

Kerguelen Petrel

No observations at sea, but commonly found dead or dying on west coast from Yanchepp south to Bunbury and inland to Kelmscott and Jarrahdale from late May to late October, mostly after winter storms (especially that of early August 1984).

Taxonomy

For relationships of this and other *Pterodroma* spp. see M.J. Imber (1985, *Ibis* 127: 197-229).

Pterodroma mollis (Gould)

Soft-plumaged Petrel

Common visitor (mid-March to late September) to seas west and south of continental shelf, regularly following ships. Fairly commonly found dead or dying on west coast and islands from the Houtman Abrolhos south to Bunbury between late March and early September.

Taxonomy

See W.R.P. Bourne (1983, *Bull. Br. Orn. Club* 103: 52-58). For name of supposed Indian Ocean subspecies see M.J. Imber (1985, *Ibis* 127: 224).

Halobaena caerulea (Gmelin)

Blue Petrel

Not observed at sea north of 39°S. Until recently only a few birds found derelict on west coast (from Quinns Rocks south to Bunbury, between late July and late October), but after prolonged gales of late July and early August 1984 hundreds found on west coast from Geraldton south to Fremantle and inland to Midland. The latter wreck extended to south-eastern Australia (M. Carter 1984, *A'sian Seabd. Grp. Newsl.* No. 21: 17). For breeding biology see S.R. Fugler *et al.* (1987, *Emu* 87: 103-110).

Pachyptila vittata (Forster)

Broad-billed Prion

Not observed at sea. Uncommonly found derelict on west coast from Whitford south to Busselton and inland to Kewdale between early June and mid-August. Many specimens in Western Australian Museum previously identified as *P. vittata* are in fact *P. salvini* (R.E. Johnstone).

Taxonomy

For revisions of *Pachyptila* see J.B. Cox (1980, *Rec. S. Aust. Mus.* 18: 91-121) and P.C. Harper (1980, *Notornis* 27: 235-286).

Pachyptila salvini (Mathews)

Medium-billed Prion

Not observed at sea. Fairly commonly found derelict on west coast (from Scarborough south to Busselton) and once on south coast (Denmark) between mid-April and late August.

Pachyptila desolata (Gmelin)

Antarctic Prion

Not observed at sea north of 37°S. Very commonly found derelict on west and south

coasts between Burns Beach and Albany and inland to Wagerup, Harvey Dam, Donnybrook and Tambellup, from late April to early October.

Pachyptila belcheri (Mathews)

Thin-billed Prion

Not observed at sea. Commonly found derelict on west coast from the Houtman Abrolhos and Kalbarri south to Busselton and inland to Yarloop, Collie and Capel between early May and mid-September.

Pachyptila turtur (Kuhl)

Fairy Prion

Not observed at sea. Rarely found derelict on west coast from Leighton south to Busselton between late June and mid-September.

Bulweria bulwerii (Jardine and Selby)

Bulwer's Petrel

Perhaps a rare visitor to northern seas. One observed by N.G. Cheshire 130 km W of Houtman Abrolhos (M. Carter and T., Reid 1989, *Aust. Bd Watcher* 13: 116)].

Procellaria cinerea Gmelin

Grey Petrel

Uncommon visitor (reported in June, July and September) to seas well south and west of continental shelf, north to 32°S. Two derelicts found on west coast: Cottesloe (9 April 1985) and Busselton (8 August 1941).

Procellaria aequinoctialis Linnaeus

White-chinned Petrel

Moderately common visitor (reported in June, July, December and January) to seas south and west of continental shelf, north to 28°S. Two derelicts found on west coast: Scarborough (2 May 1973) and Rockingham (17 November 1979).

Calonectris leucomelaena (Temminck)

Streaked Shearwater

Visitor (March to May) to continental seas south to 28°30'S, in groups of 2-100 birds, 10-60 km offshore. Perhaps more frequent and plentiful than the paucity of reports would indicate. See R.E. Johnstone (1982, *West. Aust. Nat.* 15:58) and D. Barton (1984, *A'sian Seabd Grp. Newsl.* No. 21: 16 and 1988, *West. Aust. Bd Notes* No. 46:3).

Puffinus carneipes Gould

Fleshy-footed Shearwater

Very common breeding visitor (early September to late May) to seas 0.1-100 km off south and extreme south-west coasts, north to vicinity of Cape Hamelin; usually feeding singly, occasional aggregations (up to 80) at food-rich sites. Attracted to trawlers. Breeding on two islets near Cosy Corner (a few pairs), Seal I. off Cape Leeuwin (>500), St Alouarn (100), Flat I. (>1000), Sandy I. off Point D'Entrecasteaux (300 000, *fide* I. Abbott), Chatham I. (500), Goose I. (250), Saddle I. (2000), Stanley I. (>1000), Muttonbird I. and adjacent mainland in Torbay, Eclipse I. (several thousands), Breaksea I. (a few thousands), Michaelmas I. (a few hundreds), Mistaken I. (becoming

extinct between 1906 and 1921), Green I. in Oyster Harbour (three dozen birds taken in 1827), Coffin I. (>100) and Doubtful Is: late November and early December; C/1 (invariably).

Common passage migrant (late April to late June and late August to early November) over seas off west coast, mostly well offshore. A few birds have been found derelict on and near west coast between Waterman and Bunbury in May and from late August to mid-October.

Puffinus pacificus (Gmelin)

Wedge-tailed Shearwater

Very common breeding visitor (mid-August to late May) to seas 10-300 km off west coast, south at least to 33°20'S; mostly feeding well offshore, usually singly, sometimes in flocks (up to 100). Breeding on West Wallabi I., Rat I. (until 1945), Gun I., Middle I., north-west and east Beagle Is, north and south Fisherman's Is, Sandland I., tombolo north of North Head (until 1928), Favorite I., Tern I., Boullanger I., Whitlock I., Escape I., north and south Essex Rocks, Sand Knoll Ledge, north, middle and south Cervantes Is, Buller I., Whittell I., north and south Green Is, Wedge I. (until 1960), Lancelin I., Edward I. (until 1961), Rottnest I. (including Parakeet, Dyer and Green Is and possibly east Cathedral Rock and Duck Rock) and Carnac I. (including Flat Rock and possibly Shag Rock): mid-November to early December; C/1 (invariably). Largest colonies on West Wallabi, Pelsaert, Lancelin, Beagle, Boullanger, Escape and Rottnest Is. Occasionally found derelict on and near west coast (Perth Metro Area in May, late July, early August and mid-September).

Puffinus griseus (Gmelin)

Sooty Shearwater

Rare winter visitor to seas off lower west and south coasts. A beach derelict collected by G.F. Miller at Swanbourne on 19 August 1984 and another at City Beach on 4 July 1989. Observations of small flocks between King George Sound and Eclipse I. in early August 1973 by P.J. Fullagar and G.F. Van Tets (1976, *West. Aust. Nat.* 13: 142) and in early July 1980 by G. Roberts (1982, *A'sian Seabd Grp Newsl.* No. 17: 4).

Puffinus tenuirostris (Temminck)

Short-tailed Shearwater

Birds from the recently established colonies in the Archipelago of the Recherche evidently forage off south coast. No observations at sea, but four specimens have been found derelict since 1945: one washed up *ca* late March (Two Peoples Bay), the others in mid of late October (Yallingup, near Albany and 8 km SW Starvation Boat Harbour). See D.L. Serventy (1947, *Emu* 47:71) and G.M. Storr and R.E. Johnstone (1977, *West. Aust. Nat.* 13: 203).

Puffinus huttoni Matthews

Hutton's Shearwater

Moderately common passage migrant (early April to early June and mid-September to mid-December) off west and south coasts; in ones, twos or small flocks (up to 20).

Seven specimens found derelict on south and west coasts north to City Beach, including a juvenile banded near Christchurch, NZ, on 31 March 1969 and found dead near Hopetoun on 11 December 1970. Northward (autumn) passage evidently distant from west coast, for there is only one observation at sea and only two birds have been found derelict (both after storms) in that season.

Taxonomy

On purely morphological grounds *P. huttoni* scarcely warrants subspecific separation from *P. gavia*; but in view of its very different breeding grounds (high in mountains of South I., NZ, v. low on islands off North I., NZ), different breeding season (two months later) and possibly different migrations, R.E. Johnstone and I tentatively follow New Zealand workers in treating it as a full species.

Puffinus assimilis assimilis Gould

Little Shearwater

Uncommon to moderately common breeding visitor (early January to early December) to seas 4-200 km off west and south coasts (most numerous in Houtman Abrolhos and off south coast). Mainly feeding well offshore (judging from paucity of observations), usually in ones, twos or small parties (up to 6). Breeding on 32 islands in Houtman Abrolhos (G.M. Storr *et al.* 1986, *Rec. West. Aust. Mus.* Suppl. No. 24: 18) and on south Fisherman I. (before 1971), Favorite I., ? middle Essex Rock, ? Escape I., north, middle and south Cervantes Is, Buller I., Whittell I., north and south Green Is, Parakeet I. (before 1930), Penguin I. (since 1980), two islets near Cosy Corner, St Alouarn I., ? Sandy I., ? Chatham I., Eclipse I. and Coffin I.; largest colonies (2-3000 pairs) on Morley, Stick and Eclipse Is: late June to late August; C/1 (invariably). Commonly found derelict on west coast from Geraldton south to Cape Freycinet between mid-May and early December, mostly in winter.

Taxonomy

Judging from data in C.A. Fleming and D.L. Serventy (1943, *Emu* 43: 113-125) the so-called subspecies *tunneyi*, *assimilis*, *kermadecensis* and *haurakiensis* could all be merged; they are apparently identical in colour and only increase slightly in size from west to east.

Oceanitidae

Oceanites oceanicus (Kuhl)

Wilson's Storm Petrel

Passage migrant (late February to mid-July and mid-August to late October). Commonly observed during northward (autumn) passage 1-170 km off south and west coasts; usually single, occasionally in small parties (up to 8). Southward (spring) passage evidently well offshore, for not observed south of Houtman Abrolhos. Ten specimens found derelict on west coast: nine between Whitford and Yallingup from mid-April to late June, and one from Kalbarri in early December.

***Oceanites marinus dulciae* (Mathews)**

White-faced Storm Petrel

Breeding visitor (early April to late February) to seas up to 100 km off west and south coasts; uncommon to moderately common north of 31°30'S, rare further south. Mainly feeding well offshore (judging from paucity of observations); in ones or twos. Breeding on West Wallabi I., islet near Rat I. (formerly), Suomi I., Keru I., Morley I., Leo I., east Beagle I., north and south Fisherman Is, Sandland I., Favorite I., Boullanger I., Buller I., Lancelin I., Bird I., Seal I. (1959-65), island off Cape Leeuwin (1842), ? Saddle I., Green Is (Torbay) and Coffin I.; largest colony on Lancelin I. (3-4000 pairs): early October to early December; C/1 (invariably). Sixteen specimens found derelict on west coast from Geraldton south to Fremantle between early May and late January (mostly late June to late August), and one on south coast (Cheyne Beach in late May).

***Oceanites tropicus* (Gould)**

Black-bellied Storm Petrel

Visitor (April to September) to seas well south and west of continental shelf (observations by J. Gould, H.H. Giglioli and R.A. Falla). A beach derelict found near Albany on 15 April 1985 (R.E. Johnstone 1985, *West. Aust. Nat.* 16: 72-74).

***Oceanodroma leucorhoa leucorhoa* (Vieillot)**

Leach's Storm Petrel

Status uncertain. One found dead in Swan River estuary on 15 April 1978, and one found exhausted at Quaalup on 18 July 1984 (R.E. Johnstone 1985, *West. Aust. Nat.* 16: 54).

Taxonomy

For geographic variation see D.G. Ainley (1980, *Auk* 97: 837).

Pelecanoididae

***Pelecanoides urinatrix* (Gmelin)**

Common Diving Petrel

Status uncertain. One observation at sea: a party flying east at ca 50 km S Albany on 5 July 1974 (J.M. Winterbotham 1975, *A'sian Seabd Grp Newsl.* No. 6: 8-9). Four specimens found derelict on south coast (three near Albany and one at Beaufort Inlet) and one on west coast (Cervantes) from February to October.

Taxonomy

Previously, e.g. R.E. Johnstone (1979, *West. Aust. Nat.* 14: 133), the above specimens were identified as *P. exsul*. However they do not agree with Kerguelen/Heard birds or any known population of the *P. urinatrix* complex, including those breeding in south-east Australia and New Zealand (R.E. Johnstone). As this is a relatively sedentary species, it is possible that our specimens come from a south-west Australian breeding colony. Perhaps the small burrows found on St Alouarn I. by M.E. Gillham (1963, *West. Aust. Nat.* 9: 32) in early November 1959 were dug by diving petrels in the previous winter.

Phaethontidae

Phaethon rubricauda Boddaert

Red-tailed Tropic-bird

Range etc.

Scarce visitor to seas off west coast (north to Kalbarri) and south coast (east to Breaksea I.): usually single, occasionally in twos. Breeding in the Houtman Abrolhos (Pelsaert I. and formerly Rat I.) and at Sugarloaf Rock (3 km S Cape Naturaliste), also attempted breeding on Rottneest I., at Busselton and on mainland opposite Sugarloaf Rock: November (? October) to February (? March) at Sugarloaf Rock, *ca* two months earlier further north; C/1(140), 2(6). The colony on Sugarloaf Rock increased from four pairs in 1963 (when discovered) to 34 pairs in 1969-70; at least seven pairs were nesting there ten years later. Two birds have been found inland, *viz.* at Gingin Brook (September 1924) and near Collie (June 1964). For observations at Sugarloaf Rock see M.K. Tarburton (1977, *Emu* 77: 122-126).

Taxonomy

See M.K. Tarburton (1989, *Notornis* 36 : 39-49).

Phaethon lepturus Daudin

White-tailed Tropic-bird

Vagrant. C.M. Nicholls and T. Spence (1978, *West. Aust. Nat.* 14: 74) saw one at Torbay (south coast) on 14 December 1977. Also an unconfirmed report from the Houtman Abrolhos.

Pelecanidae

Pelecanus conspicillatus Temminck

Australian Pelican

Range

North to the Murchison (upstream to at least The Elbow), east to Culham Inlet, and inland to the middle Greenough (East Yuna), Wannamal Lake, Lake Chittering, the Avon (Northam), Yenyening Lakes and Noring Lake. Casual further inland (Morawa, Wialki, Lake Ninan, Yealering and Newdegate), in the Houtman Abrolhos and at Jerdacuttup Lakes.

Status etc.

Common in vicinity of mainland coasts, scarce and sporadic in interior; usually in ones, twos or small flocks (up to 20), occasionally large aggregations (up to 600) when resting or at fish discarded from fishing boats. Mainly estuaries and sheltered seas; also lakes, river pools and larger swamps. Breeding since 1962 on low islets in Peel Inlet, since 1985 on Green I. in Oyster Harbour, and formerly in Houtman Abrolhos (also unconfirmed report of nesting in 1920s on islet in Nornalup Inlet): late August to February; C/1(41), 2(199), 3(21). A bird banded in Peel Inlet recovered at Walcott Inlet (2000 km NNE), a bird banded at South Perth was recovered at Lake Eyre (2000 km ENE) and birds banded as nestlings at Gnardaroo I. and Mulga Downs in the Pilbara recovered 2-7 months later at Yatheroo, Lake Joondalup and Mandurah.

Sulidae

Sula (bassana) capensis (Lichtenstein)

Cape Gannet

Vagrant. A banded bird was captured and released off Augusta on 17 April 1987 (Anon. 1987, *West. Aust. Seabd Grp Newsl.* No. 8).

Sula (bassana) serrator Gray

Australian Gannet

Visitor (mid-February to early January, mostly June to October) to open seas 0.2-80 km off south and west coasts. Scarce to common (least numerous north of 31°30'S and north-east of Bald I.); usually single, occasionally in small parties, rarely flocks (up to 30). Among the few birds found dead on beaches were two banded in New Zealand and three in Victoria.

Taxonomy

See J.B. Nelson (1978, *The Sulidae: Gannets and Boobies*).

Phalacrocoracidae

Phalacrocorax sulcirostris (Brandt)

Little Black Cormorant

Range

Greater part of mainland, north to the Murchison (upstream to Nine Mile Pool), east to Culham Inlet and inland to the middle Greenough (Noondamurra Pool), Pinjarrega Lake, Namban, Wannamal Lake, Lake Chittering, the Mortlock, Lake Mears, Brown Lake, Toolibin Lake, Lake Coomelberrup, Ongerup and Mettler Lake. Casual at Lake Ninan and on Fisherman, Lancelin, Rottneest; Carnac, Seal and Penguin Is.

Status etc.

Moderately common to common on coastal plains north to the Moore River, scarce or uncommon further north and inland; in ones, twos or small flocks, occasionally large flocks (up to 1000). Mainly estuaries, lakes, swamps and river pools, also sheltered seas (Geraldton harbour and Princess Royal Harbour) and (rarely) reservoirs and farm dams. Nesting in trees in swamps, around lakes and along rivers, sometimes with Little Pied and Great Cormorants, north to Moora (Streets and Marrida Swamps) and east to Lake Chittering, Northam, Brown Lake and Toolibin Lake: May to January (mostly late May to mid-November; C/3-6; largest colonies at Booragoon Lake and Carraburmup Swamp (R.P. Jaensch).

Taxonomy

For phylogeny of the Phalacrocoracidae see D. Siegel-Causey (1988, *Condor* 90 : 885-905).

Phalacrocorax carbo novaehollandiae Stephens

Great Cormorant

Range

Greater part of mainland, north to the Murchison (upstream to Wilgie Mia Pool), east

to Hopetoun and inland to Lake Eganu, Eneminga Pool, Wannamal Lake, Lake Chittering, Northam, Lake Yealering, Toolibin Lake, Dumbleyung Lake, Ongerup and Jerdacuttup Lakes. Casual further east (Tammin, Lake Mears and Gibb Rock), in the Houtman Abrolhos and on Sandy, Michaelmas and Bald Is.

Status etc.

Moderately common on coastal plains north to the Murray and east to the Kalgan, scarce or uncommon further north and east; in ones, twos or small flocks, occasionally large flocks (100 or more). Lakes, swamps, river pools, estuaries and sheltered seas, occasionally farm dams and reservoirs. Breeding north to Lake Goollelal and east to Nonalling Lake, Toolibin Lake and Dunns East Swamp (Hopetoun): April to August, also December (possibly second clutches); C/2-6; largest colony at Booragoon Lake (R.P. Jaensch). For notes on breeding see D.L. Serventy (1955, *West. Aust. Nat.* 5: 18).

Phalacrocorax varius (Gmelin)

Pied Cormorant

Range

Vicinity of breeding islands and west coast from the Murchison River estuary south to Hamelin Bay; also south coast at Blackwood River estuary, from Nornalup Inlet to Two Peoples Bay, and at Beaufort Inlet. Casual inland.

Status et.

Common within 40 km of breeding grounds, uncommon on west coast north of Geraldton and from Mandurah south to Hamelin Bay, scarce on south coast; usually single when feeding and in flocks (up to 200) when resting. Sheltered seas and estuaries, occasionally near-coastal lakes. Breeding in the Houtman Abrolhos and on barge in Geraldton harbour, north-west, south-west and east Beagle Is, Snag I., Drummond Rock, Webb I., Lipfert I., Milligan I., north and south Fisherman Is, Sandland I., north, middle and south Essex Rocks, Sand Knoll Ledge, rock in Ronsard Bay, north and south Cervantes Is, Buller I., Whittell I., Lancelin I. and several islands and rocks off Fremantle and Safety Bay: from mid-August to November in the Houtman Abrolhos, at Geraldton and on north Essex Rock, February to July elsewhere; C/1(124), 2(259), 3(459), 4(57), 5(4). For dispersal and mortality see J. Ford (1963, *West. Aust. Nat.* 8: 177-181); nestlings banded at Shag Rocks have been recovered in their first year as far away as Port Denison (350 km N) and Manjimup (220 km S). For food of this and other cormorants see D.L. Serventy (1938, *Emu* 38: 298-304). For courtship and display see V.N. Serventy and S.R. White (1943, *Emu* 43: 91). For rotation of nest sites see R.D. Wooller and J.N. Dunlop (1981, *Corella* 5: 97).

As Gould received eggs from The Sisters (the southernmost nesting islands), this is one subtropical seabird that has been unable to extend its breeding range southwards since colonial times.

Phalacrocorax verrucosus (Cabanis)

Kerguelen Cormorant

Vagrant. One record, a bird banded as a juvenile on Kerguelen and trapped at sea off Rottneest two years later in December 1986 (*Corrella* 14: 66, 1990).

***Phalacrocorax fuscescens* (Vieillot)**

Black-faced Cormorant

One record from extreme south-east: a small party on rocks 5 km E Hopetoun in November 1964 (A.G. Mathews 1966, *West. Aust. Nat.* 10: 45). A fledgling banded near Port Lincoln, SA, in April 1966 was found dead three months later off Cape Leeuwin (1900 km W); it is highly improbable that this, by far the most sedentary of Australian cormorants, would have travelled so far unaided.

***Phalacrocorax melanoleucos melanoleucos* (Vieillot)**

Little Pied Cormorant

Range

Greater part of mainland, north to the Murchison (upstream to Four Mile Pool) and inland to the middle Greenough (Noondamurra Pool), Coorow, Mogumber Swamp, Lake Chittering, Toodyay, Cunderdin, Lake Mears, Brown Lake, 20 km E Newdegate and Jerdacuttup Rive (10 km ENE Ravensthorpe); also breeding on certain offshore islands (listed below) and visiting others (Lipfert, Fisherman, Lancelin, Rottnest, Garden, Bird, Seal, Penguin and Green Is and Shag and Gull Rocks). Casual further inland (Lake Ninan and Walyormouring Lake).

Statue etc.

Very common on coastal plains north to the Moore River and east to Bremer Bay, scarce or uncommon elsewhere; in ones, twos or small flocks, occasionally large flocks (up to 700), rarely roosting in very large flocks (thousands). Lakes, swamps, river pools, springs, dams, estuaries and sheltered seas. Breeding singly or in colonies (up to 400 nests) in melaleucas in wetlands north to Ibis Swamp and Dalaroo Swamps and east to the upper Moore River, Lake Chittering, Northam, Lake Mears, Brown Lake, Toolibin Lake, Dumblebung, Coyrecup Lake and Bremer Bay, and on a few limestone islands, viz. Wooded I. (Houtman Abrolhos), Snag I., Drummond Rock, Webb I., Milligan I. and Duck Rock (Rottnest): July to January; C/3(4), 4(6), 5(5).

Anhingidae

***Anhinga melanogaster novaehollandiae* (Gould)**

Darter

Range

Greater part of mainland, north to the Murchison (upstream to Ten Mile Pool), east to Jerdacuttup Lakes and inland to the middle Greenough (Noondamurra Pool), Moora district, Wannamal Lake, Lake Chitering, Toodyay, Yenyening Lakes, Toolibin Lake, Dumblebung, the upper Pallinup (S of Gnowangerup) and Minvalara Swamp. Casual further inland (Wubin, Tammin and Yealering) and on some islands (Pelsaert, Sandland, Rottnest, Bird and Green).

Status etc.

Locally and seasonally moderately common e.g. near-coastal swamps between the Murray and Preston Rivers, and on Swan River estuary and Peel Inlet in winter, but generally scarce or uncommon; usually single. Lakes, swamps, river pools, estuaries and

(rarely) sheltered seas. Breeding as isolated pairs, in small colonies or among cormorants in wooded wetlands north to the lower Murchison (Wilgie Mia Pool) and east to swamps near Moora (Dalaroo and Streets), Lake Chittering, Toolibin Lake and Dunns East Swamp (Hopetoun): August to December; C/2(3), 3(5), 4(9).

Fregatidae

Fregata minor (Gmelin)

Greater Frigatebird

Accidental. One captured alive on the Swan River at Perth in May 1917 (W.B. Alexander 1918, *Emu* 17: 238), and one seen at Fremantle in May 1953 (Serventy and Whittell). An unidentified frigatebird was seen at Merredin in early August 1984 (Anon. 1984 *West. Aust. Bd Notes* No. 32: 7).

Ardeidae

Ardea pacifica Latham

Pacific Heron

Range

Greater part of mainland, north to Eurardy and east to Pindar and Jibberding.

Status etc.

Mainly a non-breeding visitor. Common in years of irruption (1865, 1897, 1923, 1926, 1933, 1941, 1952, 1957, 1964, 1975, 1981, 1985), in ones, twos or small flocks, rarely large flocks (up to 300), but generally scarce or uncommon (most plentiful from May to December, especially August to October, i.e. the driest time of year in northern and mid-eastern Australia) and usually single. Mainly shallow fresh waters, including flooded pastures, wheatfields, claypans, samphire flats and roadsides; rarely dry pastures and salt waters (estuaries). Occasionally breeding, usually singly or in small groups (up to 4 pairs), in wooded lakes, mainly in semiarid interior from Eneminga Pool and Lake Dalaroo south-east to Gadara Swamp (20 km W Bremer Bay), but also at Coolup and perhaps at Benger Swamp: late July to mid-December; C/2(2), 3(4), 4(2), 5(2). For details of irruption in 1952 see D.L. Serventy (1953, *West. Aust. Nat.* 3: 185) and 1975, J. Dell (1985, *West. Aust. Nat.* 16: 28-30).

Ardea novaehollandiae Latham

White-faced Heron

Range

Throughout the mainland. Casual in the Houtman Abrolhos and on Essex Rocks, Rottneest I., Garden I., Flat I., Chatham I., Saddle I. and Eclipse I.

Status etc.

Uncommon to very common (most numerous in subhumid zone and wetter half of semiarid zone); in ones, twos or flocks (up to 40), also larger but looser aggregations (up to 1000). Mostly shallow fresh waters; also shallow salt waters (including estuaries and sheltered seas) and dry short grass (especially when infested with crickets and other

insects). Breeding from June to November, also March and April after tropical cyclones in February and March; C/2(8), 3(6), 4(15), 5(6).

Egretta (alba) alba (Linnaeus)

Great Egret

Range

Greater part of mainland, north to the Murchison (upstream to Nine Mile Pool) and east to East Yuna, Moora, New Norcia, Dowerin, Yenyening Lakes, Yealering, Toolibin Lake, Nyabing and Jerdacuttup Lakes.

Status etc.

At present a scarce to moderately common resident (most numerous in southern half of Swan Coastal Plain); usually single, occasionally in small parties; also large aggregations (up to 240) in summer-autumn. Open shallow waters fresh or salt, rarely dry pastures. Breeding colonially (up to 120 pairs) in wooded swamps from Needonga Lake and Chandala Swamp south to McCarleys Swamp (Ludlow) and Hilliup Lake: September to early December; C/3(1), 4(4).

From colonial times until 1917 only a very rare and infrequent visitor. Since 1917 occurrence continuous and numbers steadily increasing until at least the mid-1960s.

Taxonomy

For doubts that *E. (a.) egretta* of the Americas is conspecific with *E. (a.) alba* of the Old World, see F.H. Sheldon (1987, *Auk* 104: 107).

Egretta garzetta nigripes (Temminck)

Little Egret

Range

Swan Coastal Plain (since 1965), from Lakes Joondalup and Jandabup south to the Vasse Estuary; also Football Lake (near Wannamal) and the Wellstead Estuary (one pair since 1983).

Status etc.

Scarce; usually single, occasionally in small aggregations (up to 14). Shallow waters fresh or salt. Breeding in paperbarks at Australind (first reported in 1981), at West Corio Swamp north of Pinjarra (1988) and at small swamp south of Pinjarra (1986): October to November; C/4(2).

Egretta sacra (Gmelin)

Eastern Reef Heron

Range

Mainly islands: Houtman Abrolhos, Milligan I., Fisherman Is, Sandland I., Tern I., Boullanger I., Whitlock I., Escape I., Essex Rocks, Cervantes Is, Whittell I., Green Is, Wedge I., Rottnest I., Carnac I., Garden I., Bird I., Shag Rocks, Penguin I., Hamelin I. and Bald I. Disjunctly on mainland coasts: far north coast south to Bluff Point; Geraldton harbour (casual); Two Rocks to Mullaloo; lower Swan River estuary (upstream to Mosman Park; casual at Pelican Point); Cape Peron to Safety Bay; lower

Peel Inlet (casual); Wonnerup Inlet (casual); Cape Naturaliste to Cape Leeuwin; south coast from Wilson Inlet east to Point Charles.

Status etc.

Scarce to moderately common (most numerous in the Houtman Abrolhos and far north of west coast, least on south coast); usually single, occasionally in twos. Mainly shallows on rocky shores. Breeding on islands from late July to November; C/2(3), 3(1), 4(1). White phase rare in far north, very rare south of the Houtman Abrolhos and Bluff Point.

***Egretta ibis coromanda* (Boddaert)**

Cattle Egret

Infrequent visitor (reported in 1952, 1953, 1954, 1958, 1959, 1960, 1967, 1970, 1971, 1973, 1975, 1981, 1982, 1984, 1985, 1986, 1987, 1988 and 1989) to greater part of mainland, north to Walkaway and east to Three Springs, Kalannie, Wialki, Baandee, Hyden, Ravensthorpe and Jerdacuttup Lakes. Widespread and moderately common from February 1959 to at least January 1960, singly or in small parties (up to 14); rare in other periods and usually single, occasionally in small parties (up to 12). Farmlands (especially damp pastures) and wetlands, usually in company with cattle, occasionally with other livestock. A few birds noted in breeding plumage on Swan Coastal Plain (at Lake Joondalup, Herdsman Lake, Bibra Lake, Lake Walyungup, Bengier Swamp and near Busselton) from late October to early February. For details of 1959-60 irruption see C.F.H. Jenkins and J. Ford (1960, *Emu* 60: 245).

***Nycticorax caledonicus hilli* Mathews**

Rufous Night Heron

Range

Wetter half of mainland, north to Arrowsmith Lake, east to the Fitzgerald River and inland to Watheroo, Wannamal Lake, Lake Chittering, Northam, Toolibin Lake, Lake Coomelberrup and Yaalup Lagoon. Casual further north and east (East Yuna, Three Springs, 40 km NE Wubin, Lake Grace and Hopetoun) and on Penguin I.

Status etc.

Common on Swan Coastal Plain and at Toolibin Lake and Hilliup Lake, usually in flocks (up to 250); scarce or uncommon elsewhere, usually single, occasionally in small parties (up to 5). Shallow waters fresh or salt (including estuaries). Breeding colonially (up to 250 pairs) in wooded swamps north to Beermullah and east to Toolibin Lake and Hilliup Lake, and at South Perth Zoo and formerly on Bird I.: September to December; C/3(7), 4(1). For predation on nestling Great Egrets see T. Spence (1981, *West. Aust. Bd. Notes* No. 19). Frequency of long movements unknown, but a nestling banded at Armadale was recovered 25 days later at Warralong, 1323 km N (*Corella* 13: 27, 1989).

***Ixobrychus minutus novaezelandiae* (Potts)**

Little Bittern

Range

South-western, north to Moora, east to Mettler Lake and inland to Bokarup Swamp

and Lake Pleasant View. Accidental or in migration on the lower Murchison (late September), at Latham (late September), at Doodlakine (late August), near Miling (February), on Rottnest I. (February), at Cottesloe (mid-March), at Fremantle (early September), at Benger (early March) and at Bunbury (late February).

Status uncertain (? visitor or resident). Except for two in April and two in July, all records fall between late August and mid-March. Locally common (Swan Coastal Plain, Lake Muir area and near-coastal wetlands east and west of Albany), but generally uncommon or seldom reported. Dense beds of *Baumea* and *Typha* and thickets of *Melaleuca* growing in swamps, around lakes and along watercourses. Breeding from October to January; C/2(3), 3(4), 4(10), 5(1).

Ixobrychus flavicollis (Latham)

Black Bittern

Range

South-western, north to Yanchep and east to Northam, Mayanup and a little beyond Albany.

Status etc.

Formerly uncommon to moderately common in melaleucas and flooded gums along the larger rivers (Avon, Swan, Helena, Canning, Murray, Collie, Preston, Capel, Vasse, Blackwood and King), around certain lakes (Herdsman and Monger) and in a swamp near Wilson Inlet, but rare or extinct on Swan Coastal Plain by mid-1930s and on the Avon by 1952; the only recent records are from Lake Joondalup, Lake Coolongup, the Goodale Sanctuary (15 km SW Pinjarra), Nanga Brook and the middle Blackwood. Breeding in October and November; C/3(2), 4(1).

Botaurus (stellaris) poiciloptilus (Wagler)

Brown Bittern

Range

South-western, north to Moora and east to Northam, Beverley, Lake Gundaring and Mettler Lake.

Status etc.

Locally common in wetter parts of range, e.g. Swan Coastal Plain (until early this century), Lake Muir area and south-coastal plains between Denmark and Manypeaks, but generally scarce; usually single, occasionally in small groups (up to 8). Dense beds of *Typha*, *Baumea* and sedges around freshwater swamps and lakes, especially where there are substantial patches of low rush; also low shrubland swamp (Kulunilip Lake). Breeding from September to December; C/4(3), 5(1).

Threskiornithidae

Threskiornis aethiopicus moluccus (Cuvier)

Sacred Ibis

Range

South-western, north to Namming Lake and east to Mogumber Swamp, Bindoon,

Brown Lake, Toolibin Lake, Coyrecup, Ongerup and Bremer Bay.

Status etc.

At present moderately common on Swan Coastal Plain, at Lake Chittering, around Lake Muir and in south-east, usually in flocks; elsewhere scarce and usually single. Mainly shallow fresh waters and damp pastures; also estuarine waters. Breeding colonially on Swan Coastal Plain from Chandala Swamp south to McCarleys Swamp (Ludlow) and (since 1988) in wetlands west of Bremer Bay: late August to early October; C/2(1), 3(1).

Not recorded in Division until 1952. Numbers now increasing rapidly.

Threskiornis spinicollis (Jameson)

Straw-necked Ibis

Range

Western, from Murchison House and Eurardy south to Dunsborough and east to East Yuna, Mingenew, Coorow, Coomberdale, New Norcia, Lake Chittering and the Darling Scarp. Casual further south and east.

Status etc.

Nomadic, e.g. birds banded at Chandala Swamp have been recovered in the Kimberley, Arnhem Land, Queensland and New South Wales. Common to very common on Swan Coastal Plain, scarce to moderately common further north; usually in flocks, sometimes of many hundreds. Mainly swamps and farmlands (especially damp pastures); attracted to swarming grasshoppers and grubs of other large insects. Breeding in a few wooded wetlands, viz. near Carnamah (1958), near Moora (since 1921), Caro Swamp (1988), Ibis Swamp (since 1984), Wallering Swamp (from before 1950 to 1956), Chandala Swamp (since 1962), North Pinjarra, swamps 10 and 20 km SW Coolup (since 1947) and McCarleys Swamp (Ludlow): August to October; C/2-3 (mostly), 4 (occasionally), 5 (rarely).

First reported in 1892, when large numbers were seen at Yanchep, near Perth and Kellerberrin, in the Albany district and around Cape Riche.

Plegadis falcinellus (Linnaeus)

Glossy Ibis

Range

Swan Coastal Plain from Namming Lake south to the Vasse. Casual elsewhere (Cataby, Moora, Brockman River, Meckering, Yealering, Dumbleyung and Katanning).

Status etc.

Scarce or uncommon; in ones, twos or small flocks (up to 24). Mainly shallows and adjacent flats of freshwater lakes and swamps. Breeding at Chandala Swamp since 1983 (R. Jaensch 1984, *West. Aust. Bd Notes* No. 29: 6): November; C/3(2).

First reported in 1898 (specimen from Katanning) and still only a very rare visitor until 1954.

Platalea regia Gould

Royal Spoonbill

Range

Swan Coastal Plain, north to Lake Bambun. Casual in the Northam, Wagin, Denmark, Albany and Hopetoun districts.

Status etc.

Rare; in ones, twos, threes or fours. Shallows of open fresh and brackish waters; also Peel Inlet and Vasse Estuary. Two pairs unsuccessfully attempted to breed in a melaleuca swamp near Mandurah in September and October 1985 and one pair nested in swamp near south end of Harvey Estuary in September 1988 (R.P. Jaensch).

First reported in 1924 and still a very rare and infrequent visitor until small influx in 1943.

Platalea flavipes Gould

Yellow-billed Spoonbill

Range

From Lake Eganu south to Busselton, Lake Muir and Bremer Bay, and east to Moora, Mogumber Swamp, Bejoording, Northam, Toolibin Lake, Yaalup Lagoon and Jerdacuttup Lakes. Casual further north (The Elbow [of the Murchison], Utcha Swamp and East Yuna), east (Yealering and Yaalup Lagoon) and south (Lakes Eyrie and Powell).

Status etc.

Moderately common on Swan Coastal Plain, scarce to uncommon elsewhere; in ones, twos or small flocks, occasionally larger aggregations (up to 120). Shallow open waters fresh or salt. Breeding singly or colonially (up to 100 pairs) in several wooded swamps from Lake Eganu south to McCarleys Swamp (Ludlow), Mettler Lake and Jerdacuttup Lakes: August to October; C/3(4), 4(1); largest colony (*ca* 50 pairs) at Barragup Swamp near Mandurah (R.P. Jaensch, R.M. Vervest and M.J. Hewish 1988, *RAOU Rept* No. 30: 32).

First recorded in 1920 near Moora and found breeding in that district in following year, but still very rare in Division until 1965. It continues to increase (S. McNee and R. Jaensch 1984, *West. Aust. Bd Notes* No. 30: 7).

Anatidae

Anseranas semipalmata (Latham)

Pied Goose

Infrequent and rare visitor. Observed between Geraldton and Mullewa (five in wheat crop, August 1952), at Moora, Bushmead (seven in July and August 1979), Alfred Cove (three in February 1953), Lake Mears (flock in winter 1974), near Capel (two in 1974) and near Broomehill (one in November 1905).

Dendrocygna arcuata (Horsfield)

Chestnut Whistling Duck

Infrequent and rare visitor. A few records of one to six birds at swamps and lakes in Perth Metro Area since 1899.

Dendrocygna eytoni (Eyton)

Plumed Whistling Duck

Infrequent and very rare visitor. One collected at Carnamah in January 1920, two observed at Mungala Lake in December 1984 and one at Lake Joondalup in July 1984.

Cygnus atratus (Latham)

Black Swan

Range

Greater part of mainland, north to the Murchison (upstream to The Elbow) and inland to East Yuna, Morawa, Kondut and Wialki. Vagrant in the Houtman Abrolhos and on Fisherman and Rottneest Is.

Status etc.

Scarce to very common (most numerous on the Swan Coastal Plain and in the Great Southern, least in north and north-east); usually in pairs, family parties or small flocks, also aggregations of several thousands from late spring to autumn. Mainly open extensive waters fresh or salt, including inundated crops and pastures and sheltered seas. Breeding as single pairs or in loose colonies (up to 150 pairs), mainly on fresh waters, north to Hutt Lagoon and inland to the upper East Chapman River (30 km ENE Nabawa), Morawa, Lake Wallambin, Kellerberrin, Brown Lake and Newdegate; also small colonies on salt water (Lake Hinds, Lake Ninan and Salt River flats E of Quairading): April to January, mostly in winter; C/3(10), 4(29), 5(14), 6(8), 7(6). For symptoms and treatment of this and other waterfowl poisoned by blue-green algae *Anacystis cyanea* see D. Wright (1968, *Fauna Bull.* 2(2): 16-18).

Cygnus olor (Gmelin)

Mute Swan

Exotic species established on the Avon, immediately above the weir at Northam. Liberated early this century and reaching peak population of 78 in 1961 (anonymous report to W.A. Wildlife Authority, 18 March 1974). In last 15 years population stationary at ca 30; usually in pairs or small parties. Breeding at four sites on impounded Avon River and once on swamp 15 km NW Northam: late September to December; C/5--8 (J.R. Masters and A.L. Milhinch 1974, *Emu* 74: 233). Occasionally wandering to other parts of Division, e.g. Bindoon, Chandala Swamp (one in October 1979) and Lake Muir (two in 1971-72). Unsuccessful attempts to establish it in Perth Metro Area and at Bridgetown.

Stictonetta naevosa (Gould)

Freckled Duck

Range

North to the Greenough (Beetalyinna Pool) and east to Winchester, Marchagee, Moora, Wannamal Lake, Lake Chittering, White Water Lake, Footballers Lake, Lake Coomelberrup, Coyrecup Lake, lake 15 km E Ongerup and Jerdacuttup Lakes, but not Darling Range or far south (south of Busselton, Qualeup Lake and Hilliup Lake). Casual at Walyormouring Lake, Kwolyin, Lake Mears, Harvey Dam and Yaalup Lagoon.

Status etc.

Uncommon to moderately common in better-watered parts of semiarid zone, viz. the Midlands from Lake Eganu south to Lake Chittering, and the Great Southern from Yealering south to Ewlyamartup, rare or scarce elsewhere; in ones, twos or flocks (up to 100). Mainly wooded, fresh to moderately saline lakes and swamps; rarely open saltlakes and estuaries. Breeding reports from Pinjarrega Lake, Moora (Dalaroo and Marrida Swamps), Fred Swamp, Wannamal Lake, Chandala Swamp, Banjup/Southern River district, possibly White Water Lake, Toolibin Lake and Bengier Swamp: September to December; C/5(1), 6(2), 7(4), 8(1), 9(1), 10(1).

Cereopsis novaehollandiae grisea (Vieillot)

Cape Barren Goose

Scarce visitor to far south-east coast, from Hopetoun south-west to Bremer Bay; in ones, twos or small flocks (12). Casual further north (Lake Grace *ca* 1930) and west (Mammoth Cave in 1921, Busselton in 1942).

Formerly occurring (and presumably breeding) on islands off south coast, but records are scanty. Vancouver and Menzies did not record it on the mainland and two islands in King George Sound in September and October 1791. King noted them on Seal I., King George Sound, in January 1818. A.J. Campbell saw Bald I. birds for sale in Albany in January 1890. The last record of this apparently small population is a specimen from Albany donated by the South Perth Zoo to the Western Australian Museum in 1899. It was evidently extinct by the time of G.C. Shortridge's visit to King George Sound in 1905.

Tadorna tadornoides (Jardine and Selby)

Mountain Duck

Range

Greater part of Division, north to the lower Murchison (upstream to Four Mile Pool) and inland to East Yuna, Wilroy, Morawa, Bunjil, Jibberding and Bonnie Rock, including West Wallabi, Pelsaert, Lipfert, Fisherman, Favorite, Boullanger, Escape, Wedge, Rottnest and Carnac Is, but not the deep south-west (east of Augusta, south of Manjimup and west of Denmark).

Status etc.

Scarce to very common (most numerous on Swan Coastal Plain, in Lake Muir area, in Great Southern and on south coast, least in humid zone and drier parts of semiarid zone); usually in pairs or family parties in breeding season and in flocks from October to May (thousands on certain saltlakes [Pinjarrega, Guraga, Ninan, Mears, Clifton, Preston, Muir, Dumbleyung, Flagstaff and Anderson], estuaries [Serpentine River, Peel Inlet, Harvey, Leschenault Inlet, Wonnerup, Vasse, Pallinup River, Bremer Bay and Gordon Inlet] and freshwater lagoons [Tordit Gurrup]). At onset of winter rains dispersing to fresh waters (including farm dams) or to saltlakes edged by freshwater soaks or freshened by flood waters; for moulting and summer-autumn refuge concentrating on estuaries and the longer-lasting saline lakes; there is consequently a nett

movement inland in winter and coastwards in summer. Breeding from East Yuna, Jibberding and Bonnie Rock south to Busselton, Boyup Brook, Lake Muir, Cranbrook and the Fitzgerald, and on Boullanger, Rottnest, Carnac and Penguin Is: mid-May to late October, mostly July and August; C/5-50.

In colonial times this species was evidently not very plentiful, but the opening up of the wheat belt (mainly this century) greatly increased the food supply in the vicinity of its principal breeding grounds, the wetlands of the semiarid interior. The wetlands themselves have expanded through the rise in the water table following the clearing of most of the surrounding woodlands and scrubs. The Mountain Duck replaced the Black *ca* 1930 as the dominant duck on farm dams in the eastern wheat belt (B.W. Leake 1962, *Eastern Wheatbelt Wildlife*, p. 93).

Anas superciliosa Gmelin

Black Duck

Range

Greater part of mainland, north to the Murchison (upstream to The Elbow) and inland to the middle Greenough, upper Irwin, Jibberding, Bunketch, Lake Wallambin, Kellerberrin, Naremben and Gibb Rock. Casual on Rottnest I.

Status etc.

Nomadic, e.g. bird banded at Woodanilling recovered at Menindee, NSW. Uncommon to common (most numerous in subhumid zone, least in drier half of semiarid zone); in ones, twos or small flocks, also larger aggregations (up to 7000) from late October to April. In breeding season mainly fresh and brackish waters, including inundated farmlands, saltlakes freshened by flood waters, river pools, dams and springs; also salt waters in summer and autumn, including estuaries and sheltered seas (especially Princess Royal Harbour and other south-coast inlets); there is thus a nett movement inland in winter, and coastwards in summer as wheat-belt wetlands dry out or become too salty. Breeding north and east to lower Hutt River, Lake Eganu, Namban, Wannamal Lake, Northam, Yenyening Lakes and Lake Grace: early July to early December, also March and April after tropical cyclones in February 1955 and January 1982; C/5(1), 6(2), 7(6), 8(17), 9(9), 10(6), 11(2), 12(5), 13(2), 15(1).

Anas querquedula Linnaeus

Garganey

Vagrant. Two observed at Loch McNess, Yanchep, in March 1971 (P. Congreve 1971, *West. Aust. Nat.* 12: 48).

Anas acuta Linnaeus

Pintail

Vagrant. A male in breeding plumage observed at Chandala Swamp by G. Agar, R. Jaensch and R. Vervest (1988, *Aust. Bd Watcher* 12: 204-205) in July 1986.

Anas castanea (Eyton)

Chestnut Teal

Range

Subhumid zone and wetter half of semiarid zone, north nearly to Kalbarri (Wittecarra

Gully) and inland to Ten Mile Pool, Lake Eganu, Moora, Wannamal Lake, Walyormouring Lake, Yenyening Lakes, Brown Lake, Lake Grace, Yaalup Lagoon, Jerramungup and the Jerdacuttup River, but not the Darling Range or deep south-west (between the Blackwood and King River estuaries).

Status etc.

Uncommon to moderately common (formerly common) on and near south-east coast (from the Pallinup River ENE to the Jerdacuttup River) but generally rare or scarce; in ones, twos or small flocks, occasionally larger flocks (up to 200) when moulting. In breeding season mainly on fresh or brackish swamps and river pools or on saltlakes freshened by flood waters, largely dispersing in summer to estuaries and lakes. Breeding reported mainly in south-east (west to Balicup Lake and Albany and north to Lake Grace) and once near Peel Inlet (Carraburmup Swamp) and at Towerrinning Lake: August and September; C/9(1), 10(3).

Anas (gibberifrons) gracilis Buller

Grey Teal

Range

Greater part of mainland, north to the Murchison (upstream to at least The Elbow) and inland to Mullewa, 33 km NE Wubin and Wialki; also lagoons, lakes and swamps on Pelsaert, Wooded and Rottnest Is.

Status etc.

Nomadic. Uncommon to very common (most numerous in Great Southern and on Swan Coastal Plain, least in humid zone and drier half of semiarid zone); in ones, twos or small flocks, also much larger aggregations (up to 12 000) between late September and mid-June on larger wetlands, e.g. Lakes Eganu, Guraga, Walyungup, Nomans, Parkeyerring, Dumbleyung, Coomelberrup, Wardering and Coyrecup and Peel Inlet, Harvey Estuary and Vasse Estuary. Most waters large or small, fresh or salt. Breeding on fresh and brackish waters north to the Murchison (upstream to Four Mile Pool), Morawa, Kwolyin and Lake Grace and (rarely) on Rottnest I.: July to late November, also late January to mid-April after heavy summer rains in 1953, 1955, 1971 and 1982; C/5(1), 6(9), 7(12), 8(10), 9(2), 10(8), 11(3), 12(3), 13(1), 15(1); for rapid response to summer rain see H. Bekle (1983, *West. Aust. Nat.* 15: 128).

[*Anas clypeata* (Linnaeus)]

Northern Shoveler

Possibly a vagrant. An unconfirmed report from near Lake Namming.]

Anas rhynchotis rhynchotis Latham

Blue-winged Shoveler

Range

Great part of mainland, north to the lower Murchison (upstream to Four Mile Pool) and inland to Morawa, Capamaura Lake, Pinjarrega Lake, Namban, Lake Hinds, Walyormouring Lake, Salt River (Quairading), Yealering and 20 km E Newdegate.

Status etc.

Scarce to moderately common (most numerous on Swan Coastal Plain and in Great Southern, least in humid zone); usually in ones, twos or small flocks, occasionally much larger aggregations (up to 2500) from January to July. Mainly fresh and brackish swamps, lakes and river pools and saltlakes freshened by flood waters; occasionally estuaries. Breeding from Hutt Lagoon and Four Mile Pool south to Benger Swamp, Towerrinning Lake, Katanning and Ongerup, and inland to Morawa, Namban, Walyormouring Lake, Yenyening Lakes and Toolibin Lake: late July to late November; C/8(1), 9(1), 10(1), 12(2).

This duck was rare in colonial times (J. Gould) and still so early this century; for example T. Carter did not see it himself but heard of one being shot at Lake Muir.

Malacorhynchus membranaceus (Latham)

Pink-eared Duck

Range

Greater part of mainland from the upper East Chapman River south to Bunbury, Lake Muir and Albany, and inland to Coorow, Lake Ninan, Goomalling, Kellerberrin, Lake Bryde and Ravensthorpe.

Status etc.

Since the early 1950s scarce to moderately common (most numerous in northern half of Swan Coastal Plain, Great Southern and Midlands); usually in pairs or small flocks, occasionally much larger aggregations (up to 5000). Larger bodies of water, fresh or salt. Breeding in wooded, fresh or brackish swamps and lakes from the upper East Chapman River (18 km ENE Nabawa) south to Forrestdale Lake, Towerrinning Lake, Coyrecup Lake, Gnowangerup and lake 45 km S Ongerup, and inland to Carnamah, Moora, Mogumber Swamp, Walyormouring Lake, Salt River (south of Mt Caroline), Brown Lake and Lake Grace: August to March; C/3(1), 4(2), 5(4), 6(4), 7(5), 8(6), 9(2).

This species was not recorded until 1896, when one was collected at Herdsman Lake. Next were single specimens from Cranbrook in 1900, Lake Muir in 1912 and Wanneroo in 1922. The first breeding record was two clutches taken near Moora in 1923.

Aythya australis (Eyton)

Hardhead

Range

Greater part of mainland, north and east to the lower Murchison (upstream to Nine Mile Pool), lower Greenough (Beetalyinna Pool), Capamaura Lake, 8 km E Marchagee, 10 km E New Norcia, Walyormouring Lake, Lake Mears, Lake Yealering, Toolibin Lake, Lake Coomelberrup, Lake Coyrecup, Ongerup and the Phillips and Jerdacuttup Rivers. Casual on Rottneist I.

Status etc.

Rare to uncommon (most numerous in the Midlands, Swan Coastal Plain and Great Southern and in certain years, e.g. 1982-83, in spring and early summer); usually in ones,

twos or small flocks, occasionally large aggregations, e.g. 2000 at Lake Eganu in January 1982 and at Walyormouring Lake in November 1981. Mainly fresh or brackish waters (including farm dams), rarely salt waters. Breeding north to Crackers Swamp and Moora and east to Northam, Toolibin Lake and the Jerdacuttup River: late July to early November; C/4(1), 5(2), 7(6), 8(6), 9(7), 10(7), 11(2), 12(4), 14(1), 15(1), 16(1), 20(1).

Chenonetta jubata (Latham)

Wood Duck

Range

Throughout the mainland. Casual on Rottnest I.

Status etc.

At present scarce to very common (most numerous in Great Southern, least in drier half of semiarid zone); usually in pairs, family parties or small flocks, occasionally larger aggregations, e.g. 540 on Lake Coyrecup in May 1983. Mainly farmlands, especially pastures near dams; also grassy margins of river pools, freshwater lakes, reservoirs and floodwaters. Breeding reported north to the lower Murchison (Four Mile Pool) and east to East Yuna, Buntine, Mouroubra and Wiaki: June to October, also March after tropical cyclone of February 1955; C/5(1), 6(1), 7(1), 8(1), 9(4), 10(6), 11(3), 12(4), 13(1), 14(2), 15(1), 16(1).

Although known in colonial times, this duck was for long rare in the Division and possibly only a visitor from further north or from eastern Australia. On field trips in 1902-04 A.W. Milligan did not see it in the Margaret River, Stirling Range and Wongan Hills areas, or H.E. Hill in the Brookton district. A little later T. Carter recorded it in the Broomehill district, where it was moderately common at Lake Ewlyamartup but generally rare. It must have remained scarce in the Great Southern for some decades, for W.B. Alexander did not see it at Bremer Bay in 1916, or D.L. Serventy on the Pallinup in 1926. By 1921 C.L. Orton and P.T. Sandland had still not seen it in the Moora district. A lone bird appeared in the Bridgetown district in 1938. From the late 1940s to the mid-1950s there was an explosive increase in numbers; from this period comes the first breeding record (Manjimup, 1950).

Nettapus pulchellus Gould

Green Pygmy-goose

Very rare summer visitor. A female was shot at Moora in January 1966 (T.L. Riggert); two were shot 100 km N Perth in 1902 (E.A. LeSouef); two were observed at Lake Joondalup in March 1967 (B.D. Bond); some were shot at Lake Muir in December 1911 and others were shot at Lake Ewlyamartup (T. Carter).

Oxyura australis Gould

Blue-billed Duck

Range

Wetter half of mainland, north to Lake Eganu and inland to Moora, Wannamal Lake, Lake Chittering, Northam, Toolibin Lake, Lake Coomelberrup, Coyrecup Lake,

Gnowangerup and the Fitzgerald and Jerdacuttup Rivers. Casual further inland (Walyormouring Lake, Lake Mears and Brown Lake).

Status etc.

Locally moderately common but generally scarce or uncommon (most numerous on Swan Coastal Plain and in wetter parts of Great Southern, least in drier [and thus saltier] parts of range); usually in pairs or small flocks, occasionally larger aggregations (up to 1200). Mainly the deeper freshwater swamps and lakes, occasionally saltlakes and estuaries freshened by flood waters, rarely sheltered inlets of sea (Princess Royal Harbour). Breeding north to Dalaroo Swamps (near Moora) and east to Toodyay, Toolibin Lake, Lake Gundaring and Lake Seppings (near Albany): early August to late March, mostly October to January; C/3(1), 4(1), 5(1), 6(7), 7(4), 8(3), 9(2), 10(3).

Biziura lobata (Shaw)

Musk Duck

Range

Wetter half of mainland, north to Arrowsmith Lake and east to Coorow, Moora, Mogumber Swamp, Lake Chittering, Northam, Yenyening Lakes, Yealering, Lake Magenta, Pabelup Lake and Bremer Bay. Casual further north (Wittecarra Gully) and east (Lake Ninan and Hyden).

Status etc.

Scarce to common; usually in ones, twos or family parties, also larger aggregations (up to 2000) in summer and autumn. Breeding on fresh waters well-vegetated with *Typha*, *Baumea* and other rushes or melaleucas, north to Caro Swamp (? to Pinjarrega Lake) and east to Dalaroo Swamps, Mogumber Swamp, Northam, Toolibin Lake, Lake Grace, Lake Bryde, Yaalup Lagoon and Lake Seppings: late July to early February; C/2(22), 3(14), 4(3). Largely dispersing in summer and autumn to brackish or salt waters, mainly estuaries and flood-freshened saltlakes but also sheltered sea inlets (King George Sound).

Accipitridae

Elanus caeruleus notatus Gould

Black-shoulder Kite

Range

Greater part of mainland, but not deep south-west (south and west of Busselton, Bridgetown and Denmark). Casual on Garden I. and at Forest Grove and Nornalup.

Status etc.

Mainly a visitor (all months, mostly April to October). Common locally, e.g. coastal plain between Geraldton and Dongara, and in certain periods, e.g. 1935, 1942-44, 1951-52 and 1985-86, but generally scarce to moderately common; usually single. Open or lightly wooded country, especially farmlands and in particular grain-growing areas (where its principal prey, the house mouse, is abundant). Breeding reported from East Yuna south to Bridgetown, Dumbleyung and Bremer Bay: June to December; C/1(1), 2(2), 3(11), 4(3).

Elanus scriptus Gould

Letter-winged Kite

Scarce and infrequent visitor; in ones, twos or small flocks (up to 11). A small influx (coinciding with larger irruption of Black-shouldered Kites) from December 1951 to April 1953 to northern and central wheat belt from Dongara and Gutha south-southeast to Cunderdin, Kwolyin and Burracoppin (D.L. Serventy 1953, *West. Aust. Nat.* 3: 191). Also recorded in April 1962 (Badgingarra), 1970-71 (Mullewa and Manmanning) and June 1980 (Gnowangerup).

Lophoictinia isura (Gould)

Square-tailed Kite

Range

Southern half, north to Mt Lesueur, Moora, Dowerin, Woolundra and Emu Rock.

Status etc.

Visitor (late July to early March, mostly late August to early February). Scarce to moderately common (most numerous in well-vegetated southern interior, least on Swan Coastal Plain and in wheat belt); usually single. Mainly eucalypt woodlands and forests, occasionally shrublands. Breeding in September and October; C/2(6), 3(10).

Hamirostra melanosternon (Gould)

Black-breasted Kite

The only authentic record is the specimen J. Gould received from the Swan River [Colony], presumably collected by J. Gilbert in the Toodyay area. It was evidently common enough in colonial times for local aborigines to know of the birds' ability to break Emu eggs. The few recent records seem to be based on Square-tailed Kites. It possibly occurs in the more open pastoral country of the extreme north-east, beyond the mulga-eucalypt line (it has been recorded in such country just outside the Division).

Haliastur sphenurus (Vieillot)

Whistling Kite

Range

Throughout the mainland.

Status etc.

At present scarce to moderately common (most numerous about northern wetlands from the Murchison south to Arrowsmith Lake, least in deep south-west); usually in ones or twos, occasionally small flocks (up to 12).

Mainly wooded wetlands (swamps, lakes, river pools and estuaries) and farmlands; attracted to road-killed animals (mainly rabbits, also kangaroos, foxes and galahs) and other carrion (including dead nestlings in colonies of breeding waterfowl and seabirds and other animals cast up on beaches after storms) and non-commercial fish discarded by fishermen. Breeding from late July to mid-November; C/2(31), 3(5), 4(1).

Before the arrival of the rabbit it was largely confined to wetlands south to Busselton, Lake Muir and Bremer Bay. By 1930 it was common in the Moora, Northam and Lake Grace districts. In 1938 it colonized the Bridgetown district. By the early 1950s it was the commonest hawk in the Division, but it then began to decline following the introduction

of myxomatosis (and great decrease in rabbit numbers) and the widespread poisoning of foxes.

Milvus migrans affinis Gould

Black Kite

Between late 1951 and early 1953 uncommon to very common (most numerous in the Northampton, Geraldton and Mullewa districts) in much of Division, mainly in farmlands and urban areas, south to the Swan River, Narrogin and Lake Magenta, and east to Morawa, Beacon and Kellerberrin; usually in ones, twos or small flocks, occasionally aggregations of many hundreds at rabbits dying of myxomatosis. Otherwise a very rare and very infrequent visitor.

Accipiter fasciatus fasciatus (Vigors and Horsfield)

Brown Goshawk

Range

Throughout the mainland. Casual on Rottnest, Garden, Eclipse and Bald Is.

Status etc.

Migratory, moving north in autumn and south in spring. Uncommon to moderately common (least numerous in driest parts of range and in heavily cleared areas, more plentiful in past); usually single. Well-wooded country. Breeding reported north to the lower Murchison and inland to Mingenew, Gunyidi, Northam, Kwolyin, Lake Grace, Lake Magenta and the Ravensthorpe Range, and on Bald I.: late August to early November; C/2(8), 3(35), 4(24).

Accipiter cirrocephalus cirrocephalus (Vieillot)

Collared Sparrowhawk

Range

Throughout the mainland.

Status etc.

Rare to uncommon (least numerous in heavily cleared areas; much more plentiful in past); usually single. Well-wooded country, especially about watercourses, lakes and swamps. Breeding reported from the lower Murchison south to the Stirling Range and east to Stockyard Gully, Watheroo, Walebing, Durokoppin (30 km N Kellerberrin) and the Fitzgerald: late August to early December; C/2(2), 3(27), 4(16).

Aquila morphnoides morphnoides Gould

Little Eagle

Range

Greater part of mainland, but not the deep south-west, south of Yallingup and Lake Muir and west of Nornalup.

Status etc.

At present rare to moderately common (most numerous in better-watered parts of semiarid zone, least in humid zone); usually single. Well-wooded and partly cleared

country, especially near water. Breeding from the Murchison south to the Stirling Range and the Fitzgerald: late August to late October; C/1(18), 2(51). For breeding behaviour in Darling Range see J. Dell (1971, *West. Aust. Nat.* 11: 186).

Before the arrival of the rabbit in the first quarter of this century the Little Eagle was rare and unknown south of Moora (where P.T. Sandland collected a clutch of eggs in 1909 and another in 1911). By the 1930s it was common in much of the wheat belt, but its numbers have declined since the 1950s following the great reduction in rabbit numbers.

Aquila audax (Latham)

Wedge-tailed Eagle

Range

Throughout the mainland.

Status etc.

At present rare to moderately common (least numerous in heavily-forested deep south-west); usually single, occasionally in twos, infrequently in threes. Lightly to moderately wooded country; attracted to rabbits, lambing, waste at kangaroo shooters' and possum trappers' camps, and dead Emus along vermin-proof fences. Breeding in much of mainland and on Michaelmas and Bald Is: late June to mid-September; C/1(3), 2(112), 3(2). An eagle banded as a nestling at Miling was recovered near Wagin (330 km SSE) six months later.

The advent of sheep, and later rabbits, probably saw a rise in eagle numbers; but in the past, if not the present, farmers and pastoralists waged constant war on them. Around the turn of the century eagles were being poisoned with strychnine on Cummin Station near Narembeen. In 1911 F. Muir informed T. Carter that he killed about 50 eagles a year at Lake Muir. In 1919 they were declared vermin throughout the State. In 1976 they received protection in the South-west Division (but remain unprotected in many pastoral areas in the North-west and Eastern Divisions).

Haliaeetus leucogaster (Gmelin)

White-breasted Sea Eagle

Range

Islands, coasts and estuaries from the Houtman Abrolhos and Murchison River south and east to the Hamersley River. Casual inland (Karakin Lakes, Lake Claremont, Northam and Ibis Lake).

Status etc.

Moderately common to very common in the Houtman Abrolhos, scarce or uncommon about west-coast islands between the Beagle Is and Edward I. and on south-east coast east of Albany, rare or absent elsewhere; usually in ones or twos. Breeding mainly offshore (on 19 islands and rocks in the Abrolhos and on Beagle, Boullanger and Edward Is), also two mainland records (in tall trees at Peel Inlet and Wilson Inlet): early July to late August; C/1(5), 2(22), 3(2).

Circus assimilis Jardine and Selby

Spotted Harrier

Range

Greater part of Division, including Fisherman and Rottnest Is but not the deep south-west (south of Busselton and Bridgetown and west of Two Peoples Bay).

Status etc.

Scarce or uncommon in semiarid zone, rare or absent further south; usually single. Sparsely wooded country, especially farmlands and heathlands. Breeding south and west to the mouth of the Hill River, Moora, Grass Valley (14 km SE Northam) and Dumbleyung: mid-August to early October; C/2(1), 3(11), 4(1).

Circus (aeruginosus) approximans Peale

Marsh Harrier

Range

South-western, north to Namming Lake and Moora and east to Mogumber Swamp, Lake Chittering, Northam, Yealering, Toolibin Lake, Dumbleyung and the Fitzgerald. Casual at Lakes Eganu and Mears and on Rottnest, Carnac and Eclipse Is.

Status etc.

Scarce to moderately common (formerly common on coastal plains); usually single, occasionally in twos. Mainly rushy swamps, lakes and dams with breeding waterfowl, also farmlands and other sparsely wooded habitats. Breeding mainly among rushes but also in grain crops, north to Moora and east to Northam, Wagin and Manypeaks: late August to January; C/2(4), 3(5), 4(1), 5(1).

Pandion haliaetus cristatus (Vieillot)

Osprey

Range

Islands, coasts and estuaries from the Houtman Abrolhos and Murchison River south and east to the Hamersley River.

Status etc.

Moderately common to very common in the Houtman Abrolhos, moderately common about west-coast islands from Beagle Is south to Edward I., scarce or uncommon elsewhere; usually single. Breeding mainly offshore (on 34 islands and rocks in the Abrolhos and on Beagle Is, Snag I., Drummond Rock, Milligan, Fisherman, Sandland, Favorite, Osprey, Tern, Boullanger, Whitlock and Escape Is, Essex Rocks, Sand Knoll Ledge, Cervantes, Buller, Whittell, Green, Wedge, Lancelin and Edward Is, rocks off Rottnest I., rock off Garden I., formerly Penguin I., rock off Cape Mentelle, rock near Hamelin I. and rock in mouth of Blackwood River) and on mainland at Kalbarri, Sandy Point, North Head, Point D'Entrecasteaux, outlet of Broke Inlet, Torbay, Limestone Head (Albany), lower King River and Quoin Head: late July to mid-October; C/ 1(4), 2(23), 3(68), 4(6). Of ten nestlings banded on Rottnest I. one was recovered at Lancelin, one at Wilson Inlet and one near Cape Riche.

Falconidae

Falco subniger Gray

Black Falcon

Rare visitor (mainly summer and autumn) to lightly wooded country south to Mundijong and Katanning; in ones, twos or threes.

Falco peregrinus macropus Swainson

Peregrine

Range

Greater part of mainland, north to Ajana and east to East Yuna, Buntine, Dalwallinu, Yorkrakine, Narembeen and Gibb Rock; also St Alouarn and Chatham Is.

Status etc.

Locally moderately common, e.g. at higher levels of Stirling Range, but generally scarce or uncommon; usually single, occasionally in twos. Originally confined to vicinity of cliffs in ranges, gorges and coasts (where it nests on rock ledges) and wetlands (where it nests in hollow trees), but recently beginning to colonize wheat belt, where it lays in old raven nests. Breeding north to the Greenough (Ellendale Pool) and east to Dowerin, Kojonup and the Pallinup: late August to early October; C/3(3).

Falco longipennis longipennis Swainson

Australian Hobby

Range

Greater part of Division, including Lancelin and Rottnest Is.

Status etc.

Uncommon to moderately common in semiarid zone, scarce to moderately common visitor (mostly autumn and winter) to subhumid zone, rare in humid zone and especially infrequent in deep south-west (south of Busselton and west of Denmark). Lightly to moderately wooded country, especially near water. Breeding in semiarid interior west to East Yuna, Mingenew, Moora, Koojan, Meckering, East Wickepin, Dumblebung, Ongerup and Yellilup Swamp: July to November, mostly October; C/2(1), 3(7), 4(1).

Falco hypoleucos Gould

Grey Falcon

Formerly inhabiting (or visiting) the semiarid interior. The type specimen was collected by L. Burges near York (J. Gould 1865, *Bds Aust.* 1: 24). Subsequently J. Gilbert shot one over grassy plains between New Norcia and Moora on 29 August 1842 (H.M. Whittell 1942, *Emu* 41: 231). None of the few recent records is acceptable.

Falco berigora berigora Vigors and Horsfield

Brown Falcon

Range

Greater part of mainland. Casual on Rottnest, Chatham, Green (in Torbay), Eclipse and Breaksea Is.

Status etc.

At present scarce to uncommon (most numerous in far north and north-east, beyond

the wheat belt); usually single. Lightly wooded and partly cleared country; attracted to fires, swarming grasshoppers, larvae of other insects and young quail disturbed by grain harvesters. Breeding from mid-August to early October; C/ 1(1), 2(9), 3(21), 4(2).

Formerly common to very common but, like the carrion-eating hawks, it has markedly declined since the 1950s.

Taxonomy

For variation in plumage see R. Weatherly *et al.* (1985, *Emu* 85: 257-260).

Falco cenchroides cenchroides Vigors and Horsfield

Australian Kestrel

Range

Greater part of Division, including North, West Wallabi, East Wallabi, Pelsaert, Webb, Fisherman, Sandland, Favorite, Osprey, Tern, Boullanger, Whitlock and Escape Is, Essex Rocks, and Cervantes, Whittell, Wedge, Lancelin, Rottnest, Carnac, Garden, Seal, Penguin, Chatham, Eclipse, Michaelmas, Breaksea and Bald Is, but absent from much of deep south-west except for vicinity of coast eastwards from the Blackwood River.

Status etc.

Uncommon to very common (most numerous near west coast, where numbers augmented in autumn and winter); usually single. Treeless or lightly wooded country, particularly coastal heaths and dunes; also low shrublands of sandplains (especially when burnt) and around saltlakes, and farmlands and about roads and railways; attracted to mice disturbed by hay carters. Breeding reported on mainland south to Fremantle, Broomehill and Jerramungup, and on Pelsaert, Webb and Boullanger Is, Essex Rocks and Whittell, Lancelin, Rottnest, Seal, Penguin and Eclipse Is: mid-August to late October; C/2(2), 3(13), 4(26), 5(12).

Megapodiidae

Leipoa ocellata Gould

Mallee Fowl

Range

Mainly eastern arid and semiarid zones west to Yandi, Wandana, East Yuna, Wilroy, Caron, Buntine, Nugadong Nature Reserve, '30 mi E Moora' (formerly), the Wongan Hills, Clackline, Woyaline, Dryandra, Dumbleyung, Broomehill, northern foot of Stirling Range and Beaufort Inlet. Also patchily on semiarid upper west coast (Meanarra Hill, Freshwater Point and formerly Cockleshell Gully) and in subhumid and humid zones (Beermullah area, lower west coast from Busselton to Cape Mentelle, south-west coast from the Blackwood River to Point D'Entrecasteaux, and Lake Muir area).

Status etc.

Originally common and widespread in semiarid zone, mainly in scrubs of mallee and

other low eucalypts on sandy and lateritic soils, also acacia scrubs on heavy red soils, especially north and east of mulga-eucalypt line; now uncommon and patchily distributed, owing to clearing of much of its habitat for agriculture (ironically fallen wheat in stubble paddocks and on roads is an important food for many Mallee Fowl); usually single. The Beermullah population died out early this century; the population inhabiting stinkwood and other coastal scrubs south and east of Cape Naturaliste was extinct by 1950; the southwest-coastal population persists, at least in the Northcliffe district; the Lake Muir birds died out 'years ago' (B. Hanekamp). Breeding from mid-August to late January; C/ 13(1), 22(1), 24(2), 29(1). For notes on nidification etc. see B.W. Leake (1961, *Reminiscences*, pp. 71-83).

Phasianidae*

Coturnix novaezelandiae pectoralis Gould

Stubble Quail

Range

Throughout the mainland.

Status etc.

Nomadic, tending to move coastwards in summer and inland in winter. Moderately common; in pairs or small flocks. Long grass and sedges (especially around springs and swamps), heathlands, grain and fodder crops, and potato fields. Breeding from August to March (earliest in northern wheat belt, latest on south coast); C/ 5(1), 6(7), 7(8), 8(19), 9(10), 10(4), 11(4), 12(2), 13(1).

Coturnix ypsilophora australis (Latham)

Brown Quail

Range

Far south, north to Cape Naturaliste, Bridgetown, Lake Muir and Cheyne Beach; also Breaksea and Bald Is.

Status etc.

Common. Swampy sedgeland and coastal heaths; also potato fields. Breeding from late October to early April; C/ 6(1), 8(2), 9(4), 13(1).

Phasianus colchicus Linnaeus

Domestic Pheasant

Feral on Rottne I. since 1928. Common; usually single, occasionally in small groups. Favouring well-wooded country near fresh water. Breeding in October and November; C/ 8(1), 14(1).

* Small feral colonies of Silver Pheasants *Lophura nycthemera* and Domestic Turkeys *Meleagris gallopavo* occurred briefly near the Porongurup Range and on Garden I. respectively. The Brown Quails and King Quails *Coturnix chinensis* occasionally reported and collected on the Swan Coastal Plain are presumably aviary escapees.

Pavo cristatus Linnaeus

Common Peafowl

Feral on Rottnest I. since ca 1912. Moderately common; usually single or in family parties. Well-wooded country. Breeding in October and November; C/5(1), B/(7).

Colonies on the Swan Coastal Plain near Gingin and Pinjarra did not long survive the coming of the fox.

Turnicidae

Turnix varia varia (Latham)

Painted Button-quail

Range

Greater part of mainland, north to the lower Murchison and inland to East Yuna, Coorow, Wongan Hills and Billyacatting Hill.

Status etc.

Scarce to moderately common (most numerous in undisturbed habitats); usually in pairs. Thickets, scrubs and forests, preferably on lateritic and other stony soils. Breeding from late August to early November, also in March; C/4(13).

Turnix varia scintillans (Gould)

Range

Endemic to the Houtman Abrolhos (North, East Wallabi, West Wallabi, Seagull and Pigeon Is).

Status etc.

Common; usually in pairs. Open tussock grassland (*Spinifex longifolius*) and shrub steppe (*Atriplex*, *Halosarcia*). Breeding from April to October; C/3(14).

Taxonomy

See G.M. Storr and R.E. Johnstone (1984, *Rec. West. Aust. Mus.* 11: 315).

Turnix velox (Gould)

Little Button-quail

Range

Northern and eastern, mainly in semiarid zone, west and south to Green Head, Moora, Toodyay (rarely Kalamunda), Congelin, Boscabel, the Stirling Range and Fitzgerald River.

Status etc.

Irregular visitor, usually arriving in spring and leaving in late summer. Very common in some years, e.g. around Northam in summer 1939-40, but generally rare to moderately common; in ones, twos or small parties. Open or lightly wooded grasslands (including spinifex and cereal crops), heathlands and samphire flats. Breeding from October to January; C/2(1), 3(5), 4(6).

Gruidae

Grus rubicundus (Perry)

Brolga

Very rare visitor. One seen at Beacon on 27 August 1952, a year noteworthy for number of visitors from northern or eastern Australia (D.L. Serventy 1953, *West. Aust. Nat.* 3: 182).

Rallidae

Gallirallus philippensis melli (Mathews)

Banded Land Rail

Range

Breeding in wetter half of Division, north to the lower Murchison (upstream to Allong Springs) and east to Crackers Swamp, Northam, Woodanilling and Albany, and on Pelsaert I., Jurien Bay islands and Lancelin I. Further east (19 km W Morawa, Cunderdin and Naremben) and on Sandland, Rottnest and Penguin Is during passage.

Status etc.

Mainly a visitor (mostly recorded from September to March). Moderately common on Swan Coastal Plain and around Albany, seldom reported elsewhere. On mainland in margins of lakes, swamps, estuaries, watercourses and drains well vegetated with long grass, rushes, sedges and teatrees; also irrigated fodder crops. On Pelsaert I. in mangroves, and on Sandland and Lancelin Is in dense *Nitraria billardi* shrubland. Breeding from late August to late December; C/4(1), 5(2), 6(1), 8(1).

Crex crex (Linnaeus)

Corncrake

Vagrant. One flew on to a ship off west coast in ca lat. 30°S on 9 December 1944 (D.L. Serventy and H.M. Whittell 1976, *Bds West. Aust.*, p. 186).

Rallus pectoralis clelandi Mathews

Lewin's Water Rail

Status uncertain. A few records in March, September and December from deep south-west, north to Margaret River and swamp 25 km SW Bridgetown and east to King George Sound. Last reported in 1932.

Taxonomy.

See C.J.O. Harrison (1975, *Emu* 75: 39-40).

Porzana pusilla palustris Gould

Baillon's Crake

Range

South-western, north to Karakin Lakes and Crackers Swamp and east to Northam, Badjaling, Nomans Lake, Dumbleyung, Ocumup Swamp and Hopetoun.

Status etc.

Moderately common (at least in spring and summer) on Swan Coastal Plain, scarce

elsewhere. Rushes and flooded grass and low shrubs in swamps and around lakes; occasionally saltlakes freshened in wet winters and farm dams. Breeding from September to December; C/3(1), 4(3), 5(1), 6(1).

Porzana fluminea Gould

Spotted Crake

Range

Wetter half of mainland, north to Hutt Lagoon and east to Eatha Spring, Moora (Dalaroo Swamps), Mogumber Swamp, the upper Avon (12 and 23 km S Beverley), Lime Lake, Anderson Lake and Albany. Casual further east (Lake Mears and Lake Grace) and on Pelsaert I.

Status etc.

Locally common, but generally uncommon or moderately common. Rushes, sedges, low shrubs and samphires in swamps and around lakes (fresh or salt) and estuaries. Breeding from late August to mid-December; C/4(4).

Porzana tabuensis (Gmelin)

Spotless Crake

Range

Mainly coastal and near-coastal, north to Hutt Lagoon, east to Bremer Bay and inland to Beetalyinna Pool, Crackers Swamp, Lake Chittering, Yenyening Lakes, Woodanilling and Mettler Lake; also Houtman Abrolhos (17 islands) and Fisherman, Sandland, Lancelin and Eclipse Is.

Status etc.

Locally very common (Morley, Wooded and Pelsaert Is in the Abrolhos), uncommon to common on other islands, on coastal plains and in the Darling Range (from Lake Chittering south to Dwellingup), scarce further inland. Rushes, sedges and shrubbery in swamps, around lakes and along streams and drains; also mangroves (Morley, Wooded and Pelsaert Is), low dry scrubs (*Nitraria* and *Myoporum*) and shrub steppe on other islands, and irrigated fodder crops. Breeding from late August to February; C/4(5), 6(1).

Porphyrio porhyrio bellus Gould

Swamphen

Range

South-western, north to Moora and east to Wannamal Lake, Lake Chittering, Bailup, Northam (until 1954), Yealering, Toolibin Lake, Dumbleyung, the upper Pallinup and Mettler Lake. [Unconfirmed reports from Galena, Yealering, Toolibin Lake and Bremer Bay.]

Status etc.

Moderately common to very common; in ones, twos or small parties, occasionally flocks (up to 100). Shallows and grassy flats (including pastures and sports grounds) near rushes and other shelter in swamps, around lakes and along rivers. Breeding from mid-July to late November; C/2(1), 3(9), 4(19), 5(2), 6(1), 7(1), 8(1).

Gallinula ventralis Gould

Black-tailed Native Hen

Range

Greater part of Division, including Eclipse I.

Status etc.

Mainly an irregular visitor from arid zone; birds present in most years, sometimes in large numbers, e.g. 1833, 1835, 1858, 1872, 1886, 1897, 1907, 1919, 1952, 1975, 1985. Generally more numerous in north than south; usually in ones, twos or small parties, occasionally flocks of some hundreds. Mainly grasslands (including pastures and young cereal crops) inundated or close to river pools, claypans, flood waters, farm dams, swamps and lakes. Breeding reported south and west to Lake Claremont, Duranillin, Nyabing, Ongerup and Cape Riche, especially in swamps dominated by low shrubs: July to December; C/4(1), 6(2), 7(1), 8(1).

Gallinula tenebrosa tenebrosa Gould

Dusky Moorhen

Range

South-western, north to the lower Moore River and Gingin Brook, and east to Lake Chittering, Northam, Yenyening Lakes, Dumbleyung (Coblinine River), upper Pallinup River and Albany.

Status etc.

Common in Perth Metro Area and around the lower Vasse and lower Warren Rivers, but generally uncommon and patchily distributed; usually in ones, twos or family parties. Swamps, lakes (including ornamental ponds), drains and larger dams, near rushes or other cover, and occasionally nearby grassy flats, including lawns. Breeding north to Lake Bambun, in shrub thickets as well as rushes: August to December; C/4(4), 5(7), 6(4), 7(3), 8(2), 9(1).

As Gould did not tabulate this species for Western Australia, it seems that Gilbert did not note it; if so, it has increased around Perth since colonial times and continues to do so, judging from a recent count of 232 on a small part of Canning River (R. Jaensch 1983, *West. Aust. Bd Notes* No. 27: 9).

Fulica atra australis Gould

Coot

Range

Wetter half of mainland, north to the Murchison (upstream to The Elbow) and inland to the middle Greenough (Noondamurra Pool), Carnamah, Namban, New Norcia, Lake Ninan, Walyormouring Lake, Kellerberrin, Yealering, Lake Grace and the Jerdacuttup River.

Status etc.

At present very common on Swan Coastal Plain, in Great Southern and on south coast, scarce to common elsewhere; usually in pairs or small flocks, but huge

aggregations in summer-autumn, e.g. 10 500 on Lake Dumbleyung in 1985, 5200 on Thomsons Lake in 1985, 4500 on Lake Guraga in 1987 and 3000 on Lake Pinjarrega in 1982. Mainly fresh or brackish waters and adjacent grassy flats, including lawns; also saltlakes, estuaries and sheltered seas (Wilson Inlet and Princess Royal Harbour) in summer and autumn. Breeding north to Hutt Lagoon (Utcha Swamp) and Four Mile Pool and inland to the upper East Chapman River (30 km ENE Nabawa), Beetalyinna Pool, Carnamah, Moora, Mogumber Swamp, Walyormouring Lake, Tammin, Kwolyin, Yealering, Lake Grace and Ravensthorpe: July to March; C/4(13), 5(47), 6(37), 7(27), 8(9), 9(10), 10(4), 12(1), 14(1), 16(1). It has undergone an enormous increase in numbers this century.

Otididae

Otis australis Gray

Australian Bustard

Range

Semiarid and subhumid zones, south in the west to Singleton (formerly to Bunbury) and in the east to south-east coast west nearly to Cheyne Beach. Casual at Bridgetown.

Status etc.

Nomadic. At present scarce to moderately common on west coast and hinterland between Dongara and northern outskirts of Perth and in Fitzgerald River National Park, scarce or uncommon elsewhere south of 32°S; usually in ones or twos, occasionally small parties (up to 8), formerly also in flocks (up to 32). Mainly low shrublands of sandplains; also farmlands. A few breeding reports south to Cockleshell Gully and the Fitzgerald: September; C/1(4), 3(1).

A declining species, it was still common early this century in the north (about the lower Murchison, Yuna, Geraldton and the upper Irwin) and seasonally further south (Watheroo, Moora, Lake Hinds, Gnowangerup and Borden). It was first seen in the eastern wheat belt in 1882 (B. W. Leake 1962, *Eastern Wheatbelt Wildlife*, p. 77).

Rostratulidae

Rostratula benghalensis australis (Gould)

Painted Snipe

Very rare (formerly uncommon) visitor to Swan Coastal Plain. Only record elsewhere is C/3 (WAM A10226) collected by C.L.E. Orton at Dalaroo Swamp, Moora, on 24 October 1923.

Haematopodidae

Haematopus (ostralegus) longirostris Vieillot

Pied Oystercatcher

Range

West coast and islands from the Wallabi Group and Kalbarri south to Preston Beach. South and south-east coasts from Wilson Inlet east to Dempster Inlet, including Lake Powell and islands in King George Sound. Casual on south-west coast and islands.

Status etc.

Uncommon to common (most numerous on largest islands in Houtman Abrolhos, least on west-coast mainland south of Lancelin); usually in pairs or family parties, occasionally flocks (up to 30) in off-season. Mainly sandy beaches (especially on west coast) and estuaries (especially on south and south-east coasts); also reef flats, mud flats, shores of near-coastal lakes and short grass. Breeding reported on islands off west coast (East Wallabi, Turnstone, West Wallabi, Pelsaert, Milligan, Boullanger, Buller, Green, Lancelin, Rottnest, Carnac and Penguin), on mainland in Jurien area (Sandy Point, point opposite Sandland I. and Thirsty Point) and on Gull Rock in King George Sound: July to October; C/1(2), 2(30), 3(2).

Haematopus fuliginosus ophthalmicus Castelnau and Ramsay

Sooty Oystercatcher

Range

Far north coast at the mouth of the Murchison and a little further south (Red Bluff).

Status etc.

Moderately common; in pairs or family parties. Mainly reef flats.

Taxonomy

This uncollected population presumably belongs to this subspecies or is intermediate between it and the next.

Haematopus fuliginosus fuliginosus Gould

Range

Houtman Abrolhos. Lower west coast (north to Burns Beach); south-west coast (north to Hamelin Bay), south coast, and south-east coast (east to Quoin Head), including numerous islands (as far offshore as Rottnest, St Alouarn and Eclipse). Casual on the Beagle Is and at Green Head.

Status etc.

Uncommon resident in the Abrolhos, uncommon to moderately common resident on southern coasts and islands, rare visitor (mainly in winter) to lower west coast; usually in pairs or family parties, occasionally small flocks (up to 8). Mainly rocky coasts, also estuaries and seaweedy beaches. Breeding reported on West Wallabi, Flat, Sandy, Chatham, Stanley, Seagull, Muttonbird, Breaksea, Mistaken, Seal and Coffin Is and Gull Rock (King George Sound): late September to early November (also late July or early August in the Abrolhos); C/1(1), 2(18).

Charadriidae

Vanellus miles (Boddaert)

Masked Plover

Range

South-western, north to Moora and east to Dowerin and Albany.

Status etc.

Rare visitor (October to April); in ones, twos or threes. Margins of freshwater swamps and lakes, dams, pastures and estuaries. Reported in November 1956, January 1957, October and December 1958, March and October 1959, December 1965, January and November 1966, February 1981, April and October 1983 and October 1986. Specimens and observed birds have been variously identified as *V. m. miles* and *V. m. novaehollandiae* Stephens, on two occasions the two together.

Vanellus tricolor (Vieillot)

Banded Plover

Range

At present greater part of mainland and Rottne I. Casual in Houtman Abrolhos and on Garden I.

Status etc.

Uncommon to common (most numerous in wheat belt); usually in ones, twos or family parties, also flocks (up to 100) from September to April. Sparsely wooded country with low ground cover, especially farmlands, but also chenopod flats, short-grass flats, bare margins of swamps, lakes and granite outcrops, bare ground around mills, homesteads and woolsheds, playing fields and airports. Breeding in all months (mainly winter); C/2(1), 3(11), 4(33).

If Banded Plovers occurred in Western Australia in colonial times they must have been rare and local, for neither Gilbert nor other informants of Gould reported them. It is thus possible that the embryonic wheat belt was colonized by vagrants from the Nullarbor Plain or eastern Australia late last century. The first records are observations in the Kellerberrin district in 1895 and 1899 (B. W. Leake) and specimens received by the Western Australian Museum in 1899 (two from Pinjarra, three from Katanning and one from Cranbrook). Although it was not listed by A. W. Milligan for the Stirling Range/Tenterden area in 1902 or by H. E. Hill for the Brookton district in 1903, it was evidently increasing rapidly in cleared country around the turn of the century, for in the first decade it was established at Broomehill (T. Carter), Naremben (A. F. Crossman), York (G. C. Shortridge), New Norcia (F. L. Whitlock) and Moora (C. L. E. Orton). In this period it was recorded by Whitlock in the upper Irwin valley, but these birds may have been introduced from South Australia (LeSouef 1920, *Emu* 19: 30). It was established near Kellerberrin soon after 1912 (B. W. Leake). The species' hold on the Midlands and further north was tenuous for some time; none of the RAOU parties listed it in the Moora/Dongara/Geraldton region in 1921. However, within a few years it was established in the Irwin and Greenough River valleys and around Geraldton. Colonization of the Swan Coastal Plain, begun in the second decade, was completed in the 1930s. Last to be colonized was the deep south-west; it was breeding at Bridgetown by 1931 (H. M. Whittell) and Northcliffe by 1942 (F. McRitchie).

***Pluvialis squatarola* (Linnaeus)**

Grey Plover

Range

West coast from the Murchison south to Bunbury, including many islands from the Houtman Abrolhos to Penguin. South-eastern inlets and estuaries from Princess Royal Harbour north-east to Fitzgerald Inlet. Casual at inland lakes (Guraga, Karakin, Mears and Muir).

Status etc.

Uncommon to moderately common visitor (all months, mostly September to April); usually in ones or twos, occasionally flocks (up to 100). Sea beaches, reef flats, estuarine mudflats and occasionally drying freshwater lakes and shores of near-coastal saltlakes.

***Pluvialis fulva* (Gmelin)**

Eastern Golden Plover

Range

West coast from the Murchison south to Busselton, including Pelsaert and Rottnest Is. Southern inlets at Augusta and from Torbay north-east to Bremer Bay. Casual inland (Eurardy, Dandaragan, Lake Guraga, Forrestdale Lake, Benger Swamp and Yellilup Swamp).

Status etc.

Visitor (early August to late April). Locally moderately common but generally rare to uncommon; in ones, twos or small parties, seldom flocks (up to 74). Mainly salt or brackish marshes about estuaries and near-coastal lakes; also mudflats and beaches.

***Charadrius cucullatus* Vieillot**

Hooded Plover

Range

Greater part of mainland, north to Port Gregory, Three Springs, Mt Gibson and Lake Brown; also Houtman Abrolhos and Rottnest I.

Status etc.

Uncommon to common resident on southern sea beaches and inlets from Cape Naturaliste east to the Hamersley River. Scarce to moderately common breeding visitor (mostly in winter and spring) to shores of saltlakes in semiarid interior from Mt Gibson south to the Stirling Range (and ? K wornicup Lake) and non-breeding visitor (mostly in summer and autumn) to beaches, estuaries and saltlakes on or near west coast south to Bunbury. Casual at Jerdacuttup Lakes. In ones, twos or small parties, rarely flocks (up to 59). Breeding from July to October, also November and December on southern beaches; C/2(3), 3(6).

***Charadrius dubius curonicus* Gmelin**

Little Ringed Plover

Very rare visitor (December to May) to Swan Coastal Plain. A few reports of single birds at Forrestdale Lake since February 1981.

Charadrius ruficapillus Temminck

Red-capped Plover

Range

Greater part of Division, including many islands off west coast from the Houtman Abrolhos to Penguin and two off south coast (Sandy and Muttonbird).

Status etc.

Uncommon to very common; in ones, twos or small flocks, occasionally large flocks (up to 3000) especially in summer and autumn. Mainly saltlakes, estuaries, sea beaches and sparsely vegetated beds of drying freshwater lakes and swamps; also coastal dunes and dams. Breeding in all months, mostly August to November; C/1(3), 2(43).

Charadrius bicinctus bicinctus Jardine and Selby

Double-banded Plover

Visitor (March to August) to vicinity of coasts north to Leeman. Scarce on south coast, very rare on west coast. Sea beaches and shores of estuaries and near-coastal saltlakes.

Charadrius mongolus mongolus Pallas

Mongolian Sand Plover

Very rare visitor. Two specimens collected by G.C. Shortridge near Albany (Pelican Point and Kalgan River) in March 1906 and a few sight records of varying plausibility north to Kalbarri and east to Bremer Bay.

Charadrius leschenaultii Lesson

Large Sand Plover

Range

West coast from the Murchison south to Bunbury, including the Houtman Abrolhos, Whitlock, Boullanger, Rottneest and Garden Is. Southern coasts from Augusta east to Bremer Bay. Casual inland (Bimbijy, Herdsman Lake and Lake Muir).

Status etc.

Visitor (August to April). Scarce to moderately common (most numerous in King George Sound); in ones, twos or small flocks (up to 18). Sea beaches and shores of estuaries and near-coastal saltlakes (including those on islands).

Charadrius melanops Vieillot

Black-fronted Plover

Range

Greater part of mainland but no reports from deep south-west (south of Busselton and Glen Mervyn Dam and west of Wilson Inlet). Casual on Rottneest I.

Status etc.

Uncommon to moderately common; usually in ones or twos, also loose flocks (up to 75) in autumn. Bare margins of river pools, fresh and brackish lakes and swamps, soaks, ephemeral pools, farm dams and reservoirs; occasionally edge of saltlakes and estuaries. Breeding reported south to Wellington Dam and the Albany district: August to February; C/2(7), 3(12), 4(3).

Charadrius veredus Gould

Oriental Plover

Vagrant. One (WAM A2770) collected at Forrestdale Lake in January 1926.

Charadrius cinctus (Gould)

Red-kneed Plover

Range

Greater part of mainland, but not the deep south-west (south of Dunsborough and west of Lake Powell).

Status etc.

Irregular visitor, mostly August to January. Scarce to moderately common (most numerous in Great Southern); in ones, twos or small parties, occasionally larger aggregations (up to 150). Mainly muddy edges of fresh or brackish swamps and lakes. Breeding reported south to the Swan, Towerrinning Lake and Miripin Lake: September to January; C/3(3), 4(8).

Peltohyas australis (Gould)

Australian Dotterel

Range

Arid and semiarid interior, west to 24 km NW Northampton, Mingenew, Coorow, Moora, Wannamal, Jennacubbine, Waeel, Lake Grace, Ongerup and the Fitzgerald River National Park. Casual on Swan Coastal Plain.

Status etc.

At present scarce to moderately common (most numerous in drier north-eastern parts of range); usually in pairs or family parties. Sparsely vegetated ground, especially ploughed fields, stubbles and leys in grain-growing areas. Breeding from February to June and in August; C/3 (13).

The first Divisional record was a vagrant collected at Cunderdin in February 1924. Breeding was first reported in 1944 (at Yuna). By 1950 it was established in the northern and north-eastern wheat belt south to Bunjil, Koorda and Nukarni.

Scolopacidae

Numenius minutus Gould

Little Whimbrel

Very rare visitor (November to April); in ones or twos. Mainly short grass; also estuaries. Collected near New Norcia and observed on Swan Coastal Plain (Rivervale, Mandurah, Coolup and mouth of Preston River) and at White Water Lake.

Numenius phaeopus variegatus (Scopoli)

Whimbrel

Range.

West coast from the Murchison south to beyond Cape Naturaliste (Canal Rocks), including the Houtman Abrolhos and Rottnest I. South coast at King George Sound.

Status etc.

Scarce or uncommon visitor (all months, mostly October to February). Tidal reef and mud flats.

Numenius madagascariensis (Linnaeus)

Eastern Curlew

Range

West coast from the Murchison south to Bunbury, including the Houtman Abrolhos. South and south-east coasts at King George Sound and Beaufort Inlet. Casual inland (Lake Guraga and Lake Bambun).

Status etc.

Visitor (August to June, mostly October to February). Uncommon at Peel Inlet, Leschenault Estuary and Oyster Harbour, rare or scarce elsewhere; usually in ones or twos, occasionally small flocks (up to 14). Mainly estuarine flats; also beaches, reef flats and near-coastal lakes.

Limosa limosa melanuroides Gould

Black-tailed Godwit

Range

West coast and coastal plains from Wittecarra Gully south to Vasse Estuary, including the Houtman Abrolhos, Whitlock I., Lake Guraga, Lake Claremont, Bibra Lake, Thomsons Lake, Forrestdale Lake, Lake McLarty and Benger Swamp. Casual further east (Ibis Lake and flooded paddock east of Coyrecup) and on south coast (Wilson Inlet and near Albany).

Status etc.

Visitor (August and late October to June, mostly December to April). Scarce or uncommon on Swan Coastal Plain, rare elsewhere; in ones, twos or small flocks (up to 25). Mainly tidal estuarine flats in summer and autumn and shallows of freshwater lakes and swamps in winter and spring.

Like its congener it seems to be steadily increasing in numbers. Not recorded in Division until 1936.

Limosa lapponica menzbieri Portenko

Bar-tailed Godwit

Range

West coast from the Greenough south to Bunbury, including the Houtman Abrolhos and Beagle, Fisherman, Boullanger, Whitlock, Rottnest and Garden Is. South and south-east coasts from Irwin Inlet east to Gordon Inlet.

Status etc.

Visitor (all months, mostly October to April). At present moderately common; in ones, twos or small flocks (up to 80), occasionally large aggregations (537). Estuarine sand and mud flats, beaches, reef flats and shores of near-coastal lakes and pools.

Not recorded in Division until 1931 and still scarce by 1948.

Taxonomy

For subspecies migrating to Western Australia see M. Barter (1989, *Stilt* No. 15: 13).

Tringa totanus (Linnaeus)

Redshank

Very rare visitor. One observed in Peel Inlet in July 1985 (R. Jaensch and J. Blyth 1988, *West. Aust. Nat.* 17: 106-109).

Tringa stagnatilis (Bechstein)

Marsh Sandpiper

Range

Western parts of mainland, east to Eurardy, Coomberdale West, Badjaling, Wardering Lake, Coyrecup Lake and Yellilup Swamp.

Status etc.

Scarce or uncommon visitor (September to May); usually in ones or twos, occasionally flocks (up to 80). Mainly shallows of fresh (sometimes brackish) swamps and lakes, occasionally tidal flats in estuaries, rarely coasts.

Tringa nebularia (Gunnerus)

Greenshank

Range

West coast from the Murchison south to Busselton; south and south-east coasts west to Wilson Inlet; Houtman Abrolhos; interior, inland to Four Mile Pool, Coorow, Lake Hinds, Walyormouring Lake and Lake Champion. Casual on Rottnest I.

Status etc.

Visitor (all months, mostly September to March). Moderately common on Swan Coastal Plain south of the Swan, scarce or uncommon elsewhere; usually in ones, twos or small flocks, occasionally larger aggregations (up to 200). Mainly shallows of estuaries and of near-coastal fresh or saline lakes, swamps and samphire flats.

Tringa glareola Linnaeus

Wood Sandpiper

Range

Greater part of mainland, north nearly to the Murchison (Wittecarras Gully) and east to the upper East Chapman (30 km ENE Nabawa), Coorow, Northam, Toolibin Lake, Lake Dumbleyung, Coyrecup and Yellilup Swamp.

Status etc.

Scarce to uncommon visitor (August to May, mostly October to March); in ones, twos or small flocks (up to 64). Mainly drying fresh or brackish swamps and lakes; rarely saltlakes and estuaries.

Tringa terek (Latham)

Terek Sandpiper

Range

West coast from the Moore south to Bunbury, and south coast near Albany.

Status etc.

Rare visitor (September to early April); usually single, occasionally in small parties (up to 7). Mainly estuaries.

Tringa hypoleucos Linnaeus

Common Sandpiper

Range

Greater part of mainland, inland to the Murchison (9 km ENE Galena), Mingenew, Coorow, Lake Ninan, Northam, Yenyening Lakes and Hyden; also islands off west coast (from the Houtman Abrolhos south to Penguin) and south coast (Eclipse, Mistaken and Coffin).

Status etc.

Rare to uncommon visitor (all months, mostly September to March); usually single, occasionally in twos or small parties (up to 5). Sheltered, preferably rocky, coasts and estuaries; also river pools, dams and drying swamps.

Tringa brevipes (Vieillot)

Grey-tailed Tattler

Range

West coast from the Murchison south to Mandurah, including the Houtman Abrolhos and Beagle, Boullanger, Green, Rottnest, Carnac and Garden Is, lower west coast at Vasse Estuary and south coast at Augusta, King George Sound and Gordon Inlet.

Status etc.

Visitor (all months, mostly November to March). Scarce to moderately common (most numerous in the Abrolhos); usually in ones or twos, also small flocks (up to 35). Reef flats, also estuarine mud and sand flats and near-coastal lakes.

Arenaria interpres interpres (Linnaeus)

Ruddy Turnstone

Range

West coast from the Murchison south to Mandurah; also most islands from the Houtman Abrolhos south to Penguin. Casual on south coast (Sandy I., Albany and Point Charles).

Status etc.

Visitor (all months, mostly October to April). Common in the Abrolhos and on Beagle, Fisherman, Cervantes, Green and Rottnest Is, moderately common on other west-coast islands, locally common on west-coast mainland, e.g. at spit opposite Wedge I., but generally scarce or uncommon; in ones, twos or flocks (up to 100). Reef flats,

stony and seaweedy beaches and sandspits, dry coral ridges (Abrolhos) and pebbly margins of saltlakes (Rottnest).

Limnodromus semipalmatus (Blyth)

Asian Dowitcher

Very rare visitor. One in partial breeding plumage near Albany in July 1989 (R. Vervest 1989, *West. Aust. Bd Notes* No. 51: 1-2).

Gallinago stenura (Bonaparte)

Pin-tailed Snipe

Very rare visitor. One authentic record: one of two birds mist-netted at a swamp north of Perth in March 1984 (G. Shannon *et al.* 1984, *West. Aust. Bd Notes* No. 30: 13). Single snipes observed elsewhere on Swan Coastal Plain and at Lake Seppings near Albany, between late November and mid-April, could not be certainly identified to species.

Calidris canutus (Linnaeus)

Red Knot

Range

West coast from the Murchison south to Vasse Estuary, including Boullanger, Rottnest and Garden Is. South coast near Albany (Princess Royal and Oyster Harbours).

Status etc.

Visitor (September to July, mostly October to February). Locally common (Broun Bay on Garden I. and at Peel Inlet) but generally scarce or uncommon; in ones, twos or small flocks (up to 50), occasionally aggregations of hundreds. Mainly estuaries and sheltered coasts; also near-coastal lakes.

Calidris tenuirostris (Horsfield)

Great Knot

Range

West coast from the Murchison south to Vasse Estuary, including West Wallabi, Pelsaert, Beagle, Rottnest and Garden Is; casual inland on Swan Coastal Plain (Lake Guraga, Herdsman Lake and Pinjarra). South coast at Wilson Inlet, Albany (Princess Royal and Oyster Harbours), Beaufort Inlet, Bremer Bay and Gordon Inlet.

Status etc.

Scarce or uncommon visitor (September to July, mostly October to February); in ones, twos or small flocks (up to 50), occasionally larger aggregations (up to 500). Mainly estuaries and sheltered coasts. Probably many knots of both species are misidentified, which may explain the similarity between the two accounts herein.

Calidris alba (Pallas)

Sanderling

Range

West coast from the Murchison south to Mandurah, including the Houtman

Abrolhos and Beagle, Boullanger, Rottnest and Garden Is. South-east coast from Cheyne Beach east to Beaufort Inlet. Casual on lower west coast (Canal Rocks and Cape Mentelle), south coast (Wilson Inlet and Albany) and inland (Little Murapin Lake).

Status etc.

Visitor (all months, mostly August to April). Moderately common on west coast from Wedge I. south to Mullaloo, on Rottnest and Garden Is and on south-east coast from Cheyne Beach east to Beaufort Inlet, but generally uncommon; in ones, twos or small flocks, rarely large flocks (up to 500). Mainly steeply shelving, sandy beaches exposed to ocean swell; also shores of saltlakes (Rottnest) and occasionally estuaries.

Calidris ruficollis (Pallas)

Red-necked Stint

Range

West coast and coastal plains from the Murchison south to Bunbury and inland to Hutt Lagoon, Lake Leeman, Wealcutta Lagoon, Lakes Guraga, Beermullah and Forrestdale and Benger Swamp; also many islands from the Houtman Abrolhos south to Penguin. South and south-east coasts from Irwin Inlet east to Culham Inlet. Interior from Coorow south to the Mt Barker district (Kwornicup Lake), west to Moora, Lake Hinds, Lake Ninan, Northam, Yenyening Lakes, Towerrinning Lake and Lake Muir, and east to Kellerberrin, Lake Varley and Jerdacuttup Lakes. Casual on lower west coast (Cape Mentelle and Hamelin Bay).

Status etc.

Visitor (all months, mostly October to March). Common to very common on coasts, coastal plains and the larger west-coast islands, scarce to moderately common in interior (much more numerous in south than north); usually in flocks, sometimes of many thousands. Mainly estuaries and near-coastal saltlakes, also sheltered coasts, inland saltlakes, and freshwater swamps and lakes (especially when drying in summer and autumn). Birds banded on the Swan River estuary have been recovered on Rottnest I., at Albany, on Six Mile I. and in Tasmania, Java and China (near Shanghai), and one banded on nest in Siberia (66°09'N, 169°47'W) has been recovered on the Swan River estuary.

Calidris minuta (Leisler)

Little Stint

Very rare visitor. Two observed at Forrestdale Lake in April 1982 (P.J. Curry *et al.* 1983, *Stilt* No. 4: 6).

Calidris subminuta (Middendorff)

Long-toed Stint

Range

Swan Coastal Plain from Lake Guraga south to the Vasse River. Southern interior from Beverley south-east to Yellilup Swamp.

Status etc.

Visitor (October to June, mostly December to March). Locally moderately common, but generally scarce or uncommon; in ones, twos or small flocks (up to 30). Mainly freshwater swamps (especially when drying and where vegetation short), occasionally samphire flats around estuaries and saltlakes.

Calidris fuscicollis (Vieillot)

White-rumped Sandpiper

Vagrant. One observed at Forrestdale Lake on 8 February 1981 (P.J. Curry *et al.* 1983, *Stilt* No. 4: 8-9).

Calidris melanotos (Vieillot)

Pectoral Sandpiper

Range

Swan Coastal Plain from Lake Guraga south to the Vasse Estuary. Also recorded at Wittecarra Gully, Moora, Lake Powell, Albany and Yellilup Swamp.

Status etc.

Scarce visitor (mid-October to early April, mostly December to March); usually single, occasionally in loose aggregations (up to 12) or accompanying Sharp-tailed Sandpipers. Mainly freshwater swamps, also samphire flats around estuaries and saltlakes.

Calidris acuminata (Horsfield)

Sharp-tailed Sandpiper

Range

Great part of Division, north to the mouth of the Murchison, east to Coorow, Moora, Lake Hinds, Walyormouring Lake, Kellerberrin and Newdegate, and including West Wallabi, Pelsaert, Fisherman, Rottnest and Garden Is off west coast and Sandy I. off south coast, but no mainland records from deep south-west (south of Busselton and west of Little Unicup Lake and Wilson Inlet).

Status etc.

Visitor (late August to early May, exceptionally early July, mostly September to March). Moderately common on Swan Coastal Plain and locally elsewhere (Capamaura Swamp, Lake Walyormouring, Taarblin Lake, Gundaring, Bremer Bay and King George Sound), but generally scarce or uncommon; in ones, twos or small flocks, occasionally large aggregations (up to 2000). Wet samphire flats around estuaries and saltlakes (including those on West Wallabi, Pelsaert and Rottnest Is) and drying freshwater swamps. A bird banded on the Swan River estuary was recovered in Siberia (67°40'N, 135°20'E).

Calidris ferruginea (Pontoppidan)

Curlew Sandpiper

Range

West coast and coastal plains from the mouth of the Murchison south to Leschenault

Estuary, inland to Hutt Lagoon, Lake Logue, Wealcutta Lagoon, Lake Guraga, Beermullah Lake, Forrestdale Lake and Benger Swamp, and including North, East Wallabi, West Wallabi, Pelsaert and Rottnest Is. South and south-east coasts from Wilson Inlet east to Jerdacuttup Lakes. Casual in interior (Eurardy, Lake Hinds, Walyormouring Lake, Kwolyin, Yenyening Lakes, Lake Gundaring, Dumbleyung Lake, Flagstaff Lake, Lake Cassencarry, Toolbrunup Lake, Lake Muir and Kwornicup Lake).

Status etc.

Visitor (all months, mostly October to March). Common on Swan Coastal Plain and Rottnest I., uncommon to moderately common elsewhere; usually in ones, twos or flocks (up to 300), also looser aggregations of more than 2000. Shallows of estuaries and saltlakes and drying freshwater swamps and lakes. A bird banded on the Swan River estuary was recovered in Tasmania nearly ten years later. For notes on moult see M. Bamford (1984, *West. Aust. Bd Notes* No. 37: 7).

Limicola falcinellus sibiricus Dresser

Broad-billed Sandpiper

Rare visitor (September to February); in ones, twos or small parties (up to 5). A few reports from estuarine flats and a drying freshwater lake in Perth Metro Area (R. Jaensch 1984, *West. Aust. Nat.* 16: 3) and one from Lake Guraga (A. and B. Buchanan 1988, *West. Aust. Bd Notes* No. 46: 2), Lake Hurstview (B. Buchanan 1989, *West. Aust. Bd Notes* No. 51: 9), Lake Clifton (A. Daw 1987, *West. Aust. Bd Notes* No. 43: 3), Wilson Inlet and Lake Powell (L. Broadhurst 1988, *West. Aust. Bd Notes* No. 46: 7) and Gordon Inlet (B. Newbey 1986, *West. Aust. Bd Notes* No. 39: 7).

Philomachus pugnax (Linnaeus)

Ruff

Rare visitor (October to March and June); usually single, occasionally in small parties (up to 5) or accompanying Sharp-tailed Sandpipers. A few reports from freshwater lakes and swamps and estuaries on Swan Coastal Plain between the Swan and Vasse Rivers, one from Wannamal Lake, and one from the King River estuary on south coast (D. Fisher 1964, *West. Aust. Nat.* 9: 90).

Recurvirostridae

Himantopus himantopus leucocephalus Gould

Black-winged Stilt

Range

Greater part of mainland, but not the Darling Range or deep south-west (south of Busselton and west of Lake Muir and Denmark). Casual on Pelsaert I. and Rottnest I.

Status etc.

Common on Swan Coastal Plain, uncommon to common in semiarid zone (most numerous in Great Southern), scarce to uncommon on south and lower south-east coasts and coastal plains; in ones, twos or small flocks, occasionally larger aggregations

(up to 5000) in summer. Mainly shallows of fresh or brackish lakes and open swamps, also floodwaters, saltlakes, estuaries and dams. Breeding mainly in semiarid zone (from Hutt Lagoon south to Ongerup, west to Geraldton, Leeman, Karakin Lakes, Northam, Bokan Lake, Wagin and Dead Mans Swamp (28 km SE Darkan), and east to Morawa, Latham, Wubin, Kununoppin and Lake Brown) and occasionally on Swan Coastal Plain: August to November, also May and June at Morawa after tropical cyclone of late March 1953; C/2(1), 3(7), 4(30).

Cladorhynchus leucocephala (Vieillot)

Banded Stilt

Range

Greater part of Division, north to Hutt Lagoon, Three Springs, Lake Hinds, Lake Ninan, Dowerin and Baandee, including Rottnest I. but not the Darling Range or deep south-west (south of Wonnerup Estuary and west of Little Unicum Lake and Denmark). Casual on Pelsaert I. and at Augusta.

Status etc.

Uncommon to very common (generally most numerous in southern interior in winter and spring and on west-coastal plains in summer and autumn); usually in flocks (aggregations of more than 1000 have been reported on Lake Leeman, Lake Wannamal, Lake Hinds, Lake Ninan, Walyormouring Lake, Lake Champion, Lake Nambling, Rottnest I., Yenyening Lakes, Lake Mears, White Water Lake, Peel Inlet, Harvey Estuary, Ibis Lake, Lake Camm, Lake King, Lake Grace, Dumbleyung Lake, Parkeyerring Lake, Norring Lake, Toolbrunup Lake, Balicup Lake, Kworncup Lake and Culham Inlet). Mainly saltlakes and estuaries, also fresh and brackish lakes and swamps. Breeding at Lake Grace in August 1930 and unsuccessfully in August 1945 and August 1946, and at Lake King in August 1930, August 1932 and July 1988; C/3 or 4; see L. Glauert and C.F.H. Jenkins (1931, *J. Proc. R. Soc. West. Aust.* 17: 1-4), I.C. Carnaby (1946, *Emu* 46: 156-158; 1947, *Emu* 47: 66) and A. Bougher (1988, *West. Aust. Bd Notes* No. 48: 1).

Recurvirostra novaehollandiae Vieillot

Red-necked Avocet

Range

Greater part of Division, north to Hutt Lagoon and east to East Yuna, Morawa, Mt Gibson and Lake Brown, including Rottnest I. but not the Darling Range or deep south-west (south of Vasse Estuary and west of Denmark). Casual on Pelsaert I. and the Blackwood River estuary.

Status etc.

Uncommon to common; in ones, twos or small flocks, also larger flocks and aggregations (up to 4000) in summer and autumn. Shallows of lakes and open swamps (fresh or salt) and estuaries, also dams. Breeding in interior from Morawa and Mt Gibson south to Ongerup/Needilup and west to Three Springs, Marchagee, Lake

Hinds, Lake Ninan, Northam, Lake Grace and Pingrup, and recently on Rottne I.: late April to early January; C/4(13), 5(1), 6(1).

Phalaropodidae

Phalaropus lobatus (Linnaeus)

Red-necked Phalarope

Rare visitor (August to April); in ones or twos. A few reports since 1979 from Rottne I., the Swan River estuary and Lake Hinds.

Burhinidae

Burhinus grallarius (Latham)

Bush Stone-curlew

Range

Throughout the mainland.

Status etc.

Moderately common to common before the advent of the feral cat and fox, now rare to uncommon and locally extinct; in ones or twos. Lightly wooded country (including partly cleared forests) near adequate daytime shelter. Breeding from early August to late December; C/1(1), 2(22); often nesting close to farmhouses.

Glareolidae

Stiltia isabella (Vieillot)

Australian Pratincole

Very rare visitor. Two observed at Karakin Lakes in December 1981 and one on the Swan River estuary in December 1972.

Glareola maldivarum Forster

Oriental Pratincole

Scarce visitor (October to April); in ones, twos or small flocks. A few reports from Swan Coastal Plain and Garden I. (mainly at shores of freshwater lakes and swamps) and one from Pelsaert I.

Laridae

Stercorarius skua lonnbergi (Mathews)

Great Skua

Visitor (late February to mid-December, mostly June to August) to inshore seas including those about the Houtman Abrolhos. Scarce to moderately common in south, rare north of 31°30'S; usually single or in loose aggregations (up to 19). Attracted to shipping at Fremantle and Bunbury and in autumn to whale carcasses at former whaling station near Albany. Visitors include birds banded in the Kerguelen and Crozet Is.

[*Stercorarius maccormicki* Saunders

South Polar Skua

Unconfirmed observations off south coast in May 1986 of one bird at Two Peoples Bay and nine at The Gap, Albany (Anon. 1986, *RAOU Newsl.* No. 68: 3).]

Stercorarius pomarinus (Temminck)

Pomarine Skua

Uncommon visitor (October to June, mostly December to March); usually single, occasionally in twos. Observed alive only off very small part of west coast: inshore seas from Rottneest I. and Fremantle south to Penguin I. One found dead on beach at Two People Bay by A. Danks on 27 March 1989.

Stercorarius parasiticus (Linnaeus)

Arctic Skua

Moderately common visitor (August to June, mostly November to April); usually single. Only recorded from very small part of west coast: inshore seas from Rottneest I. and Fremantle south to Penguin I.

Stercorarius longicaudus Vieillot

Long-tailed Skua

Accidental. One (WAM A16028) found by G.A. Lodge near Boyup Brook on 27 February 1979, two days after 50-knot south-westerlies.

Larus novaehollandiae novaehollandiae Stephens

Silver Gull

Range

All coasts and Lake Muir. Casual elsewhere in interior (north to Yarra Yarra Lakes, Lake Hinds, Walyormouring Lake and Lake Champion).

Status etc.

Scarce to very common (most numerous within 30 km of Fremantle and 15 km of Albany, least on coasts remote from islands and human habitation); in ones, twos or flocks (up to 300), occasionally much larger flocks (up to 5000) on estuaries and of birds flying to roosts. Islands, coasts, estuaries, and lakes very close to coasts and estuaries; attracted to breeding terns, garbage dumps, fishing boats, former whaling station, shipping, dredge and sewer outlets, town parks, sports grounds, holiday camp sites, flooded rivers, inundated pastures, flying ants (May to August), kelp-fly maggots in rotting seaweed, light-attracted insects at night, and reservoirs (for bathing). Breeding mostly offshore — Houtman Abrolhos (17 islands), Beagle Is, Snag I., Drummond Rock, Webb I., Lipfert I., Milligan I., Fisherman Is, Sandland I., Favorite I., Osprey I., Tern I., Essex Rocks, Cervantes Is, Buller I., Whittell I., Lancelin I., Rottneest I. (including islets in lakes and offshore), Mewstone, Carnac I., Garden I. (formerly), several rocks and islands from Cape Peron to The Sisters, Sugarloaf Rock, Cape Mentelle, Hamelin I., Seal I. (off Cape Leeuwin), St Alouarn I., Flat I., Sandy I., islet in Nornalup Inlet, Stanley I., islet in Wilson Inlet, Seagull I., Eclipse I., Breaksea I., Seal I. (King George Sound), Gull Rock, Green I., Coffin I. and ? Glasse I., also at Lake Walyungup and Lake Muir, and casually on Swan River estuary and at Walyormouring Lake, Yenyening Lakes, White Water Lake, Brown Lake, Lake Gundaring, Towerinning Lake, Martinup Lake and Murapin Lake: mid-March to December on west coast south to The Sisters, late July to December on lower west coast and south coast (south of Cape Naturaliste), and late August to late March on Lake Muir;

C/1(1259), 2(2891), 3(336) and 4(2); for multiple laying see R.D. Wooller and J.N. Dunlop (1979, *Aust. Wildl. Res.* 6: 325-335). Most breeding colonies are small but some close to major ports comprise several thousands of pairs, viz. on Carnac I. and (since 1966) Green I. in Oyster Harbour. The birds breeding at Lake Muir are morphologically similar to those from south coast (R.E. Johnstone, pers. comm.). The origin of the birds occurring casually in wheat-belt wetlands will remain unknown until specimens are examined (all reports fall between July and November, except occurrence after tropical cyclone of March 1943).

***Larus pipixcan* Wagler**

Franklin's Gull

Status uncertain (? vagrant or ship-assisted). Records of single birds at Leschenault Estuary in August 1957 (T.G. Dixon 1958, *Emu* 58: 71), Geraldton in March 1976 (G. Nicholls 1988, *Aust. Bds* 21: 93-94) and Lake Monger in February 1988 (I. Standing 1988, *West. Aust. Bd Notes* No. 46: 1). The second bird, or possibly another, was observed at Geraldton in April 1976 (L.E. Sedgwick 1977, *West. Aust. Nat.* 13: 208) but was identified as a Chinese Black-headed Gull *L. saundersi*.

***Larus dominicanus* Lichtenstein**

Kelp Gull

Vagrant. Specimens collected at Boullanger I. in February 1964 (WAM A9369), Claremont in August 1924 (A2701) and Seal I. in Shoalwater Bay in August 1966 (A9657); and single birds observed at Albany in October 1963 (J. Ford 1964, *West. Aust. Nat.* 9: 86) and March 1988 (D. Kingston 1988, *West. Aust. Bd Notes* No. 46: 2), Wellstead Estuary in June 1983 (R. and R. Hart 1983, *West. Aust. Bd Notes* No. 27: 10) and Point Ann in April 1988 (G. and P. Agar 1988, *West. Aust. Bd Notes* No. 46: 10), and two observed at Quoin Head in April 1987 (M. H. Bremner 1987, *West. Aust. Bd Notes* No. 43: 3). The Seal I. bird had been banded as a nestling on Moon I., NSW, in December 1962.

***Larus pacificus georgii* King**

Pacific Gull

Range

Houtman Abrolhos; upper west coast and islands from the Murchison south to Wedge I.; south and south-east coasts and islands from Cape Leeuwin east to Hopetoun. Formerly mid-west coast from (Lancelin I. south to Warnbro Sound) and lower west coast (Cape Naturaliste).

Status etc.

Common around Albany, scarce to moderately common elsewhere; in ones, twos or small flocks (up to 34). Breeding on ten islands in Houtman Abrolhos and on Fisherman Is, Favorite I., Tern I., Essex Rocks, Cervantes Is, Buller I., Flat I., Chatham I., Stanley I., Seagull I., Muttonbird I., Green Is (Torbay) and Coffin I.: August to November; C/1(3), 2(19).

Anous stolidus pileatus (Scopoli)

Common Noddy

Range

Houtman Abrolhos. Casual at the Fisherman Is. Accidental further south (Floreat Beach and Busselton).

Status etc.

Very common visitor (mid-August to late April) to the Abrolhos. Breeding colonially on Pelsaert and Wooded Is and formerly on Rat I.: August to January, mostly October and November; C/1 (almost invariably).

Anous tenuirostris melanops Gould

Lesser Noddy

Range

Houtman Abrolhos. Accidental on or near west coast from Dongara south to Dunsborough.

Status etc.

Very common in and near the Abrolhos. Breeding colonially on Pelsaert, Morley and Wooded Is: mid-August to late December; C/1 (invariably). Frequently found dead or dying on mainland after winter storms.

Sterna nilotica macrotarsa Gould

Gull-billed Tern

Range

Greater part of mainland from Hutt Lagoon south to the Harvey Estuary and Jerdacuttup Lakes, and inland to Morawa, Yarra Yarra Lakes, Lake Hinds, Lake Ninan, Lake Walyormouring, Yenyening Lakes and Lake Grace. Casual further south (Hamelin Bay) and on Garden I.

Status etc.

Rare to moderately common visitor (most numerous at Hutt Lagoon and nearby estuary of Hutt River); in ones, twos or flocks (up to 80). Lakes (fresh or salt) and estuaries; also feeding over land, including crops. Two breeding reports (Lake Hinds, 1983; saltlake near Stirling Range, 1988): October; C/2(3), 3(1) (A. Rose 1989, *West. Aust. Bd Notes* No. 49: 1-2).

Not recorded in Division until 1953, since when it has been reported in 1955-57, 1959-65, ? 1972, and 1981-88.

Sterna caspia Pallas

Caspian Tern

Range

All coasts north to the Houtman Abrolhos and Murchison River and east to Culham Inlet. Casual at Beermullah Lake. Accidental near Toodyay (after tropical cyclone of March 1943).

Status etc.

Uncommon to moderately common; usually in ones or twos, occasionally small parties, rarely flocks (up to 38). Sheltered seas and (when not laden with silt from winter rains) estuaries, and occasionally near-coastal lakes; attracted to fishermen netting. Breeding (usually singly, occasionally in colonies of up to 80 pairs in the Abrolhos) on ten islands in the Abrolhos and on Beagle Is, Drummond Rock, Webb I., Lipfert I., Milligan I., Fisherman Is, Sandland I., Favorite I., Tern I., Boullanger I., Essex Rocks, Cervantes Is, Green Is, Lancelin I., Edward I., Rottnest I., Carnac I., Bird I., Seal I. (Shoalwater Bay), Shag Rocks, Seal I. (off Cape Leeuwin), islet in Nornalup Inlet, Stanley I., islet in Wilson Inlet, Seagull I., Seal I. (King George Sound), Gull Rock, Green I. (Oyster Harbour) and Coffin I.: July to December; C/1(36), 2(98), 3(8).

Sterna bergii Lichtenstein

Crested Tern

Range

All coasts north to the Houtman Abrolhos and Murchison River and east to Starvation Boat Harbour. Casual at Lake Muir. Accidental near Toodyay (after tropical cyclone of March 1943).

Status etc.

Moderately common to very common; usually fishing singly, usually resting or roosting in flocks (up to 678). Mainly sheltered seas within 3 km of land (but observed up to 25 km offshore in Geelvink Channel and off south coast), also estuaries when not laden with silt from winter rains. Breeding, usually colonially (up to 1000 pairs), on 19 islands in the Houtman Abrolhos and on Fisherman Is, Sandland I., Tern I., Essex Rocks, Cervantes Is, Green Is, Lancelin I., Edward I., Rottnest I., Carnac I., Seal I. (Shoalwater Bay), remains of jetty in Hamelin Bay, Seal I. (off Cape Leeuwin), Gull Rock (Nornalup Inlet), Seagull I., Eclipse I., Seal I. (King George Sound), Gull Rock (King George Sound) and Glasse I.: mainly July to January (mostly August to November), also late March to June in the Abrolhos and (since 1982) on Rottnest I.; C/1(2783), 2(7); for reproductive periodicity and effect of moult see J.N. Dunlop (1985, *Aust. Wildl. Res.* 12: 95-102 and 487-494 respectively). For social behaviour see J.N. Dunlop (1987, *Aust. Wildl. Res.* 14: 529-540).

Sterna hirundo hirundo Linnaeus

Common Tern

Very rare visitor to west coast. Two authentic records: specimen (WAM A7844) collected at Coogee in January 1956 six months after banding as nestling in Sweden; and one (A15670) found near Metricup after storm in winter 1978.

Sterna paradisaea Pontoppidan

Arctic Tern

Range

West coast north to Gantheaume Bay (27°35'S); also south coast at Two Peoples Bay.

Status etc.

Scarce passage migrant and accidental visitor (mostly early October to early December, also mid-May to early June); usually in ones or twos, also a flock of *ca* 100 (J. Dell and R.E. Johnstone). Sheltered coasts, estuaries and near-coastal lakes; usually observed after westerly gales. Recoveries include a bird banded as a nestling in Denmark.

***Sterna dougallii* Montagu**

Roseate Tern

Range

West coast and islands from the Houtman Abrolhos south to Peel Inlet.

Status etc.

Resident and breeding visitor. At present very common in the Abrolhos, moderately common about islands from the Beagle Is south to Lancelin I., uncommon further south; usually in small flocks. Breeding colonially on 13 islands in the Abrolhos and on Beagle Is, Fisherman Is, Cervantes Is, Buller I., Whittell I., Green Is, Lancelin I., Rottnest I. and Second Rock: late March to early June, and early November to early January; C/1(4691), 2(185), 3(2).

This species has been spreading south. Summer breeders were very numerous on Pelsaert I., Houtman Abrolhos, during J. Gilbert's visit in January and February 1843, but autumn breeders were not reported until the 1890s (A.J. Campbell 1900, *Nests and eggs* . . . , p. 835). The first record south of the Abrolhos was a beach derelict at Scarborough in July 1939. Flocks of autumn breeders were first reported in 1958 (in Cockburn Sound), though breeding was not proved until 1960 (Green Is). Summer breeders were first reported in 1961-62 and breeding was observed in the same season on the Beagle Is, Buller I., Whittell I. and Green Is.

[***Sterna striata* Gmelin**

White-fronted Tern

An unconfirmed report from south coast: three birds off Eclipse I. on 8 August 1973 (P.J. Fullagar and G.F. VanTets 1976, *West. Aust. Nat.* 13: 143).]

***Sterna anaethetus anaethetus* Scopoli**

Bridled Tern

Range

West and south-west coasts and islands from the Houtman Abrolhos south and east to the Casuarina Is.

Status etc.

At present moderately common to very common visitor (ordinarily from late September to early May); feeding in loose aggregations (up to 25). Blue-water seas, mainly well offshore. Breeding singly or in loose colonies on 15 islands in the Houtman Abrolhos and on Beagle Is, Fisherman Is, Whitlock I., Essex Rocks, Sand Knoll Ledge, Cervantes Is, Buller I., Whittell I., Green Is, Lancelin I., Edward

I., ? Two Rocks, ? Little I., 21 islands and rocks between Rottneest and Tub Rocks, islet off Cosy Corner, Seal I., ? Goose I. and ? Saddle I., and on mainland at Knobby Head near Cape Hamelin: ordinarily late October to mid-January; C/1 (invariably). Ordinarily this tern leaves Australian seas in cooler months, e.g. bird banded on Fisherman Is and recovered in Sabah in August (*Corella* 5: 99, 1981); however a small colony bred on Newman I. in the Abrolhos in late June and early July 1980.

This is another tropical seabird that is spreading southwards. J. Gilbert found it breeding in the Abrolhos in January and February 1843, but it was not reported further south until 1889 when A.J. Campbell found a few nests on Phillip and Duck Rocks off Rottneest I. It was breeding in the Safety Bay area by 1901 and on Seal I. (off Cape Leeuwin) by 1956 and presumably in the Casuarina Is. by 1989. Throughout this century its numbers have steadily increased in the Rottneest/Safety Bay area.

Sterna fuscata nubilosa Sparrman

Sooty Tern

Very common visitor (late August to very early May) to the Houtman Abrolhos, breeding on seven islands in October and November; C/1 (almost invariably). Casual visitor (November to April) to Fisherman Is, where display but not breeding has been observed (R.E. Johnstone). Accidental further south (Scarborough south to Hamelin Bay and inland to Moulyinning and Manjimup), in large numbers after gales of November 1946, but generally in very small numbers.

Sterna hybrida javanica Horsfield

Whiskered Tern

Range

Greater part of mainland, north to Arrowsmith Lake and east to Capamaura Lake, Moora, Lake Hinds, Walyormouring Lake, Kellerberrin, Yealering, Lake Altham, Lake Cassencarry and Gordon Inlet, but not deep south-west (south of Vasse Estuary and Lake Muir and west of Lake Pleasant View). Casual on Rottneest I.

Status etc.

Frequent but irregular visitor (all months, mostly June to January, especially September and October). Scarce to common; in ones, twos or flocks (up to 300). Estuaries, lakes (fresh or salt) and occasionally swamps. Only two breeding reports (near Moora and near Dowerin): August and September; C/3(1).

Sterna leucoptera Temminck

White-winged Black Tern

Range

West-coastal plains from Wedge I. south to Busselton. Casual in interior (Moora, Doodlakine and Balingup).

Status etc.

Irregular visitor (early November to early May, mostly February to early April and in association with tropical cyclones). Very common in some years (1917, 1956) but generally rare to moderately common or absent; usually in flocks (up to 1000). Mainly freshwater lakes and swamps, occasionally saltlakes, estuaries, samphire flats, short-grass flats and lucerne crops; attracted to emerging dragonflies and swarming grasshoppers.

Sterna (albifrons) sinensis Gmelin

Little Tern

Rare visitor (birds in breeding plumage observed from late June to mid-August and in winter plumage in December) to Houtman Abrolhos and west coast (Greenough River estuary and Garden I.); in ones, twos or small flocks (up to 14).

Sterna nereis nereis (Gould)

Fairy Tern

Range

West coast and islands from the Houtman Abrolhos and Murchison River south to Lake Clifton. South coast from Flinders Bay east to Hopetoun. Accidental near Toodyay (after tropical cyclone of March 1943).

Status etc.

Perhaps largely resident in the Abrolhos, but elsewhere a visitor (mid-August to early June, mostly October to early March). Common in the Abrolhos and about other west-coast islands, scarce to moderately common elsewhere; usually in small flocks, occasionally much larger flocks (up to 700) during migration. Sheltered seas close to land, estuaries (when free of silt) and near-coastal lakes. Breeding mainly on islands, viz. five in the Abrolhos and Boullanger, Whitlock, Rottnest, Carnac, Garden, Fairy Tern, Seal (off Cape Leeuwin), Sandy and Glasse Is, and on mainland opposite Wedge I., opposite Edward I., in Swan River estuary, on islets in Lake Walyungup and Peel Inlet, at Mandurah and near Denmark: late October to mid-February; C/1(622), 2(315), 3(2).

Taxonomy

See J.B. Cox and D.H. Close (1977, *Emu* 77: 28-32).

Columbidae*

Streptopelia chinensis tigrina (Temminck)

Spotted Dove

Range

Vicinity of Perth from Wanneroo and Wooroloo south to Rockingham and

*The Domestic Pigeon *Columba livia* Gmelin is omitted because of doubt that the isolated feral populations could maintain themselves without continuous recruitment from domestic stocks.

The Barbary Dove *Streptopelia roseogrisea* (Sundevall), briefly feral near Perth in the 1970s, is also omitted.

Bedfordale; also Rottnest and Garden Is. Casual elsewhere (from Yanchep and Bailup south to Harvey and ? Quindalup).

Status etc.

Exotic species released by South Perth Zoo from 1898 onwards. Moderately common; in ones, twos or small parties. Well-wooded country, especially the leafier suburbs of Perth and towns in Darling Range. Breeding from late June to early January; C/2(10).

***Streptopelia senegalensis senegalensis* (Linnaeus)**

Laughing Dove

Range

Settled parts of Swan Coastal Plain and Darling Range from Lancelin, Beermullah, Gingin and Bindoon south to Bunbury, Dardanup and Collie; also Rottnest and Garden Is. Wheat belt from the mouth of the Hutt River south to Gnowangerup and Ongerup, west to Geraldton, Dongara, Arrino, Dandaragan, New Norcia, Toodyay, Williams and Katanning, and east to Northampton, Nabawa, Morawa, Buntine, Wyalkatchem, Kununoppin, Merredin, Narembeen, Kondinin and Kulin.

Status etc.

Exotic species released by South Perth Zoo from 1898 onwards, established throughout Perth and suburbs by 1920, on Rottnest I. in 1930, at Northam by 1930, at Beverley by 1939, on Garden I. by 1940, at Wongan Hills by 1941, Dongara and Geraldton by 1944, Danguin and Winchester by 1945, Toodyay by 1946, Brookton, Pingelly and Narrogin by 1947, Kwolyin and Wyalkatchem by 1949, Goomalling by 1951, Merredin by 1952, Corrigin by 1954, Williams by 1955, Katanning by 1957, Kondinin by 1966, Narembeen by 1967, Green Head in 1981 and Lancelin in 1982. Uncommon to very common (most numerous in suburbs of Perth and larger wheat-belt towns, e.g. Geraldton, Northam, Merredin and Narrogin); usually in pairs or small flocks. Lightly wooded country, especially urban areas and around farmhouses; attracted to spilt grain in railyards and ports. Breeding from July to April; C/2(44).

***Geopelia striata placida* Gould**

Peaceful Dove

Range

Far north: about pools and springs on the lower Murchison from the mouth and Gabba Gabba Spring (Wittecarra Gully) upstream to Nine Mile Pool.

Status etc.

Uncommon to moderately common; in pairs or small parties (up to 7). Riverine woodland (*Eucalyptus camaldulensis* and *Casuarina obesa*).

Geopelia cuneata (Latham)

Diamond Dove

Range

Mainly northern and central parts of semiarid zone, south to Woodanilling and west to Arrowsmith Lake, Dandaragan, Chittering, Kalamunda and Williams.

Status etc.

Irregular visitor (mid-September to early June, mostly October to March). Locally common in some years, e.g. on the Avon in 1842-43 and about Williams in 1917, but generally scarce; in ones, twos or small parties (up to 5). Lightly wooded country (especially farmlands) near drinkable water. Occasionally breeding (reports from near Moora and Northam): October and November; C/2(3).

Phaps chalcoptera (Latham)

Common Bronzewing

Range

Greater part of mainland.

Status etc.

At present locally common but generally scarce to moderately common; usually in ones or twos, occasionally small parties, rarely flocks (up to 70). Lightly to moderately wooded country (preferably with leguminous trees and shrubs) near drinkable water; attracted to seeding jam *Acacia acuminata* and other wattles and poison bushes (*Gastrolobium bilobum* etc.) and to fallen wheat in stubbles and railyards and on roadsides. Breeding all months (mostly September and October); C/1(4), 2(29).

Originally very plentiful (e.g. 200 drinking at a soak near Kellerberrin one evening in late 1860s), it declined through hunting and the clearing of its food plants. Over the last few decades it has regained some ground, owing to protection and its increasing utilization of exotic plants, e.g. wheat and clover seeds. However, the spread of local and exotic wattles along roads concentrates birds and results in high mortality (J. Dell).

Phaps elegans (Temminck)

Brush Bronzewing

Range

Coastal areas north to Freshwater Point and east to Quoin Head, including the Houtman Abrolhos, Rottnest I. (formerly), Garden I., Breaksea I. (formerly), Mistaken I., Coffin I. and Bald I. Also patchily in semiarid interior from Mogumber and the Wongan Hills south-southeast to the Stirling Range and Fitzgerald River National Park, west to Congelin, Tarwonga and Cranbrook, and east to Tutanning, Lake Grace, Lake Magenta and 32 km E Ravensthorpe. Casual at Bridgetown.

Status etc.

Formerly plentiful and widespread, now locally extinct or common but generally scarce and patchily distributed; usually in ones or twos, also small aggregations (up to 12) at water. Mainly thickets of wattle (*A. rostellifera* and other *Acacia* spp.) and teatree (*Melaleuca* spp.) in coastal areas; mainly shrublands (especially box poison *Oxylobium parviflorum*) in interior, including understory of eucalypt woodlands and scrubs. Breeding from late July to February; C/1(3), 2(15).

***Ocyphaps lophotes* (Temminck)**

Crested Pigeon

Range

At present arid zone, greater part of semiarid zone and locally in subhumid zone, south to Gingin in the west and to Albany in the east. Locally further south and west (Perth Metro Area, Waterloo, Collie, Boyup Brook, Bridgetown and Manjimup).

Status etc.

Moderately common to common; in ones, twos or small flocks (up to 10). Sparsely wooded country (especially farmlands) near drinkable water; attracted to spilt wheat along roads and railways. Breeding from July to November (? late June to early December); C/1(1), 2(10).

Unknown in the Division before this century, it colonized the whole of the wheat belt in *ca* 60 years. It appeared in the Chapman district (NE of Geraldton) in 1905 but did not immediately establish itself. By 1927 it was very numerous in the Ajana district but had not reached the upper Irwin River. By the mid-1940s it was established in the north-eastern wheat belt (Caron) and was appearing sporadically in the central wheat belt (Wialki and Kellerberrin). By the early 1950s it was established as far south as Three Springs, Kalannie, Koorda and Woolundra and by 1960, Watheroo, Miling, Wongan Hills, Tammin and Shackleton. By the late 1960s it was established at Northam and Narembeen and was beginning to appear in the southern wheat belt (Lake Grace and Gibb Rock in 1967, Ongerup in 1968 and Woodanilling in 1970). By the early 1970s it was established at Kweda and Kondinin, and by the late 1970s at Lake King and Newdegate and around Albany.

Psittacidae

***Trichoglossus haematodus novaehollandiae* (Gmelin)**

Rainbow Lorikeet

Exotic species established since 1968 in western suburbs of Perth; casual over Perth city and at Morley, Maylands, Gooseberry Hill, Bateman and (? subspecies) Safety Bay. Common; usually in pairs or small flocks (up to 12). Attracted to flowering eucalypts and coral trees. For possibility of their descent from escapees on Rottneest I. see P. Coyle (1988, *West. Aust. Nat.* 17: 109-110). Great increase in late 1980s.

[*Trichoglossus chlorolepidotus* (Kuhl)]

Scaly-breasted Lorikeet

Uncertain whether this exotic species is established in Perth. A few recent reports in western suburbs, e.g. pair in Kings Park in April 1990 (M., Massam).]

Glossopsitta concinna (Shaw)

Musk Lorikeet

Exotic species, occurring in late 1970s in certain south-western suburbs of Perth (Alfred Cove etc.).]

Glossopsitta porphyrocephala (Dietrichsen)

Purple-crowned Lorikeet

Range

Greater part of mainland, north and east to East Yuna, Wongan Hills and Wialki, and west to Mingenew, Moora, Wannamal, Beermullah, Herdsman Lake etc. Casual on Rottnest and Bald Is.

Status etc.

Blossom nomad. Common in south-east and far south, uncommon west of Darling Range, scarce and infrequent north of 31°S; usually in small flocks (up to 20). Mainly eucalypt scrubs, woodlands and forests; attracted to flowering flat-topped yate *Eucalyptus occidentalis* (see S.D. Hopper 1980, *Emu* 80: 239-240), salmon gum *E. salmonophloia*, karri *E. diversicolor*, wandoo *E. wandoo*, flooded gum *E. rudis*, marri *E. calophylla*, blackbutt *E. patens*, stocking tree *E. kondininensis*, red morrell *E. longicornis*, York gum *E. loxophleba*, mallet *E. astringens*, red-flowered moort *E. nutans*, powderbark *E. accedens*, various mallees and *Banksia attenuata*. Breeding north to Moora and Kellerberrin and west to Julimar State Forest, Toodyay, Dryandra and Jardee: August to December; C/2(3), 3(3), 4(3).

Polytelis anthopeplus westralis Mathews

Regent Parrot

Range

Greater part of mainland, north to Eurardy, Coolcalalaya, Mt Gibson (hill), 36 km S Mouroubra, 5 km S Mt Churchman and No. 1 Vermin Proof Fence (63 km N Bonnie Rock T/0), west to Ajana and 30 km NNW Dongara, and south to Busselton, Balingup, Bridgetown, Mt Barker, Bremer Bay and the Ravensthorpe Range. Casual further south (Albany).

Status etc.

Nomadic, e.g. birds banded at Dumbleyung and Nyabing have been recovered 53 km NW, 105 km E and 370 km E. At present locally common on Swan Coastal Plain and in south-eastern interior, but generally uncommon; usually in pairs or small flocks (in several hundreds in past). Lightly to moderately wooded country (especially partly cleared farmlands) near drinkable water; originally attracted to

seeding jam trees *A. acuminata* and other acacias, now attracted to standing, spilt and germinating wheat and ripening orchard fruit. Breeding reports from Eurardy south to Ludlow and Ongerup: August to November, also April (after tropical cyclone of March 1953); C/3(1), 4(4), 5(3), 6(2), 8(1).

Apparently this parrot was originally scarce and patchily distributed in the central and southern interior. J. Gilbert noted small flocks in wandoo country, presumably in the Toodyay and/or York districts. A.J. Campbell saw one at Eticup (W of Broomehill) feeding on freshly sown wheat in June 1889. W.K. Adam of Katanning sent a specimen to the Western Australian Museum in May 1899 (specimens received from Vasse and Perth in 1897 and 1898 could have been cage birds). It was present in the Kellerberrin district until the drought of 1895-1902 (B.W. Leake). It was not recorded by A.W. Milligan in the Tenterden/Stirling Range area in spring 1902, Mogumber/Wongan Hills area in spring 1903, and the Yandanooka/Ebano/Kadji Kadji area in spring 1904; by F.L. Whitlock on the upper Moore River in late spring 1903 and the upper Irwin River in 1907-08; by H.E. Hill around Brookton in winter 1903; or by A.F. Crossman near Narembene in 1907-08. Soon afterwards it became a summer-autumn visitor to the Moora district, leaving at the onset of winter rains. It was collected at Broomehill in January 1912, at Morawa in February 1912, near Geraldton in May 1914 and at Tenindewa in 1915. In this period it was an occasional visitor to Woolundra. Early in 1922 it irrupted into the wheat belt, large numbers being reported at Woolundra, Dangin, Katanning, Broomehill, Gnowangerup and the Stirling Range, and one flock was seen as far west as Maddington on the Swan Coastal Plain. It reached East Yuna in 1921 and was established on the upper Irwin by 1928. In 1930 it was a common resident at Northam and Lake Grace. In 1937 it was the most numerous parrot at Nangeenan. Numbers remained high throughout the 1940s and early 1950s. At this time it occurred as far west as Cockleshell Gully, Jurien, Dandaragan, Chittering, Wooroloo and Williams. In 1955 it began to decline in the Northam, Great Southern and Ongerup districts. Colonization of the Swan Coastal Plain began in 1943.

Platycercus zonarius (Shaw)

Ring-necked Parrot

Range

Greater part of mainland; casual on Rottnest and Garden Is. The north, south to Watheroo and Merredin, is occupied by the 'Port Lincoln Parrot' *P. z. zonarius*; the south-west north to Armadale and east to Albany by the 'Twenty-eight Parrot' *P. z. semitorquatus* (Quoy and Gaimard); birds in the intervening region are variably hybrid.

Status etc.

Uncommon to very common (most numerous in grain and fruit-growing areas, least in heavy forests and sparsely wooded shrublands); usually in ones, twos or small parties, occasionally flocks (up to 40), also much larger aggregations in orchards. Lightly to moderately wooded country, including towns and suburbs; attracted to fallen wheat, to

fruiting apples, pears, almonds etc. and *Melia azedarach*, to seeding marri *Eucalyptus calophylla*, York gum *E. loxophleba*, flooded gum *E. rudis*, blackboy *Xanthorrhoea preissii*, wild radish *Raphanus raphanistrum* and Cape weed *Arctotheca calendula* and to flowering *Grevillea hookeriana*, *G. eriostachya* and *Erythrina indica*. Breeding from August to October; C/2(1), 4(4), 5(13), 6(5), 7(1), 8(1).

***Platycercus spurius* (Kuhl)**

Red-capped Parrot

Range

Southern, north to Yanchep, Beermullah and Dandaragan, and east to Chittering, Clackline, the upper Dale River, Dryandra, Timber Reserve 19107 (25 km SSW Narrogin), Dumbleyung, Nyabing, 20 km N Jerramungup and the lower Fitzgerald River; also the Ravensthorpe district east to the Jerdacuttup River and south to Jasper Pool and No Tree Hill. Casual in Bolgart, Kellerberrin (until 1894) and Lake Grace districts.

Status etc.

Moderately common to common in humid and subhumid zones, moderately common in Ravensthorpe district, but generally scarce or uncommon and patchily distributed in drier parts of range; usually in ones or twos, occasionally small parties, rarely flocks (up to 30). Mainly eucalypt forests, woodlands and scrubs, especially marri *E. calophylla* and jarrah *E. marginata*/marri forests in wetter parts of range, and *E. annulata* and other mallees and flat-topped yate *E. occidentalis* woodland in drier parts; attracted to seeding marri and other eucalypts, *Allocasuarina fraseriana* and *A. huegeliana*, *Banksia grandis* and *Hakea* sp., to flowering *Dryandra* sp., *Banksia menziesii*, *B. grandis* and coral tree *Erythrina indica*, and to fruiting apples, pears, peaches, nectarines, plums, almonds, olives and white cedars *Melia azedarach*. Breeding from late August to late November; C/4(2), 5(5), 6(2).

***Platycercus icterotis icterotis* (Kuhl)**

Western Rosella

Range

Humid and subhumid zones: near west and south coasts, north to the lower Moore River (Nabaroo), Yatheroo and Dandaragan, east to Two Peoples Bay and inland to the Moore River gorge (25 km W Mogumber), Wannamal, Muchea, Mundaring, Bedforddale, Jarrahdale, Marrinup (W of Dwellingup), Harvey Dam, Collie, Noggerup, Boyup Brook, Frankland (? subsp.), the upper Hay River (12 km WSW Mt Barker) and the Porongurup Range.

Status etc.

At present rare to common (most numerous in far south; it has evidently declined in the northern three-quarters of its range); usually in pairs or small parties, rarely flocks (up to 26). Eucalypt forests and woodlands, especially of flooded gum *E. rudis*, karri *E. diversicolor* and marri *E. calophylla* beside watercourses and lagoons, also paperbark

(*Melaleuca* spp.) swamps; attracted to fruiting *Bossiaea linophylla*, *Leucopogon obovatus*, plums and other orchard fruits, to seeding exotic grasses and annuals and to flowering marri. Breeding from September to November; C/5(1), 6(2). For diet in Balingup district see J.L. Long (1984, *Aust. Wildl. Res.* 11: 357-371).

Platycercus icterotis xanthogenys Salvadori

Range

Eastern (mainly semiarid interior), from the Wongan Hills (formerly) and a little north of Kununoppin (Billyacatting Hill) south to the Stirling Range, Green Range (? subsp.), Bremer Bay (formerly), lower Fitzgerald River and the Ravensthorpe Range, and west to Toodyay, Mt Observation (20 km W York), the Dale River, Bannister, Mt Saddleback, Towerinning Lake, Kojonup and Tenterden.

Status etc.

At present rare to moderately common (most numerous in well-watered south-western quarter, least in heavily cleared parts of wheat belt); in ones, twos or small parties. Mainly eucalypt and allocasuarina woodlands, especially of wandoo *E. wandoo*, flooded gum *E. rudis*, salmon gum *E. salmonophloia*, tall mallees and sheoak *A. huegeliana*; attracted to seeding *E. wandoo*, *Allocasuarina huegeliana* and *Glischrocaryon flavescens* and flowering *Melaleuca acuminata* and *Eucalyptus eremophila*. Breeding from August to November; C/5-8.

This parrot is now rare or extinct in much of its former range. It was last reported in the type locality (the Wongan Hills) in 1903. Early this century T. Carter found it abundant about Broomehill and Kellerberrin, but by 1919 it was scarce in the former district. In 1926 D.L. Serventy observed it between York and Merredin 'but not as frequently as Twenty-eights'. It was still present at Dangin and Nangeenan in the mid-1930s (E.H. Sedgwick), but was gone from the Greenhills, Quairading and Cunderdin districts by the early 1950s (G.M. Storr) and from the Kellerberrin district by the mid-1950s (J.R. Ford and P.S. Stone). It was rare in the Northam district by the late 1920s (C.F.H. Jenkins) but still very plentiful in the Lake Grace district in 1930 (I.C. Carnaby).

Taxonomy

This subspecies is tending to split into two segments: a western, largely confined to the well-watered, well-wooded country west of the Great Southern Railway; and an eastern, largely confined to reserves and less heavily cleared parts of the wheat belt. It is therefore possible that the boundary between the two subspecies will shift towards the east. The western segment, in increasing contact with the nominate race through partial clearing of the jarrah forest, could be genetically swamped by the more numerous populations of *P. i. icterotis* to its south and south-west. As it is, some workers, notably Ogilvie-Grant and Carter, have been reluctant to include western birds (Dale River, Arthur River, Broomehill) in *P. i. xanthogenys* and would reserve that name for the more highly coloured birds further east, e.g. Parker Range and Kellerberrin. But that course is

nomenclaturally untenable, for the type of *xanthogenys*, coming from the Gould Collection, had to be a western bird. If a far eastern subspecies is recognised, the name for it would be *P. i. whitlocki* Mathews (type locality Dundas). See E. Hartert (1905, *Novit. zool.* 12: 212) and A.J. Cain (1955, *Ibis* 97: 462).

***Platycercus varius* (Clark)**

Mulga Parrot

Range

Arid and semiarid interior, west and south to No. 3 Spur Fence (3 km W of North-west Coastal Hwy), Nine Mile Pool (Murchison River 9 km ENE Galena), East Yuna, Irwin River Coal Seams, Ebano (E of Mingenew), 26 km NNE Three Springs, Buntine, Kondut, the Wongan Hills, Walyormouring Lake, Meckering, Dulbellington, Kweda, Lake Yealering, 10 km E Wickepin, 20 km N Lake Grace and Lake Hurlstone. Casual further west and south (Watheroo Observatory, Moora, Seabrook, Grass Valley, Popanyinning, Dumbleyung Lake and western Stirling Range).

Status etc.

Uncommon to common (most numerous in pastoral country beyond mulga-eucalypt line); usually in pairs and small parties, occasionally flocks (up to 17). Lightly wooded country near drinkable water, including bowgada and other acacia scrubs, allocasuarina, eucalypt and callitris scrubs and woodlands, melaleuca scrubs around saltlakes and partly cleared farmlands; attracted to fallen and standing wheat and oats. Breeding from July to September; C/4(2), 7(1).

This parrot was apparently rare or absent before the clearing of the wheat-belt. The first Divisional report was in 1903: a few birds near the lakes west of the Wongan Hills (A.W. Milligan). In the following year Milligan received four young birds from Ebano. It reached the Kellerberrin district in 1916 (B.W. Leake). In 1920 E. Ashby saw a pair near Watheroo Observatory, and in the following year P.T. Sandland and C.L. Orton found the first nest in the Moora district. For some years it remained rare in the north, e.g. E. Ashby saw none between Yalgoo and Ajana in 1927, and D.L. Serventy none in the upper Irwin River valley in 1928. It reached Meckering ca 1930 and Quairading soon after.

***Neophema elegans* (Gould)**

Elegant Parrot

Range

Greater part of mainland (mainly semiarid and subhumid interior) from Lake Eganu, Miling, Wongan Hills, Wyalkatchem and Kununoppin south to Yallingup, Carburnup, Yornup, Lake Muir and Albany, west to Nambung, West Gingin, Lake Jandabup, Jandakot, Goodale Sanctuary and Kemerton, and east to Nukarni, Wogarl and Emu Rock. Casual further north (East Yuna, Mullewa, Buntine and Wialki) and south (Karridale, Augusta, Darradup, Lake Jasper and Manjimup).

Status etc.

At present scarce to common (most numerous in Great Southern from Wickepin and Lake Grace south to Mt Barker); in ones, twos or flocks (up to 130). Lightly wooded country, especially partly cleared farmlands; attracted to seeding *Poa annua* and other grasses, and to flowering Cape weed and *Grevillea hookeriana*. Breeding reported north to Toodyay and Kodj Kodjin, south to Tambellup and Ongerup, and west to Mussel Pool: September to November; C/4(2), 5(8), 6(1).

This parrot has greatly increased its range and numbers since colonial times. Gilbert noted it at Kojonup and apparently in other natural grasslands in the wandoo belt east of the jarrah forest. By 1900 the Western Australian Museum only had four specimens, one from Wandering and three from Gracefield. It was not recorded by Milligan in the Tenterden/Stirling Range area in 1902, by Hill in the Brookton district in 1903, by Shortridge in the Albany, Arthur River and Beverley districts in 1904-05 or by Crossman in the Naremben district in 1906-08. By 1905 it was fairly common at Broomehill (Carter). In 1910 Whitlock saw a pair at Lake Balicup (E of Cranbrook). It was still rare at Lake Grace in 1930 (Carnaby) and in the Northam district before 1940 (Masters and Milhinch). Sedgwick saw one at Nangeenan in 1932-36 and none at Danganin in 1928-38. Evidently the central wheat belt was less to its liking than cleared country in the subhumid south-western interior; in 1937 it appeared at Boyup Brook and soon after was established at Bridgetown (Whittell). In 1943 it first visited the Swan Coastal Plain. A little later it began to visit clearings in the Darling Range, but it did not become established in the orchard country west of Mundaring Weir until the 1960s (Dell); in the same period it colonized the Albany district.

Neophema petrophila (Gould)

Rock Parrot

Range

West coast from Cliff Head south nearly to Mandurah, including *Beagle Is, *Fisherman Is, *Sandland I., *Favorite I., *Tern I., Boullanger I., *Whitlock I., Escape I., *Essex Rocks, *Cervantes Is, *Buller I., *Green Is, *Wedge I., *Lancelin I. and *Rottneest I. South-west, south and south-east coasts from *Cape Mentelle east to Dempster Inlet, including Hamelin I., *Seal I., St Alouarn I., Flat I., Sandy I., Chatham I., Saddle I., Stanley I., Seagull I., Green Is (Torbay), Eclipse I., Seal I. (King George Sound), *Gull Rock, *Green I. (Oyster Harbour) and Coffin I.

Status etc.

Uncommon to very common; usually in flocks (up to 100). Low vegetation on islands and mainland beaches and dunes; attracted to flowering composites, especially *Arctotheca populifolia*. Breeding on islands (asterisked above) and formerly at Cape Mentelle: August to early November off west coast, late September to mid-December off southern coasts; C/1(1), 2(5), 3(3), 4(18), 5(9), 6(2).

Neophema splendida (Gould)

Scarlet-breasted Parrot

Very rare visitor (evidently more frequent and numerous in past). John Gould received a specimen in 1840 from the Swan River Colony [presumably the York or Toodyay district]; in 1845 he received several more from J. Drummond, who collected them on the upper Moore River. In the British Museum (Natural History) there are three skins said to have been collected by J.T. Cockerell in south-western Australia (T. Salvadori 1891, *Cat. Bds Br. Mus.* 20: 577). In 1949 D. Marchant saw a small party near Kweda (Serventy and Whittell).

Neophema bourkii (Gould)

Bourke's Parrot

Range

Arid north-east, west and south to Coolcalalaya (5 km W of homestead), Wandana (ca 30 km NE Yuna), the upper Greenough (50 km NNE Mullewa), Knowgata Spring (32 km NE Canna), Quandong Well (7 km W Old Karara), Whitewells and Bimbijy. Casual in outer wheat belt (Latham).

Status etc.

At present uncommon to common (most numerous north of 28°S); in ones, twos or small parties (up to 6). Scrubs (mainly of acacias, also mallees and callitris) near drinkable water.

First recorded in Division in 1957 (J. Ford 1961, *Emu* 61: 211).

Pezoporus wallicus flaviventris North

Ground Parrot

Range

Near south and south-east coasts, from the Bow River east to the West River and Whoogarup Range and inland to Perkins Rock and other localities north and south of northern edge of Fitzgerald River National Park. Also old records from much further north: observations by F. Whitfield of Mungedar in late 1890s and early 1900s of a green parrot making short zigzagging flights just above the low dense scrub on lateritic hills about the upper Hill River (P. T. Sandland and C. L. E. Orton, pers. comms to J. R. Ford, 23 April 1962 and 15 June 1964); two nestlings from sandplains near the Wanyun [Wongan] Hills, ex Gould Collection (T. Salvadori 1891, *Cat. Bds Br. Mus.* 20: 597); said to visit vicinity of granite hills near Kellerberrin until 1892 (B. W. Leake 1962, *Eastern Wheatbelt Wildlife*, p. 80); and Perth aboriginal names for this species (J. Gould 1865, *Handbk Bds Aust.* 2: 86).

Status etc.

At present rare and patchily distributed; usually single. Low shrublands; attracted to *Daviesia pachyphylla* regenerating after fire (K. B. Newbey and K. Bradley 1983, *West. Aust. Nat.* 15: 145). Two breeding reports (late September and mid-November); C/2(1), 3(1).

This species was declining well before arrival of fox. F.L. Whitlock (1914, *Emu* 13: 203) blamed bushfires for its decline.

***Melopsittacus undulatus* (Shaw)**

Budgerigar

Range

Northern and eastern (mostly the semiarid zone) south to Tambellup, the Pallinup River and lower Fitzgerald River, and west to Perth, Pickering Brook and Williams.

Status etc.

Irregular visitor, sometimes in large numbers, e.g. late May to July 1951; usually in flocks (up to 300). Lightly wooded country, including farmlands and road verges; attracted to seeding grasses. Occasionally breeding in interior, south to Broomehill and west to Galena, the upper Irwin River and Moora: September to November; C/4(1), 6(2).

***Nymphicus hollandicus* (Kerr)**

Cockatiel

Range

Northern and central (mostly the semiarid zone) south to Kelmscott, Toodyay, York, Beverley and Lake Grace. Casual further south (Boyanup, Bridgetown and Broomehill).

Status etc.

Irregular visitor (frequency and abundance diminishing from north to south); in ones, twos or flocks (up to 100). Lightly wooded country, including farmlands; attracted to standing wheat. Occasionally breeding (west to East Yuna and the upper Irwin River and south to Wialki [? to Lake Bidy]); September and October; C/3(1).

***Calyptorhynchus latirostris* Carnaby**

Carnaby's Cockatoo

Range

Greater part of mainland, north nearly to the lower Murchison (15 km NNW Balline) and east to Nabawa, Wilroy, 20 km WSW Perenjori, Waddi Forest, Nugadong Nature Reserve, Manmanning, Durokoppin Reserve (30 km N Kellerberrin), Naremben and Gibb Rock. Casual on Rottnest I.

Status etc.

Postnuptial nomad, tending to move west after breeding. Uncommon to common in subhumid zone and wetter parts of semiarid zone, scarce and patchily distributed in driest parts of range (north of Arrowsmith Lake and east of Marchagee, New Norcia, Toodyay, Tarin Rock and Lake Magenta) and deep south-west (south of Margaret River, Nannup and Bridgetown and west of Albany); usually in pairs or small flocks, also large flocks (up to 2000) in off-season (late spring to mid-winter), especially at pine plantations. Mainly proteaceous scrubs and shrublands and adjacent eucalypt woodlands and forests, and plantations of *Pinus* spp.; attracted to seeding *Banksia*, *Dryandra*, *Hakea*, *Grevillea*, *Pinus* and *Allocasuarina* spp., flowering *Dryandra sessilis*,

D. quercifolia, *Lambertia inermis* and eucalypts and fruiting almonds. Breeding mainly in semiarid and subhumid interior from the Three Springs district south to the Stirling Range, west to Cockleshell Gully, Cataby, Regans Ford, Gingin, Moondyne, Boddington and the Tone River, and east to Manmanning, Woolundra and Lake Grace; also a record from Bunbury: early July to mid-October; C/1(11), 2(43), only one young reared; nesting mainly in smooth-barked eucalypts (*E. salmonophloia* and *E. wandoo*) but also in red morrell *E. longicornis*, York gum *E. loxophleba*, marri *E. calophylla* and tuart *E. gomphocephala*. For function of breeding displays, for breeding in captivity and for effect of agricultural clearing on breeding see D.A. Saunders (1974, *Emu* 74: 43-44; 1976, *West. Aust. Nat.* 13: 171; 1977, *Emu* 77: 180-184) and for survival in bush remnants see D.A. Saunders and J.A. Ingram (1987, pp. 249-258 in *Nature Conservation: The Role of Remnants of Native Vegetation*, ed. D.A. Saunders et al.; Beatty, Chipping Norton).

Because of the large-scale post-war clearing of semiarid sandplains, this species has declined in much of the wheat belt; this decrease in the food supply has been partly offset by its discovery in the early 1930s of a new food resource, viz. the seeds of *Pinus* spp. (which however are located largely within the subhumid and humid zones). At the same time the number of salmon gums (its principal nest tree in the wheat belt) has steadily diminished. Consequently the centre of gravity of this cockatoo's distribution has shifted considerably westwards and southwards since the middle of the century.

***Calyptorhynchus baudinii* Lear**

Baudin's Cockatoo

Range

South-western humid and subhumid zones, north to Gidgegannup, east to Mt Helena, Wandering, Quindanning, the Perup River, Lake Muir and beyond Albany (King River) and west to West Midland, Byford, North Dandalup, Yarloop, Wokalup and Bunbury; also the Stirling and Porongurup Ranges.

Status etc.

Postnuptial nomad, movements including visits between March and September to the central and northern Darling Range and adjacent far east of Swan Coastal Plain. Scarce to moderately common (most numerous in deep south-west); usually in flocks (up to 300). Mainly eucalypt forests, also orchards and farmlands; attracted to seeding marri *Eucalyptus calophylla*, *Banksia grandis*, *B. littoralis*, *B. ilicifolia* and *Erodium botrys*, and to fruiting apples and pears. Breeding in deep south-west, north to Lowden: October; C/1; nesting in karris *Eucalyptus diversicolor* and marris.

This cockatoo has declined in the last fifty years. Having an interval of seven years between generations and an annual reproductive rate of 0.6 chick per pair (S.J.J.F. Davies), it cannot replace the large numbers shot by orchardists.

***Calyptorhynchus magnificus naso* Gould**

Red-tailed Black Cockatoo

Range

Humid and subhumid zones, mainly in hilly interior, north to Dandaragan

(formerly), west to 'south-west of Gingin' (casually), Guildford (resident in colonial times, now only casual), Mundijong, Coolup (casual further west at Goodale Sanctuary), Wokalup, Big Brook (23 km W Nannup) (? formerly to the Vasse River) and Margaret River, and east to Mt Helena (formerly to Toodyay), Christmas Tree Well, North Bannister (formerly to Wandering), Mt Saddleback, Boyup Brook (formerly to the Kojonup district, where now only casual), the Frankland River (10 km W Rocky Gully) and the upper King River.

Status etc.

Formerly common, now rare to uncommon and patchily distributed; usually in pairs or small flocks, seldom large flocks (up to 200). Eucalypt forests; attracted to seeding marri *Eucalyptus calophylla* and jarrah *E. marginata*. Breeding in September and October; C/2 (presumably).

Calyptorhynchus magnificus samueli Mathews

Range

Arid and semiarid northern and north-eastern interior, west and south to the lower Murchison (downstream to Cement Springs), the lower Hutt (SE of Lynton), Nabawa, Strawberry, Eneabba, 12 km N Watheroo, Bindi Bindi, Manmanning, Wyalkatchem, Merredin and [Walgoolan]. Casual further south (Kwolyin and Narembeen).

Status etc.

Uncommon to common (most numerous in northern and north-eastern wheat belt, notably the Eurardy, East Yuna, Three Springs/Perenjori, Jibberding and Trayning/Mukinbudin districts); usually in pairs or small flocks, occasionally large flocks (up to 500). Mostly eucalypt woodlands, including partly cleared farmlands; attracted mainly to seeding double-gees *Emex australis*, also to seeding *Banksia* and *Grevillea* spp. Breeding from July to November, also February to May; C/1(132), 2(2); only one young reared.

Whereas the arboreal forest-inhabiting subspecies *C. m. naso* has obtained no benefit from European man, *C. m. samueli* has profited much from farming. It was originally confined to northern watercourses south to the Lockier River. The introduction of a South African weed in wheatfields and the provision of water for livestock have greatly increased its numbers and have enabled it to spread southwards into previously waterless regions.

Cacatua roseicapilla Vieillot

Galah

Range

At present greater part of mainland, south to South Fremantle, Armadale, the upper Dale River (60 km SE Karragullen), Pingelly, Woodanilling, Broomehill, Ongerup, Dunn Rock and Ravensthorpe. Casual at Mandurah; vagrant on Rottnest I. and at Manjimup; accidental in the Houtman Abrolhos.

Status etc.

Scarce to very common (most numerous in tree-rich parts of northern and central wheat belt); usually in pairs or small flocks, commonly in moderately large flocks (up to 200), rarely very large flocks (up to 700). Lightly wooded country (especially grain-growing areas) near drinkable water; attracted to spilt, standing and bagged wheat and to seeding double-gees *Emex australis*. Breeding from August (? late July) to October; C/2(2), 3(4), 4(8), 5(3).

This cockatoo has benefited greatly from the opening up of the wheat belt. It evidently colonized the far north between 1896, when the Calvert Expedition failed to record it in the Geraldton and Mullewa districts on their way to the East Murchison, and 1908 when F.L. Whitlock saw a few birds on the upper Irwin. In the second decade of this century it became established on the lower Murchison (Galena), the middle Greenough (East Yuna), the Irwin and 'just north of Wilgoyne Station' (18 km NE Mukinbudin), and pairs and small parties were prospecting farmlands much further south (Cockleshell Gully, Watheroo, Moora, Trayning, Kellerberrin and Williams). By 1927 D.L. Serventy considered it the most abundant bird on the upper Irwin; at the same time it was very numerous on the No. 3 Vermin Fence, especially about Ajana, and farmers attempted to have it declared vermin in the Mullewa/ Perenjori region.* During the 1930s and 1940s it spread rapidly southwards through the northern and north-eastern wheat belt. By the early 1950s it was established in the Cockleshell Gully, New Norcia, Bolgart, Goomalling, Kellerberrin and Narembeen districts. By the early 1970s it was colonizing the Kondinin, Wagin and Dumbleyung districts.

Cacatua sanguinea westralensis (Mathews)

Little Corella

Range

Far north, from the Murchison River south to Dongara and Coorow, and east to Coolcalalaya, Barnong Station (near Red Lake Well) and 14 km NE Morawa. Accidental in the Houtman Abrolhos. Also a feral population around Perth.

Status etc.

At present locally common in northern wheat belt, e.g. the Dongara, Mingenew and Three Springs districts, but generally scarce or uncommon and patchily distributed; usually in flocks (up to 1500). Lightly wooded country, especially farmlands, near drinkable water and tall trees (particularly river gums *Eucalyptus camaldulensis*). Breeding in August; C/3(1), 4(1).

* These attempts were unsuccessful, but it later became much easier to have the Galah declared vermin in a given district. Consequently some of the numerous declarations, listed by Serventy and Whittell (1976, *Bds West. Aust.*, pp. 277-278), could be very misleading. For example, the Galah was declared vermin in the Quairading district in 1947; yet five years later I saw none around that town and only prospecting pairs and small parties at nearby Yoting; in that period it was not known to breed south of Minnivale (100 km N Quairading) and Kellerberrin (50 km NE Quairading). Similarly, compare its declaration as vermin in the Gingin district in 1948 with the assessment of its status in 1952 by Loaring and Serventy (*West. Aust. Nat.* 3: 110).

It is unlikely that this cockatoo originally occurred anywhere within the Division. The earliest sight record is that of F.L. Whitlock, who noted hundreds in hot weather in summer 1907-08 near Irwin Station (D.L. Serventy 1929, *Emu* 28: 144). Corellas, presumably of this species, were present at East Yuna when D.J. McGauran took up land there in 1921. K.G. Buller observed it at the mouth of the Murchison in 1949 (it was not recorded here by the RAOU the previous year). No specimens were obtained until the late 1950s and early 1960s (single specimens collected by D.L. Serventy at Mullewa and J.R. Ford near Northern Gully). By the late 1970s they were common around Mingenew and had replaced *C. pastinator* (the only corella encountered by A.W. Milligan in 1904). In the early 1980s it replaced *C. pastinator* on his farm 16 km W Morawa (A. Vandeleur, pers. comm.).

Cacatua pastinator butleri Ford.

Western Long-billed Corella

Range

Northern semiarid zone from Dongara (? formerly Geraldton), Three Springs (formerly Mingenew and Morawa), Caron, 60 km NE Wubin, 40 km NE Kalannie and Remlap, south to the lower Hill River, Badgingarra, 13 km N Regans Ford, Victoria Plains, Wongan Hills and Koorda. Recently casual further south and east (23 km S Wialki, Korrelocking, Dowerin, Yorkrakine and Yoting). Also (but ? species) recently established in Northam district (J.R. Masters and A.L. Milhinch 1974, *Emu* 74: 235).

Status etc.

Locally common, e.g. the Three Springs, Wubin and Dandaragan districts, but generally uncommon and patchily distributed; usually in flocks (up to 1000). Lightly wooded country, including farmlands, near drinkable water and tall trees; attracted to corms of Guildford grass *Romulea rosea*, fallen wheat and seeding double-gees *Emex australis*. Breeding from August to October; C/1(1), 2(11), 3(11), 4(2).

It seems that this cockatoo was originally confined to the valleys of major watercourses, notably the Irwin and Hill Rivers. At any rate there were no records away from these rivers before 1927. Its spread eastwards and south-eastwards only became possible after the establishment of farm dams and the introduction of exotic food plants. The expansion south-eastwards is continuing, judging from the number of recent sightings in the central wheat belt.

Taxonomy.

See J. Ford (1987, *West. Aust. Nat.* 16: 172-176).

Cacatua pastinator pastinator (Gould)

Range

Now confined to a small part of subhumid south-eastern interior from Boyup Brook and Qualeup south to the lower Perup River, Lake Muir and Camballup. Formerly occurring (probably in small, widely separated colonies) north to the Swan and Avon

Rivers, west to Augusta and east to Broomehill. Casual further east (Dumbleyung, 1955-56 and Gnowangerup, 1913).

Status etc.

At present locally common in farmlands (Dinninup, 10 km E Mayanup and Rocky Gully) but generally uncommon and patchily distributed; usually in small flocks, sometimes roosting in very large flocks (1000). Mainly partly cleared eucalypt forests; attracted to 'bulbs' of *Romulea rosea*, *Drosera* spp. and orchids, to seeding oats and clover and formerly to standing, reaped and newly-planted wheat. According to T. Carter breeding in September; usually C/2 or 3, also C/1.

There is no evidence that this cockatoo was ever numerous and widespread. It was exterminated on the Swan and Vasse Rivers apparently in colonial times, in the Broomehill district soon after the advent of wheat farming in 1890 (T. Carter) and on the Avon ca 1900 (J.R. Masters and A.L. Milhinch). It was last reported at Augusta in 1916 (T. Carter). The single remnant population is largely dependent on farming but is constantly harassed by certain farmers.

Cacatua leadbeateri (Vigors)

Major Mitchell's Cockatoo

Range

Far north at Weerinoogudda Soak (20 km N Mt Curious) and on the Murchison from Yallalong downstream to Kalbarri. North-eastern interior from the upper Irwin (formerly), Lochada, Rothsay, 60 km NE Wubin, 40 km NE Kalannie and the Karroun Hill Reserve south and west to Mingenew (formerly), nearly to Three Springs, Coorow, Pithara, Bunketch, Wialki and Beringbooding Rock. Formerly central interior: according to J. Drummond common in colonial times between the Salt [North Mortlock] River and Guangan [Wongan Hills] and visiting the neighbourhood of the Avon [Toodyay district] to feed on the seeds of the blackboy [*Xanthorrhoea preissii*] and flowers of the red gum [*Eucalyptus calophylla*]. Casual at East Yuna, Jurien, 16 km WSW Mukinbudin, Kellerberrin and Midland/Guildford.

Status etc.

Locally moderately common (Murchison River and Perenjori, Waddi Forest and Jibberding districts) but generally scarce and patchily distributed; in pairs or small flocks (up to 43). Lightly wooded country, including farmlands, near drinkable water and tall eucalypts; attracted to spilt wheat and seeding wild radish *Raphanus raphanistrum*. Breeding in September; C/2(2).

Cacatua galerita galerita (Latham)

Sulphur-crested Cockatoo

Small colonies established in the Pinjarra district by 1955 and Midland district by 1964. Casual elsewhere on the Swan Coastal Plain (mainly between Kelmscott and Serpentine and between Gingin and Bullsbrook), in the adjacent Darling Range (between Darlington and Kalamunda) and near Toodyay. Usually in small flocks,

occasionally moderately large flocks (up to 100) in past. The Agriculture Protection Board has reduced their numbers from *ca* 240 in 1986 to *ca* 40 in 1989. Lightly wooded country, especially farmlands; attracted to seeding marri *Eucalyptus calophylla* and wild melons *Cucumis myriocarpus*.

Cuculidae

Cuculus pallidus (Latham)

Pallid Cuckoo

Range

Greater part of mainland. Casual on Rottneest and Garden Is.

Status etc.

Visitor, adults arriving between end of March and early July (mostly in May and June) and leaving between early October and late January (mostly in October and November), juveniles sometimes remaining with fosterers until February (rarely till early March). Scarce to moderately common (most numerous in drier country); usually single. Lightly wooded country. Breeding from August to October (rarely late November); parasitizing Richard's Pipit (one record), White-winged Triller (1), Jacky Winter (1), Scarlet Robin (1), Hooded Robin (1), Golden Whistler (1), Rufous Whistler (1), Grey Shrike-thrush (2), Willie Wagtail (4), Restless Flycatcher (1), Clamorous Reed Warbler (1), Brown Honeyeater (3), Singing Honeyeater (12), Yellow-plumed Honeyeater (1), White-plumed Honeyeater (1), Brown-headed Honeyeater (4), White-naped Honeyeater (3), New Holland Honeyeater (2), Tawny-crowned Honeyeater (2), Western Spinebill (7), Yellow-throated Miner (5), Spiny-cheeked Honeyeater (1), Little Wattlebird (6), Red Wattlebird (21), Magpielark (2), Masked Woodswallow (1), Black-faced Woodswallow (4) and Dusky Woodswallow (1).

Cacomantis flabelliformis flabelliformis (Latham)

Fan-tailed Cuckoo

Range

Greater part of Division, including Rottneest and Bald Is but not the arid and semiarid north-east, east of 21 km W North-west Coastal Hwy (at No. 3 Spur Fence), East Yuna, Morawa, Wongan Hills, Elashgin Nature Reserve (15 km SSE Wyalkatchem), Nangeenan and Muntadgin.

Status etc.

Migrant, spending summer in far south (north to Cape Naturaliste, Manjimup, Lake Muir, the Porongurup Range and Manypeaks), moving north from April to June (rarely in late March) and returning from September to November. Uncommon to common in humid and subhumid zones, rare to uncommon in semiarid zone; usually single. All kinds of well-wooded country from karri forest to acacia thickets. Breeding reported on Rottneest I. and on mainland south to Busselton, Bridgetown, ? Lake Muir and the Stirling Range (? Porongurup Range), and east to Morawa, Quairading, Dumbleyung and West Mt Barren: July to October; parasitizing Brown Thornbill (5

records), Redthroat (4), White-browed Scrubwren (5), Shy Groundwren (1), Striated Fieldwren (1), Clamorous Reed Warbler (1), Grey-breasted White-eye (1), Purple-gaped Honeyeater (1) and White-fronted Chat (1).

Chrysococcyx osculans (Gould)

Black-eared Cuckoo

Range

Northern and eastern, west and south to Kalbarri, Galena, East Yuna, Tardun, Caron, Marchagee, Moora, Wongan Hills, Yoting and Yarding. Casual further south (Perth, Northam, Toolibin Lake etc.).

Status etc.

Visitor (April to December, mostly July to October). Rare to moderately common (most numerous in north-east, south to the Buntine, Kalannie and Bruce Rock districts, and in certain years, e.g. 1977); usually single. Arid and semiarid thickets. Breeding from July to September; parasitizing Red-capped Robin (2 records), Yellow-rumped Thornbill (1) and Redthroat (8).

Chrysococcyx basalis (Horsfield)

Horsfield's Bronze Cuckoo

Range

Greater part of mainland but not far south-west (south of Busselton, Boyanup, Collie, Boyup Brook and Broomehill and west of Albany). Casual in Houtman Abrolhos and on Rottneest I.

Status etc.

Visitor (late April to December, also January in far south; mostly July to November). Scarce to common (most numerous in arid and semiarid zones; least in heavily forested country, especially the Darling Range); usually single. Most kinds of shrubland and woodland. Breeding from August (rarely July) to October; parasitizing Jacky Winter (one record), Red-capped Robin (9), Scarlet Robin (8), Western Flyeater (1), Brown Thornbill (6), Chestnut-rumped Thornbill (6), Western Thornbill (2), Yellow-rumped Thornbill (10), Redthroat (2), White-browed Scrubwren (1), Splendid Fairy-wren (3), Variegated Fairy-wren (1), Blue-breasted Fairy-wren (1), Red-winged Fairy-wren (1), White-winged Fairy-wren (1), Grey-breasted White-eye (1), Brown Honeyeater (2), Tawny-crowned Honeyeater (1) and White-fronted Chat (1).

Chrysococcyx lucidus plagosus (Latham)

Shining Bronze Cuckoo

Range

Greater part of mainland but not arid and semiarid north-east, east of 21 km W North-west Coastal Hwy (at No. 3 Spur Fence), 53 km N Galena, 20 km N Geraldton, Yandanooka, Buntine and Durokoppin Reserve (26 km N Kellerberrin); also Rottneest, Hamelin, Michaelmas and Bald Is.

Status etc.

Visitor (late May to early March, mostly August to January). Common in humid and subhumid zones, uncommon to moderately common in coastal parts of semiarid zone and locally in interior (Moora and Northam), scarce elsewhere in semiarid zone; mostly single. Well-wooded country. Breeding north to Geraldton and east to Arrowsmith Lake, Moora, Northam, Kwolyin (rarely), Dumbleyung and Ongerup: late July to late December; parasitizing Red-capped Robin (one record), Western Flyeater (2), Weebill (1), Brown Thornbill (21), Chestnut-rumped Thornbill (2), Western Thornbill (6), Yellow-rumped Thornbill (61), White-browed Scrubwren (3), Splendid Fairy-wren (3) and Grey-breasted White-eye (1).

Eudynamis scolopacea cyanocephala (Latham) **Koel**

Vagrant. One emaciated specimen collected near Quairading on 4 April 1971 (D.L. Serventy 1973, *Emu* 73: 138).

Strigidae

Tyto alba delicatula (Gould) **Barn Owl**

Range

Greater part of mainland, but not the deep south-west (south of Dunsborough and Bridgetown and west of Elleker). Casual on Beacon, Boullanger, Rottnest, Carnac, Seal (Shoalwater Bay), Penguin and Michaelmas Is.

Status etc.

Visitor (mostly April to October). Scarce to moderately common; usually single. Lightly wooded country; attracted to irruptions of house mouse *Mus musculus*. Breeding from June to October; C/3(3), 5(1).

Tyto capensis longimembris (Jerdon) **Grass Owl**

Vagrant. A specimen (WAM A5792) collected at Cranbrook on 16 June 1944 served L. Glauert (1945, *Emu* 45: 229) as holotype of *T. longimembris maculosa*.

Tyto novaehollandiae novaehollandiae (Stephens) **Masked Owl**

Range

South-western, north to Yanchep and east to Northam, East Beverley, Yealering, Gnowangerup, the Stirling Range and Albany. Casual further north (Geraldton).

Status uncertain.

Probably breeding in forested, deep south-west, with some autumn-winter wandering northwards and north-eastwards. Locally common in deep south-west (Karridale and Manjimup) but generally uncommon. See G.F. Mees (1962, *West. Aust. Nat.* 8: 167).

Ninox connivens connivens (Latham)

Barking Owl

Range

South-western, north to Perth (formerly) and east to Northam, Flagstaff Lake, Katanning, Chillinup and Yellilup Swamp.

Status etc.

Rare. Densely wooded country, especially waterside melaleuca forests. An egg in British Museum (Natural History) was collected by John Gilbert in October.

Ninox novaeseelandiae boobook (Latham)

Boobook Owl

Range

Throughout the mainland. Casual on Favorite, Rottneest and Garden Is.

Status etc.

Resident and passage migrant (March to May and July to October). Uncommon to common; usually single, occasionally in twos. Wooded country. Breeding in September and October; C/1(1), 2(6), 3(3).

Podargidae

Podargus strigoides brachypterus Gould

Tawny Frogmouth

Range

Throughout the mainland.

Status etc.

Uncommon to common (least numerous in arid zone); in ones, twos or family parties. Most kinds of wooded country. Breeding from late July to early November: C/2(53), 3(1).

Aegothelidae

Aegotheles cristatus cristatus (White)

Australian Owlet-nightjar

Range.

Throughout the mainland.

Status etc.

Scarce to common (most numerous in semiarid zone; least in deep south-west, where apparently only a late summer/autumn visitor); usually single. Breeding from September (? August) to November; C/2(2), 3(1).

Caprimulgidae

Eurostopodus argus Hartert

Spotted Nightjar

Range

Greater part of Division including Garden I., but only casual in Darling Range and deep south-west (south of Busselton and Boyup Brook and west of Elleker).

Status etc.

Breeding in arid and semiarid interior south to Fitzgerald River National Park (near Roes Rock), but visiting wetter country in off-season (February to July), especially west-coastal sandplains north to Green Head and southeast-coastal sandplains west to Albany district. Locally moderately common, but generally uncommon; usually single, occasionally in twos. Sparsely vegetated (preferably stony) country, particularly about granite and quartzite outcrops, but also roads through scrubs, heathlands and farmlands. Two dated breeding records (late October or early November); C/1(4).

Apodidae

Hirundapus caudacutus caudacutus (Latham)

Spine-tailed Swift

Vagrant. Only three plausible records: one over Eclipse I. on 7 February 1956 (J. Warham 1957, *West. Aust. Nat.* 5: 232) and 1-50 at Lake Joondalup on 29 March 1989 (M. Whackett 1989, *West. Aust. Bd Notes* No. 50: 1, and C. Wilder *ibid.*). Three of the other six reports are by people (J. Gould, F.L. Whitlock and W.H. Loaring) who did not record *Apus pacificus*.

Apus pacificus pacificus (Latham)

Fork-tailed Swift

Range

Western, east to East Yuna, Caron, Kellerberrin, Lake Grace and the Fitzgerald River.

Status etc.

Visitor (mid-December to late April, mostly March), often during thundery or wet weather, especially before and after tropical cyclones. Uncommon to moderately common in vicinity of west coast, including seas up to 25 km offshore, but scarce elsewhere; usually in flocks (up to 400), sometimes accompanying flocks of Tree Martins and Masked Woodswallows.

Alcedinidae

Dacelo gigas (Boddaert)

Laughing Kookaburra

Range

Mainly the humid and subhumid zones and wetter or cooler parts of semiarid zone,

north to Lake Arramall and east to Stockyard Gully, Mungedar, Moora, Waddington, Bolgart, Wongamine, Northam, Mawson, Kweda, Dudinin, Lake Grace, Lake Chidnup and the Ravensthorpe Range; also Garden, Chatham, Eclipse, Michaelmas, Breaksea and Bald Is. Casual further east (Watheroo, Kellerberrin, Merredin, Kondinin, Lake Hurlstone and Lake King).

Status etc.

Naturalized exotic. Common in humid and subhumid zones north to the Hill River and east to Dandaragan, Victoria Plains, Toodyay, York, Boyagin Rock, Narrogin, Katanning, Chester Pass and Manypeaks, uncommon and patchily distributed further north and east; in ones, twos or family parties. Well-wooded country. Breeding from August to November; C/2(2), 3(12), 4(2).

Hundreds of Victorian birds were released from 1897 to 1912 at South Perth Zoo and elsewhere, including Gingin in 1903 and the Warren River in 1909. By 1920 it was well established in the Swan River, Vasse River and Margaret River districts and other parts of the south-west, but had not reached Broomehill by 1922. By 1926 it was common in the hills south and west of Northam. Two were observed in Denmark in 1927. It had become very numerous in the Bridgetown district by 1932. It had reached Mogumber, Dumbleyung, Needilup and Bremer Bay by 1950, Lake Magenta and the Fitzgerald River by 1970, and Ravensthorpe soon after.

[*Dacelo leachii* Vigors and Horsfield

Blue-winged Kookaburra

Perhaps occasionally wandering down the Murchison River to far north of Division. V. Barndon of Coolcalalaya Station (pers. comm. to L.A. Smith and R.E. Johnstone, 20 October 1986) has twice heard a strange kookaburra call, once at Murchison House and once at Coolcalalaya, the second occasion in spring 1985.]

Halcyon pyrrhopygia Gould

Red-backed Kingfisher

Range

Northern semiarid zone, west and south to Kalbarri, Geraldton, Arrino, Northam, Kwolyin and Narembeen. Casual further south (near Lancelin and near Perth).

Status etc.

Visitor (late August to mid-February; also one June record). Scarce or uncommon; usually single, occasionally in twos. Lightly wooded country near nest sites (banks of watercourses and earth around roots of upturned trees and shrubs; also sandpits, open-cut mine faces and other man-made excavations). Breeding south to 9 km SSE Lancelin, Grass Valley and Kwolyin: late October to late December; C/3(2), 5(1).

Halcyon sancta sancta Vigors and Horsfield

Sacred Kingfisher

Range

Greater part of mainland, north to the Murchison (upstream to Ten Mile Pool) and

east to Wandana (ca 30 km NE Yuna), East Yuna, Wilroy, Buntine, Beacon, Kodj Kodjin and Naremben; also many islands during passage (West Wallabi, Pelsaert, Whitlock, Escape, Essex, Cervantes, Green, Lancelin, Rottnest, Carnac, Garden, Bird, Seal, Penguin, Hamelin, Eclipse and Mistaken).

Status etc.

Breeding visitor and passage migrant (late August to late October and early February to mid-July), commonly wintering on west coast and Rottnest I. but rarely on south coast and in interior. Uncommon to common within breeding range, only a scarce passage migrant in drier parts of range; usually single, occasionally in twos. Woodlands and more open forests, especially near water. Breeding on Rottnest I. and inland to Mingenew, Moora, Mogumber, Toodyay, Northam and Lake Grace: October to December (? early January); C/3(3), 4(8), 5(10), 6(1).

Records of Azure Kingfisher at Bickley (D. Keast 1977, *Corella* 1: 80-81) were based on Sacred Kingfishers (J. Dell, pers. comm.).

Meropidae

Merops ornatus Latham

Rainbow Bee-eater

Range

Greater part of Division, including Rottnest I. but not the far south (south of Margaret River, the Whicher Range, Lowden, Boyup Brook, Kendenup, Pannoo and Warriup). Casual or in passage at Bridgetown, Forest Grove, Mt Barker and Manypeaks.

Status etc.

Visitor (late August to early April, mainly arriving in late September or early October and leaving in February or early March). Scarce to common (least numerous in Darling Range and arid north-east); usually in small parties during southward migration in spring, in pairs (rarely small colonies) when breeding, and in small parties or flocks (up to 100) after breeding and during northward migration. Lightly wooded, preferably sandy country. Breeding from mid-October to mid-December; C/4(6), 5(11), 6(2). For notes on behaviour see J. Warham (1954, *West. Aust. Nat.* 4: 146).

Coraciidae

Eurystomus orientalis pacificus (Latham)

Dollarbird

Vagrant. A specimen (WAM A16951) collected by D.J. Mell near Geraldton on 13 May 1981.

Atrichornithidae

Atrichornis clamosus (Gould)

Noisy Scrub-bird

Range

Perhaps originally widespread in humid south-west, but now restricted to extreme

south-east of range (Two Peoples Bay).

Status etc.

Common in tiny remnant of range (population *ca* 100 pairs); in ones or twos. Dense thickets of tall shrubs, low trees, lianas and sedges in damp interdunal flats and gullies or beneath eucalypt forests. Breeding from late May to early September (G.T. Smith and F.N. Robinson 1976, *Emu* 76: 37-42); C/1 (invariably).

It was discovered by J. Gilbert in 1842 on the banks of a stream in the Darling Range south of the Murray River. In the next 47 years at least another 19 specimens were collected (H.M. Whittell 1942, *Emu* 42: 229; G.F. Mees 1964, *West. Aust. Nat.* 9: 77), all near King George Sound, the last at Torbay in 1889. Meanwhile there were reports from the lower west coast between Cape Naturaliste and Cape Leeuwin, including an aural record by A.J. Campbell. In 1961 it was observed by H.O. Webster (1962, *West. Aust. Nat.* 8: 57, 81) at Two Peoples Bay. This area has been reserved and fire-managed so effectively that the scrub-birds have substantially increased their numbers, allowing the authorities in 1983 to translocate some of the birds in the Mt Manypeaks Reserve (14 km to NNE) in an apparently successful attempt to establish a second colony; two years later birds were released near Walpole (130 km to west).

Hirundinidae

Cheramoeca leucosterna (Gould)

White-backed Swallow

Range

Greater part of mainland, south on Swan Coastal Plain to Lake Cooloongup and Forrestdale Lake, and in semiarid interior to Tambellup and Borden. Casual on North and Rottnest Is and at 15 km NW Williams, Dryandra, Kundip, Fitzgerald River, Cranbrook and 11 km WSW Denmark.

Status etc.

Sedentary in coastal areas, partly migratory in interior (tending to vacate southern half of wheat belt in autumn and winter, and northern half in summer). Common in west-coastal areas south to Yanchep, generally uncommon and patchily distributed in interior; in ones, twos or small flocks (up to 15). Open or sparsely wooded, sandy (occasionally loamy) country in vicinity of nest sites (road cuttings, sandpits, banks of creeks and gullies, railway embankments and gravel pits). Breeding south to Leeming and the Pallinup River: late August to mid-December; C/2 (1), 3 (5), 4(31), 5 (23), 6 (10).

This swallow was originally scarce but has benefited from the post-colonial proliferation of nest sites. It colonized the northern third of the Swan Coastal Plain mainly in this century.

Hirundo rustica gutturalis Scopoli

Barn Swallow

Very rare visitor. One at Thomsons Lake in January 1986 (A. Burbidge 1986, *West. Aust. Bd Notes* No. 37: 1).

Hirundo neoxena Gould

Welcome Swallow

Range

Greater part of Division, including most islands off west and south coasts.

Status etc.

Common to very common on west-coast islands, part of west-coast mainland and about cities and towns, moderately common to common on south-coast mainland and islands and about farmhouses, station homesteads and lakes and dams, but generally uncommon and patchily distributed; usually in ones, twos or small parties, also flocks in off-season, particularly at food-rich sites (emerging Diptera). Open or lightly wooded country, especially near water. Nesting in caves, sink-holes and cliffs (particularly of coastal limestone), beneath verandas and bridges and in waterside trees (in hollows or under leaning boughs), sheds, abandoned buildings and moored boats: mid-April to late December (mostly August to November); C/2 (11), 3 (43), 4 (21); for comparison of clutch size with that in eastern Australia see A. Burbidge (1984, *RAOU Newsl.* No. 61: 8).

Hirundo nigricans nigricans Vieillot

Tree Martin

Range

Greater part of Division, including Rottnest I. Casual on Garden and Hamelin Is.

Status etc.

Migratory, moving north in autumn and south in late winter and early spring. Uncommon to very common (most numerous in humid and subhumid zones, least in winter); usually in pairs or small flocks, commonly large flocks (sometimes of thousands) in off-season. Mainly wooded country in breeding season, also open country in off-season (when commonly roosting in *Typha* in wetlands). Breeding in greater part of mainland and on Rottnest I.: July to December (? January), also May; C/2 (6), 3 (11), 4 (4); ordinarily nesting in tree hollows, but in towns and cities sometimes under verandas and eaves and in tubular steel of street lights.

Hirundo ariel (Gould)

Fairy Martin

Range

Interior (mainly arid and semiarid zones), south to Warriup and west to the lower Murchison (Murchison House), Northampton, Ellendale Pool, Stockyard Gully, Namban, Mogumber, Spencers Brook, Beverley, Coblinine River and Chester Pass. Also eastern part of Swan Coastal Plain from Regans Ford south to Benger.

Status etc.

Irregular visitor (late August to early June, mostly late September to February). Rare to moderately common (more numerous in north than south); usually in small flocks. Open or lightly wooded country near nests. Breeding in small colonies from August to

December (mostly October and November); C/3 (3), 4 (6), 5 (2); nesting mainly under road and rail culverts and bridges; also in sandstone, limestone and granite cliffs and caves, claypits and a chalk quarry.

Motacillidae

Anthus novaeseelandiae australis Vieillot

Richard's Pipit

Range

Greater part of Division, including North, Rottneest and Garden Is. Vagrant on East Wallabi, Gun, Boullanger, Whitlock, Cervantes, Green, Wedge, Saddle, Stanley, Eclipse and Bald Is.

Status etc.

Mainly sedentary, but some tendency to wander in summer and autumn. Uncommon to very common; in ones or twos, also small parties (seldom more than 7). Sparsely vegetated country: farmlands (especially stubbles, leys and ploughed paddocks), coastal dunes and beaches (including cast-up seaweed), low and burnt heath, short grass (including sports grounds, airfields and lawns), samphire, bare ground around saltlakes, dams and mills, and roadsides (where attracted to road-killed animals). Breeding from April to December (mostly August to November); C/2 (7), 3 (30), 4 (4); parasitized by Pallid Cuckoo (1 record).

[*Anthus cervinus* (Pallas)]

Red-throated Pipit

A specimen (WAM A17942) found dead on wharf at Albany on 13 May 1983, opposite the 'Manilla Trader' (*ex* Singapore), the only ship then in port. It was probably carried on this ship.]

Motacilla flava Linnaeus

Yellow Wagtail

Very rare visitor. One observed on shore of Herdsman Lake in late February and early March 1981 (P. Curry), and one at freshwater swamp at Wilson Inlet for nine days in early May 1983 (L. Broadhurst 1983, *West. Aust. Bd Notes* No. 27: 10).

Motacilla alba ocularis Swinhoe

White Wagtail

Very rare visitor. One observed at swamp near Woodanilling *ca* May 1971, one observed with Richard's Pipits in stubble near Manjimup for several days in early April 1978, and one collected (WAM A16982) on wharf at Geraldton in mid-May 1981 (G. M. Storr *et al.* 1982, *West. Aust. Nat.* 15: 55).

Campephagidae

Coracina maxima (Ruppell)

Ground Cuckoo-shrike

Range

Mainly arid and semiarid interior, south to the Stirling Range and lower Fitzgerald,

and west to East Yuna, Three Springs, Moora, Mogumber, York and Kojonup. Also visiting eastern zone of Swan Coastal Plain (Gingin to Waroona), Darling Range (Mt Helena and Greenmount) and deep south-west (Bridgetown).

Status etc.

Rare or scarce visitor (mostly February to June, but occasionally remaining to breed); in pairs or small parties (up to 12). Sparsely wooded country, including farmlands and stony ridges. Breeding from late July to early September; C/2 (5), 3 (4).

Coracina novaehollandiae (Gmelin)

Black-faced Cuckoo-shrike

Range.

Greater part of Division, including on migration East Wallabi, West Wallabi, Rottneest and Garden Is.

Status etc.

Breeding visitor, winter visitor and passage migrant (mid-January to early November, mostly March to August). Uncommon to common (least numerous in heaviest forests, and in winter in central and southern interior); usually in ones or twos, also flocks (up to 30) during migration. Wooded country. Breeding from July to January; C/1 (3), 2 (10), 3 (14).

Lalage sueurii tricolor (Swainson)

White-winged Triller

Range

Greater part of mainland, but not far south-west (south of Cowaramup, Pemberton and Lake Muir and west of Albany). Casual on Rottneest I. and at Scott River.

Status etc.

Irregular visitor (all months, mostly late August to February). Scarce to very common (most numerous in northern half and in certain years, e.g. 1903, 1934, 1980, 1981 and 1983; least in Darling Range and south-west); in ones, twos or small parties (up to 10). Lightly to moderately wooded country, including partly cleared forests. Breeding (often in small groups) south in the west to Bunbury and in the east to Lake Balicup and Quaalup: mid-September to November; C/2 (8), 3 (16); parasitized by Pallid Cuckoo (1 record); for communal nesting see S.R. White (1952, *West. Aust. Nat.* 3: 103).

Pachycephalidae

Microeca leucophaea assimilis Gould

Jacky Winter

Range

Semiarid interior, south to northern foot of Stirling Range, Ongerup, Lake Cairlocup, Dunn Rock and [Coujinup Hill], and west to Eurardy, East Yuna, Arrino, Moora, Mogumber, nearly to Toodyay, 12 km SE Mundaring Weir, 20 km SW

Beverley, 10 km W Brookton, Dryandra, Wagin and Ewlyamartup, but not extreme north-east (beyond mulga-eucalypt line). Casual at Albany. [Records from Porongurup Range and Nornalup presumably based on *Eopsaltria georgiana*.]

Status etc.

Locally moderately common, e.g. at Dumbleyung, but generally scarce or uncommon, patchily distributed and declining (most numerous in south, least north of Moora and Wongan Hills); usually in ones or twos. Mainly eucalypt scrubs and woodlands (especially wandoo), preferably undisturbed. Breeding from early August to early December, also April (following tropical cyclone of February 1955); C/1 (1), 2 (13), 3 (3); parasitized by Pallid Cuckoo (1 record).

Petroica goodenovii (Vigors and Horsfield)

Red-capped Robin

Range

Mainly arid and semiarid zones, south to Cranbrook, Chillinup, Perkins Pool, Kybulup Pool and Ravensthorpe, and west to Green Head, Dandaragan, Wannamal Lake, Toodyay, York, Dale River (W of Beverley), 15 km W Pingelly, Dryandra, Arthur River and Kojonup. Also resident on Rottnest I. and visiting subhumid and humid zones mainly in off-season (clearings and orchards in Darling Range from Chittering south to Collie; Swan Coastal Plain south to Lake Clifton and Coolup; and deep south-west near Bridgetown and Lake Muir). Casual on Pelsaert I.

Status etc.

Partly migratory on mainland, some birds moving towards west coast in late summer and early autumn and usually returning in late autumn or winter, rarely remaining to breed. Uncommon to common; usually single, commonly in pairs. Most kinds of scrub and shrubby understory of eucalypt woodlands, favouring jam *Acacia acuminata* and sheoak *Allocasuarina huegeliana* in interior and teatree *Melaleuca lanceolata* and wattle *Acacia rostellifera* in coastal areas, including Rottnest I. Breeding (including a few reports from Swan Coastal Plain and Darling Range) from June to December; C/2 (10), 3 (14); parasitized by Black-eared Cuckoo (2 records) and Horsfield's Bronze Cuckoo (9).

Petroica multicolor campbelli Sharpe

Scarlet Robin

Range

Humid and subhumid zones and wetter or cooler parts of semiarid zone, north and east to Cockleshell Gully, Mungedar, Dandaragan, New Norcia, Bolgart, Northam, York, Aldersyde, Wickepin, Tarin Rock, Lake Grace South, Lake Cairlocup, Calyerup Rocks and lower Fitzgerald River. Also extreme south-east (Jerdacuttup River). Casual in the Wongan Hills and on Chatham I.

Status etc.

Generally sedentary, but some wandering in autumn and winter. Scarce or

uncommon in drier and in more grossly disturbed parts of range, otherwise common; usually in ones or twos. Most kinds of woodland and tall scrub. Breeding from late July to early November, also April following tropical cyclone of February 1955; C/2 (12), 3 (15); parasitized by Pallid Cuckoo (1 record) and Horsfield's Bronze Cuckoo (8).

***Petroica cucullata* (Latham)**

Hooded Robin

Range

Western, from Arrowsmith Lake south nearly to Mandurah (and ? formerly to Pinjarra and Harvey) and east to 32 km SSE Eneabba, 8 km W Watheroo, Moora, Gingin district, Cannington and Forrestdale. Mid-eastern and south-eastern, south to Narrikup and Warriup, west to Avon Valley National Park, Ebenezer Flats, Bannister, Williams, Arthur River, Kojonup and Tenterden, and east to Northam (formerly), Brookton (formerly), Jitarning, Lake Grace, Dunn Rock and Hopetoun. Far eastern interior from Gibb Rock (formerly Kellerberrin and Naremben) south to [upper Coujinup Creek] and west to Lake Hurlstone and Lake King. Also patchily in north-east (Wandana area, Caron, Buntine, Damboring, Remlap, Karroun Hill Reserve and Moondon) and in south-west (Mullalyup, Boyup Brook and Bridgetown).

Status etc.

Moderately common locally in southern interior, but generally scarce or uncommon, patchily distributed and declining; single or in pairs. Mainly shrublands and open scrubs on sandplains, especially when burnt; also open wandoo forest and samphire. Breeding from July to November; C/2 (7), 3 (2); parasitized by Pallid Cuckoo (1 record).

***Eopsaltria australis griseogularis* Gould**

Yellow Robin

Range

Greater part of mainland, but not arid north-east (east of 68 km N Galena, East Yuna and Wilroy). Casual on Carnac I.

Status etc.

Formerly common in humid and subhumid zones and wetter parts of semiarid zone. Still uncommon to common in Darling Range, deep south-west and locally in wandoo belt east of jarrah forest, in south-eastern mallee country and coastal areas north of Geraldton, but rare or extinct on Swan Coastal Plain and in much of wheat belt; in ones or twos. Most kinds of thicket, scrub and tall shrubland including understory of eucalypt forests and woodlands. Breeding from mid-July to early December; C/1 (2), 2 (35).

***Eopsaltria georgiana* (Quoy and Gaimard)**

White-breasted Robin

Range

Semiarid and subhumid west coast from 10 km S Geraldton south to 3 km SSE Lancelin and inland to Arrowsmith Lake, Stockyard Gully and Yewadabby Spring.

Humid and subhumid south-west, north on Swan Coastal Plain to Busselton (casual at Floreat Park, Harvey and Benger Swamp), north in Darling Range to Canning Dam, and east to lower Hotham River, Collie, Boyup Brook, Lake Muir and the Waychinicup River, with isolated populations in the Stirling and Porongurup Ranges, at Gordon Inlet, Bremer Bay and Beaufort Inlet, and on Michaelmas, Mistaken (formerly) and Bald Is.

Status etc.

Uncommon to common (most numerous in deep south-west), usually in ones or twos. Northern population mainly in thickets of wattle (especially *Acacia rostellifera*) or *Melaleuca cardiophylla*, rarely *Banksia* scrubs. In south mainly in waterside thickets of *Agonis linearifolia*, *Trymalium floribundum*, *Melaleuca* spp. and other shrubs in eucalypt forests; also coastal peppermint *Agonis flexuosa* scrubs. Breeding from July to December (? early January); C/2 (23), 3 (2). For notes on the northern population see J. Ford (1971, *Emu* 71: 106) and the southern population, H.M. Whittell (1933, *Emu* 32: 236), R.H. Stranger (1967, *West. Aust. Nat.* 10: 115) and R.J. and M.N. Brown (1978, *Corella* 2: 59).

Pachycephala pectoralis fuliginosa Vigors and Horsfield

Golden Whistler

Range

Greater part of Division, including Rottnest, Garden, Michaelmas, Breaksea and Bald Is.

Status etc.

Common in humid zone, uncommon to moderately common in subhumid zone and cooler and wetter parts of semiarid zone, scarce and patchily distributed in warmer and drier parts of semiarid zone and in arid zone; usually single, occasionally in pairs. Mainly thickets and scrubs of *Acacia*, *Melaleuca*, *Agonis* and *Eucalyptus*, including understory of eucalypt forests and woodlands. Breeding from late August to December (? early January); C/2 (11); parasitized by Pallid Cuckoo (1 record).

Pachycephala rufiventris (Latham)

Rufous Whistler

Range

Greater part of mainland but not deep south-west (east of coastal strip between Yallingup and the Scott River, south of Busselton, Manjimup and Lake Muir, and west of West Cape Howe); also Rottnest I. (before 1926) and Garden I. (since 1979). Casual on West Wallabi I.

Status etc.

Common in arid zone and uncleared drier parts of semiarid zone, uncommon to moderately common in uncleared or partly cleared, non-forested parts of subhumid zone and of wetter parts of semiarid zone, scarce or absent in most of humid zone; usually single, occasionally in twos. Most kinds of thicket, scrub and woodland; also the

more open forests, including partly cleared heavy forests. Breeding from August to mid-December; C/2 (15), 3 (19); parasitized by Pallid Cuckoo (1 record). For notes on behaviour see R. Erickson (1951, *Emu* 51: 1-10, 153-165).

***Pachycephala inornata gilbertii* Gould**

Gilbert's Whistler

Range

Patchily distributed in eastern interior: 60 km NE Wubin; 48 km ESE Karroun Hill; near Kellerberrin (until 1953); near Narembeen (until at least 1907); near Lake Grace (until at least 1930); near Broomehill (until 1910); at 'Woodlands' 15 km NW Tambellup (until at least 1922); north-western foot of Stirling Range (until at least 1962); and about the middle and lower Fitzgerald River.

Status etc.

Originally moderately common in far south-west of range (about Broomehill and Tambellup) but not long surviving clearing here and elsewhere in wheat belt. Now scarce and local in undisturbed country in far north of range (between wheat belt and mulga-eucalypt line) and far south (in the extensive Fitzgerald River National Park); in ones or twos. Open semiarid scrubs ('sheoak, jam and stinkwood' — T. Carter) and understory of eucalypt woodlands (including *Exocarpos aphyllus* beneath gimlet *E. salubris*). Breeding in August; C/2 (1), 3 (6), 4 (1).

***Colluricincla harmonica rufiventris* Gould**

Grey Shrike-thrush

Range

Throughout mainland.

Status etc.

Locally scarce or uncommon, e.g. central and eastern zones of Swan Coastal Plain, but generally common or moderately common; usually single, commonly in twos. Most kinds of thicket, scrub, woodland and forest. Breeding from late August to December; C/2 (12), 3 (14), 4 (2); parasitized by Pallid Cuckoo (2 records).

***Falcunculus frontatus leucogaster* Gould**

Crested Shrike-tit

Range

Mainly eastern interior, from Moora south to Byenup Lagoon, Porongurup Range and Beaufort Inlet, west to Julimar State Forest, Ebenezer Flats, Mt Saddleback, Boyup Brook and the Perup River, and east to Kodj Kodjin, Doodlakine, Narembeen, Lake Grace, Jerramungup and the lower Fitzgerald. Also vicinity of lower west and south coasts (Boranup, Karridale, Scott River, Crystal Springs, Nornalup, Bow River, William Bay, Wilson Inlet and Torbay) and western zone of Swan Coastal Plain (Wanneroo and Bunbury).

Status etc.

Locally moderately common in southern interior, e.g. Cranbrook district, but

generally scarce, rare or extinct (no recent records from Swan Coastal Plain or north of Julimar and Kodj Kodjin); in ones or twos. Eucalypt woodlands and more open forests, especially of wandoo *E. wandoo*, flat-topped yate *E. occidentalis*, karri *E. diversicolor* and flooded gum *E. rudis*. Breeding from September to December (? late August to January); C/2 (9), 3 (7), 4 (1).

Oreoica gutturalis (Vigors and Horsfield)

Crested Bellbird

Range

Arid and semiarid zones, south to the Stirling Range, Boxwood Hill, the lower Fitzgerald, lower Phillips and 22 km ESE Ravensthorpe, and west to Cliff Head, 23 km W Coorow, 20 km W Watheroo, Dandaragan, 7 km W Mogumber, Toodyay, Brookton, Dryandra (casual further west, near Williams), East Arthur, Kojonup and Tenterden. Also northern Swan Coastal Plain, from the Moore south nearly to Perth.

Status etc.

Uncommon to common (most numerous in drier parts of range); usually single, commonly in twos. Most kinds of tall shrubland. Breeding from August to December, also early March (near Gnowangerup after heavy rains on 1 March 1922); C/2 (10), 3 (11), 4 (2).

Psophodes nigrogularis nigrogularis Gould

Western Whipbird

Range

South-eastern semiarid and subhumid zones from Gnowangerup (formerly), Pingrup, upper Fitzgerald River and 12 km E Ravensthorpe south to King George Sound (formerly), Two Peoples Bay and Hopetoun; also formerly further north (north and east of Lake Grace). Formerly subhumid and humid west coast (near Perth, near Bunbury, at the Vasse, Cape Mentelle and Augusta).

Status etc.

Uncommon to moderately common in south-east, no records from west coast since 1901; in ones or twos. In south-east mainly mallee and banksia (especially *B. caleyi*) scrubs, also heath (1-2 m high); in west, heath and coastal and waterside thickets. Breeding mainly from mid-July to late August, also November; C/2 (16). See S. McNee (1986, *RAOU Report* No. 18).

Psophodes occidentalis (Mathews)

Western Wedgebill

Range

Arid and semiarid northern interior, south to the Mingenew district, [Salt River near Gullewa, and Maranalgo] and west to 15 km S Nerren Nerren, Northampton and Walkaway.

Status etc.

Common in arid zone (extreme north-east), but now extinct in northern wheat belt

(last recorded at Northampton in 1896, near Mingenew in 1904, near Walkaway in 1916, and east of Ajana in 1927); in ones or twos. Mainly open acacia scrubs.

Monarchidae

Rhipidura fuliginosa preissi Cabanis

Grey Fantail

Range

Greater part of Division, including Garden, Michaelmas and Bald Is. Casual on Rottnest and Mistaken Is.

Status etc.

Resident, breeding visitor, winter visitor and passage migrant (late March to early October). Moderately common in humid and subhumid zones and wetter parts of semiarid zone (though tending to vacate coldest parts of range, e.g. Williams, in autumn and winter), rare to uncommon in arid zone and drier parts of semiarid zone; usually in ones or twos, also small flocks (up to 20) in off-season, particularly in autumn passage. Mainly edge of tall dense shrubland, especially understory of eucalypt forests and woodlands and melaleuca and other waterside scrubs and thickets. Breeding north to Joyce Flat (12 km NE Dandaragan), west to Regans Ford, Yanchep etc., and east to Wannamal Lake, beyond Northam (Seabrook), Wickopin, Lake Grace, Lake Magenta and the Hamersley; August to December (? early January); C/2 (20), 3 (23).

Rhipidura (fuliginosa) albicauda North

White-tailed Fantail

Range

Far north-eastern arid zone (about The Elbow of the Murchison) and far eastern semiarid zone (at 7 km NW Mt Gibson [hill], on No. 1 Vermin Fence 26-71 km N Bonnie Rock T/O, and at Emu Rock).

Status etc.

Moderately common; usually in pairs. Scrubs and thickets of *Acacia*, *Eucalyptus*, *Melaleuca*, *Allocasuarina* and *Callitris*. Breeding ca September.

Rhipidura leucophrys leucophrys (Latham)

Willie Wagtail

Range

Greater part of Division, including Carnac and Garden Is, but not forested parts of Darling Range and deep south-west. Casual or in passage on islands off west coast: North, Beacon, Sandland, Cervantes, Wedge, Rottnest, Bird and Penguin Is.

Status etc.

Resident, winter visitor and passage migrant (February to October). Uncommon to common (most numerous in semiarid zone, least in humid); usually in ones or twos, also small flocks (up to 12) in winter. Lightly wooded country, including burnt heaths, edge of scrubs and uncleared road verges and favouring farmlands and vicinity of water.

Breeding from August to December, also April in semiarid zone (after tropical cyclones of March 1953 and February 1955); C/1 (2), 2 (17), 3 (77), 4 (7); parasitized by Pallid Cuckoo (4 records).

Myiagra rubecula (Latham)

Leaden Flycatcher

Rare visitor (presumably from south-eastern Australia). A pair seen in salmon gums near Kellerberrin on 25 March 1922 (T. Carter 1923, *Ibis* (11) 5: 221), and a male seen near Albany on 7-8 December 1984 (T. Allen 1987, *West Aust. Nat.* 17: 19-20).

Myiagra inquieta inquieta (Latham)

Restless Flycatcher

Range

Southern, north to the Nambung River, Yatheroo, Wannamal Lake (formerly to Moora), Northam, Salt River (W of Kwoiyin Hill), Bruce Rock, Narembeen, Hyden and Lake Hurlstone.

Status etc.

Generally sedentary but some dispersal in autumn and winter. Moderately common on west-coastal plains between the Nambung and Moore Rivers, at Wannamal Lake and in southern interior (west to Lake Muir), but generally scarce or uncommon and declining; usually in ones or twos. Mainly waterside woodlands, forests and scrubs of *Melaleuca* spp., flat-topped yate *Eucalyptus occidentalis* and flooded gum *E. rudis*; also dry eucalypt forests and woodlands (from karri *E. diversicolor* to mallee, but seldom jarrah *E. marginata*). Breeding from September to November; C/2 (1), 3 (12), 4 (1); parasitized by Pallid Cuckoo (1 record).

Orthonychidae

Cinclosoma castanotum Gould

Chestnut Quail-thrush

Range

Originally much of semiarid interior south to northern foot of Stirling Range and Fitzgerald River National Park and west to 12 km W North-west Coastal Hwy (on No. 3 Spur Fence), Galena, East Yuna, Pindar, 17 km N Kadji Kadji, Mt Gibson (hill), the Wongan Hills, Banks Huts (17 km E The Lakes), Dryandra and Gracefield, but now largely surviving only in uncleared country between wheat belt and mulga-eucalypt line and on large reserves.

Status etc.

Locally common but generally uncommon and patchily distributed; in ones or twos. Tall dense shrublands (particularly in stony country), including understory of eucalypt woodlands (*E. wandoo*, *E. loxophleba* and *E. oleosa*). Breeding in August, September and ? early October; C/2 (4).

Cinlosoma castaneothorax marginatum Sharpe **Chestnut-breasted Quail-thrush**

One record from extreme north-east of arid zone: one observed by R.E. Johnstone and L.A. Smith on 22 October 1986 on stony flat with shrubby acacias (minnarichi and karara) 13 km W Yallalong HS, near The Elbow of the Murchison.

Drymodes brunneopygius Gould **Southern Scrub-robin**

Range

Semiarid zone, south to the Stirling Range and Cape Riche and west to lower Hutt River, East Yuna, Caron, Wubin, the Wongan Hills, Dowerin, North Bungulla, 10 km NE Kwolyin, Bilbarin, Jitarning, Dongolocking Reserves, Ewlyamartup and Tambellup. Also patchily further west: Cliff Head, ? Marchagee Reserve and Mears.

Status etc.

Uncommon to common; usually in ones or twos. Sandplain vegetation (tall shrubland or low shrubland with emergent tall shrubs and low trees), understory of eucalypt scrubs and woodlands, and scrubs and thickets on lateritic soils. Breeding from July to November; C/1 (19).

Pomastomus temporalis rubeculus Gould **Grey-crowned Babbler**

Range

Extreme north-east: about Bompas Hill and Yallalong, near The Elbow of the Murchison.

Status etc.

Moderately common; in small parties. River gum *Eucalyptus camaldulensis* flats.

Pomastomus superciliosus (Vigors and Horsfield) **White-browed Babbler**

Range

Semiarid zone near upper west coast, south to Arrowsmith (casually to Cockleshell Gully); and in interior and on south-east coast, south to northern foot of Stirling Range and Beaufort Inlet, and west to 9 km E Zuytdorp Cliffs, Ajana, Nanson, Mingenew, Marchagee, Moora, Calingiri, Toodyay, 28 km W York, 37 km W Brookton, Dryandra, 15 km E Williams, Arthur River, Gracefield and Tenterden. Subhumid lower west coast: formerly on the Vasse River. Humid deep south-west from lower Warren River east to Denmark and inland to Manjimup and Shannon.

Status etc.

Uncommon to common; usually in pairs or family parties (up to 5). Near upper west coast mainly at edge of thickets of *Acacia rostellifera* and *Melaleuca* spp. on white sands. In interior and on south-east coast, edge of many kinds of dense shrubland on a wide variety of soil types, including uncleared road verges, understory of eucalypt woodlands and scrubs and partly cleared tracts of dense bush. In humid south-west, mainly

understory of karri *Eucalyptus diversicolor* forest. Breeding from late April to mid-December (seldom before late July); C/2 (4), 3 (10), 4 (1).

Acanthizidae

Aphelocephala leucopsis castaneiventris (Milligan)

Southern Whiteface

Range

Arid and semiarid northern interior west and south to Eurardy, Galena, 7 km W Mallee HS, Mullewa, 29 km NE Canna, Koolanooka Hills, Latham, Jibberding, 11 km S Remlap and 20 km S Mt Churchman. Formerly further west (Mingenew district, 1904) and casual further south (Yarragin Rock, saltlake scrub 20 km SW Nungarin and east of Kellerberrin).

Status etc.

Common to very common in pastoral country beyond mulga-eucalypt line (e.g. Yallalong, Barnong, Karara and Bimbijy Stations), moderately common in uncleared country between wheat belt and mulga-eucalypt line, now rare or extinct in wheat belt; usually in small parties (up to 12). Mainly open scrubs, especially of *Acacia* spp. One breeding report (Remlap): September; C/3.

Gerygone fusca fusca (Gould)

Western Flyeater

Range

Greater part of Division, including Rottneest and Garden Is. Casual on Fisherman, Carnac and Michaelmas Is.

Status etc.

Resident, breeding visitor, autumn-winter visitor and passage migrant (late March to mid-November, mostly April to September). Common in humid and subhumid zones (but vacating colder areas, e.g. Wooroloo and Porongurup Range, in autumn and winter), moderately common autumn-winter visitor to better-watered western parts of semiarid zone (mainly in river gums *Eucalyptus camaldulensis*, flooded gums *E. rudis* and paperbarks *Melaleuca* spp.), uncommon to moderately common breeding visitor to the Great Southern, scarce or uncommon passage migrant in drier eastern parts of semiarid zone and in arid zone; usually in ones or twos, occasionally small parties (up to 6) during passage. Mainly canopy of eucalypt and melaleuca forests, woodlands and scrubs, also acacia and allocasuarina woodlands and scrubs during migration. Breeding north to the Moore River (? Cockleshell Gully and Stockyard Gully) and east to Regans Ford, Wannamal Lake, Toodyay, Meenaar, Kulin, Lake Grace and Ongerup. September to mid-December; C/2(11), 3(30), 4(1); parasitized by Horsfield's Bronze Cuckoo (1 record) and Shining Bronze Cuckoo (2).

Smicronis brevirostris (Gould)

Weebill

Range

Arid and semiarid zones and drier parts of subhumid zone, west and south to

Cockleshell Gully, Badgingarra, Dandaragan, Mogumber, Chittering, Avon Valley National Park, Wooroloo, Brookton Hwy (34 km ESE Karragullen), Bannister, middle Williams River (26 km WNW Quindanning), the upper Frankland River, Mt Barker, Porongurup Range and Green Range. Also at Lake Leschenaultia and in eastern and western zones of Swan Coastal Plain from the Moore River south respectively to Wungong Brook and nearly to Busselton. Casual at 20 km NW Collie, Lake Muir and Granite Peak.

Status etc.

Scarce to very common (most numerous in drier and warmer parts of range); usually in ones or twos, also small flocks (up to 18) in autumn and early winter. Mainly canopy of eucalypt scrubs, woodlands and forests. Breeding from July to December, also March in semiarid zone after heavy late summer rain; C/ 1 (1), 2 (14), 3 (11), 4 (1); parasitized by Shining Bronze Cuckoo (1 record).

Acanthiza pusilla apicalis Gould

Brown Thornbill

Range

Greater part of mainland; also Hamelin, Michaelmas, Mistaken (formerly) and Bald Is.

Status etc.

Uncommon to very common; usually in pairs or family parties. Most kinds of scrub, thicket and tall heath, including road verges and understory of eucalypt forests and woodlands. Breeding from August to November (? December); C/2 (20), 3 (27), 4 (2); parasitized by Fan-tailed Cuckoo (5 records), Horsfield's Bronze Cuckoo (6) and Shining Bronze Cuckoo (21).

Acanthiza robustirostris Milligan

Slaty-backed Thornbill

Range

Only known from two localities in arid north-east and east: 9 km NW Wandina and 8 km NNW Bimbijy.

Status etc.

Uncommon; in pairs or family parties. Acacia scrubs.

Acanthiza uropygialis Gould

Chestnut-rumped Thornbill

Range

Arid and semiarid interior, south to Dongolocking Reserves, Lake Grace South, Lake Bryde, Lake Magenta and Lake King, and west to 12 km E Zuytdorp Cliffs, nearly to the mouth of the Murchison, Oakajee, Northern Gully, Strawberry, Coorow, Moora, Bolgart, Seabrook, Mt Kokeby, Nalya, Yornaning Reserve and Toolibin Lake.

Status etc.

Moderately common to very common; usually in pairs or family parties, also commonly forming flocks with other small insectivores, especially acanthizids (E.H. Sedgwick 1936, *Emu* 35: 231 and 1949, *Emu* 49: 9-13). Most kinds of thicket, scrub and tall heath, including understory of woodlands and uncleared road verges. Breeding from August to October; C/2 (4), 3 (10), 4 (7); parasitized by Horsfield's Bronze Cuckoo (6 records) and Shining Bronze Cuckoo (2).

This species is extending its range south-westwards. J. Gilbert evidently did not record it in the Wongan Hills in 1842, but A. W. Milligan found it common here in 1903 but did not see it further west; however it had reached Bolgart by the 1940s. It colonized the Seabrook area between 1955 and 1965 (J.R. Masters and A.L. Milhinch 1974, *Emu* 74: 238), the Brookton district by the early 1960s, and the Tutanning/ Toolibin area in the same period or soon after.

Acanthiza iredalei iredalei Mathews

Samphire Thornbill

Formerly occurring in far north-east. A nest and eggs of '*Acanthiza inornata*' [as the Samphire Thornbill was then misidentified] was collected by J.T. Tunney in August 1899 at 'Pinda, Murchison' (W.A. Mus. Catal. 1, no. 652). Pindar (29 km ENE Mullewa) is located at one of the heads of the Irwin River; apparently there was suitable habitat for *A. iredalei* here before the arrival of rabbits.

Acanthiza inornata Gould

Western Thornbill

Range

Humid and subhumid zones and wettest parts of semiarid zone, north and east to 8 km NE Mt Peron, Munbinea Creek, Dandaragan, Mogumber, 15 km N Bindoon Range, Bolgart, Northam, Beverley, Brookton, Tutanning Reserve, 32 km E Wickopin, Dongolocking Reserves, Woodanilling, Tambellup, Stirling Range and Beaufort Inlet.

Status etc.

Uncommon to very common (least numerous in driest parts of range); usually in pairs or small flocks (up to 20). Most kinds of forest, woodland and scrub. Breeding from late August to early February; C/2 (11), 3 (14); parasitized by Horsfield's Bronze Cuckoo (2 records) and Shining Bronze Cuckoo (6).

Taxonomy

See G. Mack (1926, *Mem. Natn. Mus. Vict.* 10: 100) and E. Mayr and D.L. Serventy (1938, *Emu* 38: 250).

Acanthiza chrysorrhoa (Quoy and Gaimard)

Yellow-rumped Thornbill

Range

At present greater part of mainland.

Status etc.

Scarce or absent in unsettled, densely vegetated areas, e.g. much of the country between the wheat belt and mulga-eucalypt line and in the Darling Range and deep south-west, otherwise uncommon to very common; usually in pairs, family parties or small flocks (up to 28). Lightly wooded or open country, including partly cleared forests and scrubs, near dense or prickly tall shrubs suitable for shelter and nesting. Breeding from mid-June to early January, also March and early April after heavy late summer rains in wheat belt; C/2 (13), 3 (107), 4 (47), 5 (3), 6 (1), 7 (1); parasitized by Black-eared Cuckoo (1 record), Horsfield's Bronze Cuckoo (10) and Shining Bronze Cuckoo (61).

This bird has benefited greatly from European settlement. South of the mulga-eucalypt line it would originally have been confined largely to the interface between shrublands and naturally open areas as at saltlakes and granite outcrops.

***Pyrrholaemus brunneus* Gould**

Redthroat

Range

Arid and semiarid interior, south to Lake Grace South, Newdegate and Lake King, and west nearly to Kalbarri, Mt View, East Yuna, 13 km E Mullewa, Irwin River Coal Seams, Yandanooka, Carnamah, Gunyidi, Moora, the Wongan Hills, Cunderdin, Quairading, Kweda, Tutanning Reserve and Yornaning Reserve.

Status etc.

Locally common in drier parts of range, but generally scarce to moderately common; usually in pairs or family parties, occasionally accompanying thornbills and fairy-wrens. In north most kinds of tall or moderately tall shrubland; in south mainly melaleuca scrubs and thickets around saltlakes. Breeding from July to September; C/2 (1), 3 (9), 4 (1); parasitized by Fan-tailed Cuckoo (4 records), Black-eared Cuckoo (8) and Horsfield's Bronze Cuckoo (2).

***Sericornis frontalis balstoni* Ogilvie-Grant**

White-browed Scrubwren

Range

East Wallabi and West Wallabi Is, Houtman Abrolhos.

Status etc.

Common; usually in pairs or small parties. All kinds of dense shrubland. Breeding in June and July (and ? early August); C/2 (13), 3 (7).

Taxonomy

See G.M. Storr, R.E. Johnstone and P. Griffin (1986, *Rec. West. Aust. Mus. Suppl.* No. 24: 37).

***Sericornis frontalis maculatus* Gould**

Range

Northern interior, from No. 3 Spur Fence (9-35 km E Zuytdorp Cliffs) south to

Buntine (formerly to Wongan Hills), west to Murchison River Gorge (Wilgie Mia upstream to Hawks Head Lookout), 18 km W Ajana, Oakajee, Northampton and Yandanooka (formerly), and east to Yuna, Bindoo Hill, Wilroy and Perenjori. West coast north to the Murchison River and inland to Murchison House, Lynton, Arrowsmith Lake, Stockyard Gully, Mt Lesueur, Woolka Woolka, Loch McNess, Wanneroo, Lake Cooloongup, 18 km WNW Waroona and Kemerton. South-west coast, deep south-west and Darling Range, north to upper Gingin Brook, west to Darling Scarp and east to Mundaring Weir, upper Serpentine River, Mt Saddleback, Boyup Brook, Lake Muir and Mt Frankland. South and south-east coasts (including Mistaken and Bald Is) and southern interior (north to Kweda, Bending and Emu Rock, and west to Yornaning Reserve, Congelin, Flagstaff Reserve, Tenterden and Mt Barker).

Status etc.

Moderately common to very common in far north of northern interior (south to Geraldton-Mullewa railway), in humid deep south-west, on and near coasts and in southern Darling Range, locally common but generally uncommon and patchily distributed elsewhere (including Darling Range north of Wungong Brook); in pairs or small parties. Dense shrublands, especially in coastal dunes and on watercourses; also road verges and other uncleared remnants in northern interior. Breeding from July to November (? December); C/2 (2), 3 (7); parasitized by Fan-tailed Cuckoo (5 records), Horsfield's Bronze Cuckoo (1) and Shining Bronze Cuckoo (3).

Taxonomy

See E. Mayr and R. Wolk (1953, *West. Aust. Nat.* 4: 66-70) and J. Ford (1970, *Emu* 70: 168-172): These and other authors restrict the name *maculatus* to the yellow-bellied populations occurring north nearly to Dongara and east to Narrogin and Beaufort Inlet.

Hylacola cauta Gould

Shy Groundwren

Range

Eastern semiarid zone north to Caron, 55 km NE Wubin and 15 km N Moondon, south to the Stirling Range and lower Fitzgerald River and west to Buntine, the Wongan Hills, Durokoppin, Hines Hill, Bilbarin, Jitarning, Tarin Rock, Dumbleyung and Anderson Lake.

Status etc.

Locally common in southern quarter of range, but generally uncommon and patchily distributed; in ones or twos. Low shrublands, including understory of eucalypt woodlands and favouring scrubs on stony soils. Breeding from August to October (? November); C/2 (2), 3 (2); parasitized by Fan-tailed Cuckoo (1 record).

Calamanthus fuliginosus campestris (Gould)

Striated Fieldwren

Range

Northern and eastern (mainly semiarid zone) north to No. 3 Spur Fence (as far east as

3 km E North-west Coastal Hwy), East Yuna, 27 km NE Canna, Caron, East Nugadong and [Warralakin], and south and west to Lancelin, 18 km W Mogumber, Bolgart, Wongamine, Kweda, Yornaning Reserve, 18 km E Narrogin, Coblinine River, nearly to Broomehill, Cranbrook and Albany.

Status etc.

Common to very common near west coast and in its sandy or lateritic hinterland, moderately common to common near south-east coast and in southern interior, uncommon and patchily distributed elsewhere; usually in ones or twos. Heaths and other low shrublands (to 1.5 m high) on sandplains and lateritic ridges, including remnants in farmlands; occasionally samphire flats around saltlakes. Breeding from July to October; C/2 (5), 3 (11), 4 (1); parasitized by Fan-tailed Cuckoo (1 record).

Dasyornithidae

Dasyornis (brachypterus) longirostris Gould

Western Bristlebird

Range

South coast from Wilson Inlet east to the Waychinicup River. South-east coast immediately north of Woolbernup Hill (G.T. Smith and L.A. Moore 1977, *West. Aust. Nat.* 14: 28) and elsewhere in Fitzgerald River National Park (S. McNee 1986, *RAOU Report* No. 18). Doubtfully further north-west in past, near Perth and Jardee (H.M. Whittell 1936, *Emu* 35: 198 and 1941, *Emu* 41: 125).

Status etc.

Moderately common near Two Peoples Bay, but now extinct W of Moates Lagoon; in ones or twos. Dense heath, especially in damp places where shrubs are mixed with tall sedges. Breeding from August to October; C/2 (4). See J. Ford (1965, *West. Aust. Nat.* 10: 10), S. McNee (*supra cit.*) and G.T. Smith (1987, *Emu* 87: 111-118).

Dasyornis broadbenti litoralis (Milligan)

Rufous Bristlebird

Range

Lower west coast near Cape Naturaliste and Cape Mentelle.

Status etc.

Formerly moderately common in its minute range, but extinct soon after 1907. Low coastal scrubs. For destruction of habitat by fires near Cape Mentelle see T. Carter (1924, *Emu* 23: 310 and in G.P. Whitley 1971, *West. Aust. Nat.* 12: 44) and E. Ashby (1921, *Emu* 20: 123).

Maluridae

Amytornis textilis textilis Dumont

Thick-billed Grasswren

Perhaps formerly widespread in semiarid zone, but evidently rare and no reports since

1910. J. Gilbert collected two in thickets in the Wongan Hills in 1842. A.F. Crossman (1909, *Emu* 9: 58) collected one [WAM 8420] in June 1906 while driving from Beverley to Cumminin [near Naremben]; his only other observation was one on same road six weeks earlier. In marlock [low mallee scrub] east of Broomehill, T. Carter (1908, *Emu* 8: 103 and 1924, *Emu* 23: 311) collected one of two birds in June 1908, one of a party of six in October 1908 and one in September 1910; these were the only birds he ever saw.

Malurus splendens splendens (Quoy and Gaimard)

Splendid Fairy-wren

Range

Humid and subhumid zones and wetter parts of semiarid zone north to the Zuytdorp Cliffs and inland to Lynton, Walkaway, Arrowsmith, the Three Springs, Mt Peron, 12 km N Moora, New Norcia, 25 km ESE Bindoon Range, Toodyay, Northam, Beverley, Tutanning Reserve, Taarblin Lake, Blight Hill, Arthur River, Woodanilling, Broomehill, Gnowangerup, Cowalellup Rock, Calyerup Rocks and Carlingup Creek (16 km ENE Ravensthorpe). Arid zone and drier parts of semiarid zone, south to Nugadong Forest Reserve, Lake Harvey and No. 1 Vermin Fence (18 km N Bonnie Rock T/O) and west to 65 km NE Wubin, Damperwah, Westmine, Ebano Hills and lower Greenough River (where it joins the coastal population).

Status etc.

Uncommon to very common (most numerous in humid zone and arid north-east, least in the Midlands and Great Southern); usually in family parties. Moderately tall and dense shrublands, particularly bowgada and other acacia scrubs in north and melaleuca and other waterside thickets in south. Breeding from August to mid-January (considerably earlier in north than south); C/2(11), 3(39), 4(4); parasitized by Horsfield's Bronze Cuckoo (3 records) and Shining Bronze Cuckoo (3). For notes on behaviour see J. Warham (1954, *Emu* 54: 135 and 1957, *Emu* 57: 81), P.M.A. Harwood (1958, *Emu* 58: 21) and W.H. Loaring (1965, *West. Aust. Nat.* 10: 15).

Taxonomy

See G.F. Mees (1961, *J. Proc. R. Soc. West. Aust.* 44: 116) for refutation of claim by G. Mack (1934, *Mem. Natn. Mus. Vict.* 8: 107) that birds from the arid and semiarid zones are 'markedly lighter' than those from the humid and subhumid zones.

Malurus lamberti assimilis North

Variiegated Fairy-wren

Range

Northern and western, south to Swanbourne and east to No. 3 Spur Fence (21 km W North-west Coastal Hwy), 51 km N Galena, 3 km W Mallee HS, Mullewa, Merkanooka, Coorow, 12 km N Moora, Woolka Woolka and 7 km E Lancelin (further south not ordinarily more than 2 km from sea). Casual on Swan River estuary.

Status etc.

Common to very common near coast north of Lancelin, otherwise uncommon to

moderately common and patchily distributed; usually in family parties. Shrublands, especially thickets of *Acacia rostellifera* on near-coastal white sands. Breeding in September and October; C/2 (4), 3 (2); parasitized by Horsfield's Bronze Cuckoo (1 record).

***Malurus pulcherrimus* Gould**

Blue-breasted Fairy-wren

Range

Mainly semiarid zone, north and east to No. 3 Spur Fence (9 km ESE North-west Coastal Hwy), 35 km N Galena, Ajana, Beatalynna Pool, Nangetty, Ebano Hills, 5 km N Bunjil, 70 km NE Wubin, 33 km ESE Karroun Hill and 21 km N Champion, and south and west to the Nambung River, Moora, Piawanning, the Wongan Hills, Manmanning, Yorkrakine Hill, Yarding, Mears, Tutanning Reserve, Dryandra, Dongolocking Reserves, Dumbleyung, east of Broomehill, Balicup Lake, the upper Kalgan River and Warriup Hill. Also further south on west coast (Guilderton) and formerly further west in southern interior (Beverley and Cranbrook).

Status etc.

Common near west coast and locally in south-east, but generally scarce to moderately common and patchily distributed elsewhere, and now extinct in much of wheat belt outside of reserves; usually in family parties. Shrublands (including understory of eucalypt woodlands and scrubs, and road verges and other remnants in northern farmlands), especially thickets of *Acacia rostellifera* and *Melaleuca* spp. on white sands near west coast, and moderately dense, low eucalypts and heaths on lateritic soils in southern interior. Breeding from late August to early November; C/2 (5), 3 (21); parasitized by Horsfield's Bronze Cuckoo (1 record).

Taxonomy

See J. Ford (1966, *Emu* 66: 47-57).

***Malurus elegans* Gould**

Red-winged Fairy-wren

Range

Humid and subhumid zones north to the Helena River and east to Mundaring Weir, Canning Dam, Jarrahdale, upper Serpentine River, lower Hotham River, Collie, Mullalyup, Bridgetown, Manjimup, Mt Frankland, Porongurup Range and Warriup. Two apparently isolated populations further north: upper Gingin Brook and central and eastern sectors of the Stirling Range.

Status etc.

Moderately common to common in deep south-west and southern and central Darling Range, uncommon and patchily distributed north of Wungong Brook and north and east of Two Peoples Bay, and extinct since the first decade of this century on most of Swan Coastal Plain; usually in family parties. Dense shrublands, especially

melaleuca and other waterside thickets mixed with *Lepidosperma gladiatum* and other sedges. Breeding from September to early December; C/2 (11), 3 (12).

***Malurus leucopterus leuconotus* Gould**

White-winged Fairy-wren

Range

Mainly northern arid and semiarid zones south to Ledge Point, 18 km W Mogumber, Moora, Lake Ninan, Wongamine, Grass Valley, Mt Kokeby, Bilbarin and Narembeen (formerly), with an extension of range this century on Swan Coastal Plain south to Perth Metro Area.

Status etc.

Common to very common in sandy country near west coast (from Lancelin northwards) and around certain saltlakes, but generally scarce to moderately common and patchily distributed; usually in family parties. Low shrublands (particularly heaths and chenopod flats), visiting farmlands where wheat and lupin crops, remnants of shrubland and roly poly *Salsola kali* and other weeds provide cover. Breeding from late August to early December and probably in autumn at Morawa after tropical cyclone of March 1955; C/3 (7), 4 (3); parasitized by Horsfield's Bronze Cuckoo (1 record).

***Stipiturus malachurus westernensis* Campbell**

Southern Emu-wren

Range

West, south-west and south coasts, north to Sandy Point and inland to Mt Lesueur, the Darling Scarp (between John Forrest National Park and Kelmscott), Metricup, 3 km E Witchcliffe, the Scott River, Northcliffe, 50 km NW Walpole and Chorkerup; and south-east coast and interior north to Bending, west to the Dongolocking Reserves, Broomehill and 10 km E Mt Barker, and east to Dragon Rocks, 20 km E Newdegate, Mt Chester and Kundip.

Status etc.

Uncommon to common (most numerous near coast between the Hill River and Lancelin and between Cape Leeuwin and the Hamersley River); usually in family parties. Low dense shrubland and sedges along streams, in swamps and coastal dunes, and on sandplains and lateritic slopes (J. Ford 1965, *West. Aust. Nat.* 10: 9), also low regrowth in recently cleared forest (C.J.O. Harrison 1969, *West. Aust. Nat.* 11: 66). Breeding from mid-September to early November; C/2 (2), 3 (7).

Sylviidae

***Acrocephalus stentoreus australis* (Gould)**

Clamorous Reed Warbler

Range

Better-watered half of mainland north to the Murchison River estuary and east to lower Greenough River (Beetalyinna Pool), 13 km SSE Coorow, Moora, Mogumber

Swamp, Lake Chittering, Avon River (between Toodyay and Northam), Dale River (20 km SW Beverley), Taarblin Lake, Lake Coomelberrup, Coyrecup Lake and Mettler Lake. Casual on Fisherman Is and at Warriup.

Status etc.

Mainly resident, also migratory (most birds vacating drier and colder parts of range, e.g. the Great Southern, in winter). Uncommon to common (most numerous on Swan Coastal Plain, near Lake Muir and on south-coastal plain around Albany, least in Darling Range). Low to moderately tall, dense vegetation in fresh waters (swamps and edge of streams, lakes and dams), especially *Typha*, sedges, rushes and teatrees. Breeding from October to mid-January; C/2 (3), 3 (22), 4 (13); parasitized by Pallid Cuckoo (1 record) and Fan-tailed Cuckoo (1).

Megalurus gramineus (Gould)

Little Grassbird

Range

Better-watered half of mainland, north to the Murchison River estuary and east to Hutt Lagoon, Beetalynna Pool, Moora, Mogumber Swamp, Lake Chittering, Avon River (between Toodyay and Northam), Yenyening Lakes, Lake Coomelberrup, Coyrecup Lake and Mettler Lake. Casual further east (Cunderdin, Kwolyin and Hamersley River) and on Pelsaert, Sandland and Breaksea Is.

Status etc.

Common on coastal plains south of the Moore River, generally scarce elsewhere. Mainly dense *Juncus*, *Typha*, *Baumea*, *Gahnia* and long grass in freshwater swamps and around lakes, streams and springs; also samphire in estuaries. Breeding from July to mid-December; C/2 (2), 3 (16), 4 (19).

Cincloramphus mathewsi Iredale

Rufous Songlark

Range

Much of mainland, south in the west to Bunbury and in the east to Albany, but absent from most of Darling Range and deep south-west. Casual on Pelsaert I.

Status etc.

Migrant, arriving in August-September and leaving in December-February, occasionally remaining in autumn and winter. Scarce to common (most numerous in arid zone and northern semiarid zone and in certain years); usually single. Lightly wooded country (including farmlands) with good cover of grass and herbage. Breeding from late September to November; C/3 (4), 4 (1).

Cincloramphus cruralis (Vigors and Horsfield)

Brown Songlark

Range

Much of mainland, south in the west to Busselton and in the east to Albany, but absent from Darling Range and deep south-west. Casual on North I.

Status etc.

Migrant, arriving in May-September and leaving in November-February. Scarce to common (most numerous in wheat belt); usually single. Open or sparsely wooded country with good cover of grass and herbage (including cereal and lupin crops); also heaths. Breeding from late July to November; C/2 (1), 3 (5).

Neosittidae

Neositta chrysoptera pileata (Gould)

Australian Sittella

Range

Southern two-thirds of mainland north to the lower Hill River, 25 km W Watheroo, the Wongan Hills and Billyacatting Hill. Also far north-east: 15 km SSW Bompas Hill, 71 km NE Wubin and No. 1 Vermin Fence (46, 84 and 94 km N Bonnie Rock T/O).

Status etc.

Scarce to moderately common (most numerous in humid zone, least in wheat belt, and generally declining); usually in roving flocks (up to 15). Mainly eucalypt forests, woodlands and scrubs; also jam *Acacia acuminata*, sheoak *Allocasuarina huegeliana*, *Callitris* and *Banksia* scrubs. Breeding from late July to early December; C/2 (6), 3 (13).

Climacteridae

Climacteris affinis superciliosa North

White-browed Treecreeper

Range

Arid north-east: recorded near The Elbow of the Murchison (3 km SW Bompas Hill and 4 km S Yallalong HS) and at 5 km NW Mt Gibson (hill) and on Bimbijy Station. Formerly in semiarid zone: evidently found in 1907-08 by F.L. Whitlock on Kockatea Station (between Mullewa and the upper Irwin) before it was cleared for wheat (D.L. Serventy 1929, Emu 28: 196).

Status etc.

Uncommon; in ones or twos. River gum *Eucalyptus camaldulensis* woodlands and tall open *Acacia* scrubs. One breeding record: September; C/2.

Climacteris rufa Gould

Rufous Treecreeper

Range

Formerly greater part of mainland north to East Yuna, 29 km NE Canna, Dampierwah, Mt Gibson (hill) and 41 km SE, 5 km S Mt Churchman and No. 1 Vermin Fence (63 km N Bonnie Rock T/O) and west to Nangetty, Moora, Wanneroo etc. Since 1970 only recorded at East Yuna, in far north-east between wheat belt and mulga-eucalypt line and in southern half of Division north to the Avon Valley National Park and Wongamine, west to western edge of Darling Range (Lake Leschenaultia, Kalamunda, Jarrahdale, Wungong Brook and east of Harvey), Tutunup, the Whicher

Range and Forest Grove, and east to Northam, Wambyn Reserve (11 km W York), Boyagin Rock, Yornaning Reserve, Dongolocking Reserves, Woodanilling, Cranbrook and Porongurup Range, with isolated occurrences further west (Balcatta) and east (Gibb Rock, Lake Gounter, Lake Hurlstone, Lake Magenta and Ongerup).

Status etc.

Formerly common in most of range but now only moderately common or common in areas that are not frequently burnt, e.g. the country beyond the wheat belt, certain reserves in the semiarid zone (Falkirk Forest, Dryandra Forest and Dongolocking Reserves) and the more humid forests of far south; otherwise extinct or rare to uncommon; usually in pairs or family parties. Eucalypt forests and woodlands, especially of York gum *E. loxophleba*, gimlet *E. salubris*, the tall mallee *E. oleosa* and salmon gum *E. salmonophloia* in drier country, and wandoo *E. wandoo*, powderbark *E. accedens*, karri *E. diversicolor* and jarrah *E. marginata* in wetter country; fallen and standing dead trees are an essential part of habitat. Breeding from late July to mid-November; C/1 (2), 2 (17), 3 (9).

It is now extinct or declining in much of its range. In the Swan River district it was common in the early 1840s (J. Gilbert) but scarce by 1890 (O.H. Lipfert). In the Darling Range it was still common in 1920 (W.B. Alexander) but soon after began to disappear at Bickley (W.H. Loaring). In 1951-53 E.H. Sedgwick failed to record it in jarrah-marri forests around Wooreloo but found one colony in wandoo towards the north-east edge of his area; in the Collie district Sedgwick only located two groups in 1956-62.

In the semiarid zone before much of the country was cleared and the dead timber removed, it was common in many areas, e.g. East Yuna in the 1920s (D.J. McGauran), everywhere between Mogumber and the Wongan Hills in 1903 (A.W. Milligan), Naremben in 1906-08 (A.F. Crossman), Beverley and Arthur River in 1905 (G.C. Shortridge), Brookton in 1903 (H.E. Hill), Broomehill in 1905-13 (T. Carter) and the Stirling Range in 1902 (A.W. Milligan). In those parts of the wheat belt where it is now extinct (or not reported since 1970) it was last recorded near the upper Irwin in 1908, Morawa (1912), Moora (1920), Bonnie Rock (1965), Kellerberrin (1904), Bruce Rock (1960), York (1959), Beverley (1967), Bilbarin (1961), Tutanning (1959), Jitarning (1965), Lake Grace (1933), Dumbleyung (1964), Broomehill (1922), Gnowangerup (1953), Amelup (1966) and Phillips River (1952). In other parts of the wheat belt it was gone before the first visits of observers, e.g. Yandanooka/Ebano Hills (A.W. Milligan, 1904), Caron (E.H. Sedgwick, 1947), Latham (R.H. Stranger, 1961), Bunketch (D. Reid, 1950), Gabbin (L. Sedgwick, 1951), Nangeenan (E.H. Sedgwick, 1932), Cunderdin (G.M. Storr, 1954), Kwolyin (P.S. Stone, 1941), Yoting (G.M. Storr, 1952) and Dangin (E.H. Sedgwick, 1929).

Dicaeidae

Dicaeum hirundinaceum hirundinaceum (Shaw)

Mistletoebird

Range

Northern three-quarters of mainland, south in the west to Bunbury and in the east to

Boyup Brook, Towerrinning Lake, Dumbleyung and Lake Grace, but excluding Darling Range (except in towns, where exotic vegetation available). Casual further south (Donnybrook, Greenbushes, Greenshield Soak, Ongerup and Gordon Inlet).

Status etc.

Nomadic. Locally common (especially in north-west from the lower Murchison south to the lower Hill and inland to Nanson, Arrowsmith and Eatha Spring) but generally scarce or uncommon; usually single, occasionally in pairs. Favouring woodlands and scrubs of swamp oak *Casuarina obesa*, jam *Acacia acuminata*, coast wattle *A. rostellifera*, wandoo *Eucalyptus wandoo*, York gum *E. loxophleba*, tuart *E. gomphocephala*, flooded gum *E. rudis*, river gum *E. camaldulensis* and salmon gum *E. salmonophloia*; attracted to fruiting *Solanum nigrum* and mistletoes *Amyema linophyllum*, *A. preissi* etc. Breeding reported south to Perth (once at Mt Hawthorn) and Williams and east to Northampton, Arrowsmith, Meckering and Dumbleyung: late August to October (? November); C/2 (1).

Pardalotidae

Pardalotus punctatus (Shaw)

Spotted Pardalote

Range

Southern half of mainland, north to Kings. HS (14 km WSW Eneabba), Moora, Kalannie and [Mt Jackson]. Casual on Rottne I.

Status etc.

Migratory. Common to very common and mainly breeding in deep south-west (mostly in humid zone but with outlier in subhumid Stirling Range) and dispersing northwards and north-eastwards in late summer and autumn and returning in late winter or spring (some birds breeding before returning), moderately common to common in Darling Range, uncommon to common on Swan Coastal Plain and in far south of semiarid zone (south-east coast and hinterland, south-west to Beaufort Inlet), rare to moderately common further north; in ones or twos, occasionally small flocks (up to 32). Breeding almost entirely in heavy eucalypt forests; wintering in eucalypt forests, woodlands and scrubs. Breeding north to Perth (rarely) and Glen Forrest and east to the Stirling and Porongurup Ranges: late August to late September (occasionally to December) in Darling Range, November and December in deep south-west; C/2 (2), 3 (2), 4 (1).

Pardalotus xanthopygus McCoy

Yellow-rumped Pardalote

Range

South-eastern semiarid zone from Lake Grace and No. 1 Vermin Fence (33 km SE Lake King T/O) south to northern foot of Stirling Range and Beaufort Inlet, and west to Nyabing and Tambellup, but not far south-east (south of the Ravensthorpe Range and east of the Hamersley River).

Status etc.

Common; usually in pairs or small flocks, sometimes attached to flocks of other species of pardalote. Eucalypt scrubs and woodlands. Breeding from September to January; C/3 (1), 4 (3).

Pardalotus striatus westraliensis Mathews

Striated Pardalote

Range

Throughout mainland, except possibly far south-east (south of Ravensthorpe and east of the Hamersley River); some specimens from arid zone (Coolcalalaya and Bimbijj) approaching subspecies *P. s. murchisoni* Mathews. Casual on Rottnest I.

Status etc.

Migratory, vacating coldest parts of range, e.g. far south (south of Harvey, Williams and Holt Rock) and eastern Darling Range (north to Wooroloo) in autumn and winter, moving north and north-east between late February and late May (mostly in April and May) and returning in September and October (occasionally early November). As a breeding visitor or resident uncommon to common (most numerous in humid and subhumid zones, least in wheat belt), as a winter visitor most numerous in northern half, as a passage migrant most numerous in eastern half; usually in ones or twos, commonly in flocks (up to 100) in passage, especially in autumn. Eucalypt forests, woodlands and scrubs. Breeding from August to January (earlier in north than south) with occasional attempts in autumn; C/3 (14), 4 (8).

Zosteropidae

Zosterops lateralis gouldi Bonaparte

Grey-breasted White-eye

Range

Greater part of Division, north to the Zuytdorp Cliffs, the lower Murchison (upstream to Galena), Yuna, the middle Greenough (upstream to East Yuna), Nangetty, Yandanooka, Wubin and the Karroun Hill Reserve, including summits of Stirling Range and numerous islands, viz. 35 in Houtman Abrolhos and Beagle, Fisherman, Cervantes, Green, Wedge, Rottnest, Carnac, Garden, Hamelin, St Alouarn, Flat, Sandy, Chatham, Saddle, Seagull, Green, Eclipse, Mistaken, Michaelmas, Breaksea, Coffin, Bald and Doubtful Is.

Status etc.

Scarce to very common (most numerous on islands and near coasts, least in drier parts of range, i.e. east of Northampton, Moora, Northam and Lake Grace); usually in pairs in breeding season and wandering flocks (up to 100) in off-season (mainly December to July). Many kinds of shrubland, particularly scrubs and thickets in coastal dunes and around water, also vineyards, orchards and town and suburban gardens; attracted to fruiting *Solanum simile*, *S. symonii*, *S. nigrum*, *Rhagodia baccata*, *Leucopogon revolutus*, *Myoporum tetrandrum*, *Macrozamia riedlei*, grapes, figs and other cultivated species, to seeding *Juncus pallidus* and to many flowering plants.

Breeding inland to East Yuna, Moora, Victoria Plains, Northam, Kwolyin and Lake Grace: late July to January; C/1 (1), 2 (70), 3 (51), 4 (1), 6 (1); parasitized by Fan-tailed Cuckoo (1 record), Horsfield's Bronze Cuckoo (1) and Shining Bronze Cuckoo (1).

Taxonomy

A specimen from Mistaken I. with much pale yellow on lower surface served W.R. Ogilvie-Grant (1909, *Ibis* (9) 3: 663) as type of *Z. shortridgei*. Yellow birds have been observed singly at Mandurah and Windy Harbour.

Meliphagidae

Lichmera indistincta indistincta (Vigors and Horsfield)

Brown Honeyeater

Range

Much of Division, including summits of Stirling Range and Rottnest, Garden, Michaelmas and Doubtful Is, but not the arid zone (east of Coolcalalaya and the Koolanooka Hills and north of Mt Gibson and No. 1 Vermin Fence at 63 km N Bonnie Rock T/O) or most of Darling Range and deep south-west.

Status etc.

Blossom nomad, tending to leave wheat belt and other parts of semiarid zone in December-January and return in May-June; during its absence numbers increasing on Swan Coastal Plain and in far south. Scarce to very common (most numerous, at least in winter and spring, in wetter/warmer parts of semiarid zone; least numerous in humid zone); in ones, twos or small flocks (up to 20). Mainly shrublands, especially on sandplains and lateritic rises, around granites and along watercourses; also visiting flowering trees and shrubs in woodlands, forests and town and farmhouse gardens; attracted to flowering *Dryandra sessilis*, *D. cuneata*, *D. nobilis*, *Banksia prionotes*, *B. menziesii*, *B. attenuata*, *B. ilicifolia*, *B. media*, *B. grandis*, *B. verticillata*, *B. ashbyi*, *Hakea multilineata*, *H. costata*, *H. petiolaris*, *H. coriacea*, *Grevillea eriostachya*, *G. petrophiloides*, *G. paradoxa*, *G. pritzelli*, *Petrophile macrostachys*, *Lambertia inermis*, *Adenanthos cygnorum*, *Calothamnus quadrifidus*, *C. sanguineus*, *C. asper*, *Beaufortia sparsa*, *Melaleuca raphiophylla*, *M. laxiflora*, *M. elliptica*, *Eucalyptus rudis*, *E. wandoo*, *E. calophylla*, *E. redunca*, *E. drummondii*, *E. erythrocorys*, *E. flocktoniae*, *E. gomphocephala*, *E. eremophila*, *E. leptophylla*, *E. loxophleba*, *E. diversicolor*, *Amyema preissi*, *A. miquelii*, *Nuytsia floribunda*, *Eremophila oppositifolia*, *Templetonia retusa*, *Acacia saligna*, *Xanthorrhoea preissii*, *Anigozanthos bicolor* and many cultivated plants. Breeding south to Bunbury, Boyup Brook and Albany (but seldom in Darling Range); August to December (? early January); C/1 (1), 2 (60), 3 (2); parasitized by Pallid Cuckoo (3 records) and Horsfield's Bronze Cuckoo (2).

Certhionyx niger (Gould)

Black Honeyeater

Range

Northern and eastern interior (mainly arid and semiarid zones) west and south nearly

to Bluff Point, Arrowsmith Lake, Mogumber, Wooroloo, Boyagin Rock, Dumbleyung and Kybulup Pool (29 km SSW Ravensthorpe).

Status etc.

Rare to moderately common visitor (September to March; most numerous in north); usually in pairs. Lightly wooded country; attracted to flowering *Calothamnus asper*, *Eucalyptus erythrocorys* and *E. patens*. Breeding in September and October; C/2 (2), 3 (1). For females obtaining calcium from wood ash see K. Coate (1985, *West. Aust. Nat.* 16: 51).

***Certhionyx variegatus* Lesson**

Pied Honeyeater

Range

Arid and semiarid northern interior, west and south to 22 km E Zuytdorp Cliffs, 22 km ENE Kalbarri, Galena, Yuna, Nangetty, 20 km W Morawa, Koolanooka Hills, Wanarra, Mt Gibson (hill) and Bimbijy. Casual further south (Wongan Hills, Bunketch and Yandegin Hill).

Status etc.

Rare to moderately common visitor (mainly late August to early November); usually in pairs (the vast flocks reported by Gilbert to Gould would have been Masked Woodswallows). Shrublands and edge of scrubs; attracted to flowering bottlebrushes and eremophilas. Two breeding reports (27 km NE Canna and Wanarra); September.

***Meliphaga virescens* (Vieillot)**

Singing Honeyeater

Range

Much of Division, south in the west to Quindalup and in the east to Tonebridge, Kendenup, Pannoo and Cape Riche, including Favorite, Boullanger, Whitlock, Escape, Lancelin, Rottnest, Carnac, Garden, Penguin and Doubtful Is, but not Darling Range south of Avon Valley National Park or far south-west (except for recently established colonies at Wooroloo, Darlington, Collie, Cape Mentelle, Hamelin Bay, Bridgetown, Lake Muir, Mt Hopkins, Bow Bridge and Albany). Casual on Wedge I. and Seal I. (Shoalwater Bay).

Status etc.

Scarce to very common (most numerous in arid and semiarid zones, coastal dunes and gardens, least in humid zone and forested country); usually in ones or twos, occasionally small parties, rarely small wandering flocks (up to 20) in autumn. Copses or edge of medium to tall shrubland, including road verges, understory of eucalypt woodlands and town and farmhouse gardens; attracted to flowering *Grevillea eriostachya*, *G. paradoxa*, *G. eriobotrya*, *G. petrophiloides*, *Banksia prionotes*, *B. menziesii*, *B. attenuata*, *Lambertia inermis*, *Hakea coriacea*, *Calothamnus villosus*, *C. asper*, *Leptospermum erubescens*, *Eucalyptus salmonophloia*, *E. loxophleba*, *Brachysema daviesioides*,

Xanthorrhoea preissii and many garden exotics. Breeding from August to January, occasionally March to June; C/2 (19), 3 (14); parasitized by Pallid Cuckoo (12 records).

***Meliphaga plumula* (Gould)**

Yellow-fronted Honeyeater

Range

A narrow north-west/south-east strip in semiarid northern interior, west to North-west Coastal Hwy (25 km N Eurardy), upper Irwin River (formerly) and Caron (casually), and east to No. 3 Spur Fence (9 km ESE North-west Coastal Hwy), Wandana (ca. 30 km NE Yuna), Kadji Kadji, Rothsay and Mt Gibson (hill). In colonial times much further south in the 'district of York' [probably the Wongan Hills, *vide* Serventy and Whittell].

Status etc.

Locally common, but generally scarce and patchily distributed; usually in pairs or family parties. Eucalypt scrubs and woodlands. One breeding report: 2 eggs in Gould Collection (Brit. Mus.) taken on 7 December.

***Meliphaga ornata* (Gould)**

Yellow-plumed Honeyeater

Range

Mainly semiarid and subhumid interior, from Mingenew, Morawa, Mt Gibson (hill) and No. 1 Vermin Fence (63 km N Bonnie Rock T/O) south to upper Perup River, Tenterden, Beaufort Inlet, lower Gairdner and Fitzgerald Rivers, Ravensthorpe Range and [Frank Hann National Park], and west to Carnamah, Moora, Mogumber, Julimar State Forest, Bailup, 15 km E The Lakes, 24 km SE Karragullen, Mt Saddleback and middle Blackwood River (between Boyup Brook and Bridgetown). Also further west in subhumid zone: wandoo woodlands along Darling Scarp (from Gooseberry Hill south to Kelmescott), and tuart woodlands and forests near west coast (from Yanchep south to Wonnerup).

Status etc.

Formerly common to very common, still locally common in southern third of range in large tracts of relatively undisturbed country, e.g. Dryandra State Forest, but generally scarce to moderately common and patchily distributed, and apparently now extinct in northern half of wheat belt (no records since 1931 from north of Bindoon Range, Wongamine, Kodj Kodjin, Bruce Rock and Gibb Rock, except near Mt Gibson and in Karroun Hill Reserve), and almost extinct on Swan Coastal Plain; usually in pairs or small flocks (up to 30). Woodlands, scrubs and open forests of eucalypts, especially wandoo *E. wandoo*, but also salmon gum *E. salmonophloia*, gimlet *E. salubris*, flat-topped yate *E. occidentalis*, stocking tree *E. kondininensis*, red morrell *E. longicornis*, flooded gum *E. rudis*, tuart *E. gomphocephala* and various mallees, and visiting adjacent heaths in search of flowering shrubs, e.g. *Lambertia inermis*, *Dryandra sessilis*, *D. carduacea*, *Acacia celastrifolia*, *Calothamnus sanguineus* and *Astroloma divaricatum*.

Breeding from late August to early January; C/1 (1), 2 (24); parasitized by Pallid Cuckoo (1 record) and Shining Bronze Cuckoo (1).

***Meliphaga penicillata* Gould**

White-plumed Honeyeater

Range

Northern, from the Murchison (upstream to Yallalong) south to Dongara (formerly) and Yandanooka (formerly) and east to Mullewa (formerly). Casual much further south (nesting near Moora in 1910 and visiting Perth in 1969).

Status etc.

Common on the Murchison, at Northampton and locally north and east of Geraldton, but now extinct on the Greenough (except at Ellendale Pool) and in the Irwin River drainage (last recorded in 1920); usually in pairs or small parties. Mainly woodlands of river gum *Eucalyptus camaldulensis*; also gardens at Kalbarri and Northampton. Breeding from late August to early November; C/2 (3); parasitized by Pallid Cuckoo (1 record).

***Meliphaga cratitia* (Gould)**

Purple-gaped Honeyeater

Range

Southern semiarid zone, from the Wongan Hills, Minnivale and Kununoppin south to Vale of Kalgan, Green Range, Beaufort Inlet, Bremer Bay, Quoin Head and Jerdacuttup Lakes, and west to Northam (rarely), Bulyee, Dongolocking Reserves, Dumbleyung district (Quartiming), nearly to Broomehill, Lake Toolbrunup and western Stirling Range.

Status etc.

Somewhat nomadic. Common in south of range; uncommon, scarce or extinct north of North Tarin Rock and Dunn Rock (no reports from the Wongan Hills since 1903); usually in pairs or small parties. Mainly eucalypt thickets and scrubs (mallee, mallet and moort spp.), also eucalypt woodlands and heaths with low emergent eucalypts; attracted to flowering *Eucalyptus uncinata*, *E. eremophila*, *E. pileata*, *E. annulata*, *E. flocktoniae*, *E. rudis* (once), *Banksia sphaerocarpa*, *Grevillea patentiloba* and *Hakea verrucosa*. Breeding mainly from August to October, also January to April; C/2 (18); parasitized by Fan-tailed Cuckoo (1 record).

***Meliphaga leucotis novaenorcaiae* (Milligan)**

White-eared Honeyeater

Range

Semiarid interior from East Yuna, Caron, Jibberding White Well and 35 km N Bonnie Rock south to Coyrecup Lake, Cowalellup Rock, lower Fitzgerald and Hamersley Rivers, No Tree Hill and Ravensthorpe Range, and west to Pinjarrega Lake, 15 km E Piawaning, the Wongan Hills, Elashgin Reserve (18 km SSE Wyalkatchem), Cunderdin, East Beverley (Stockpool), Mears, Tutanning Reserve, Dongolocking Reserves and Dumbleyung. Casual further west (36 km NE Collie).

Status etc.

Somewhat nomadic. Common in extensive tracts of relatively undisturbed country (especially in south-eastern interior, from Bending and Lake Hurlstone south to Tarin Rock and Dunn Rock) but generally uncommon, and especially scattered in northern wheat belt; usually in ones or twos. Mainly eucalypt woodlands and scrubs; attracted to drinkable water and flowering *Grevillea eriostachya*, *Calothamnus quadrifidus*, *C. villosus*, *Hakea coriacea* and *H. petiolaris*. Breeding in September and October; C/2 (9), 3 (1).

***Melithreptus brevirostris leucogenys* Milligan**

Brown-headed Honeyeater

Range

Interior (mainly semiarid zone and drier parts of subhumid zone), south to the Stirling Range, lower Fitzgerald River, Kundip and No. 1 Vermin Fence (5 km NW Esperance T/O), and west to No. 3 Spur Fence (24 km W North-west Coastal Hwy), 53 km N Galena, Arrowsmith Lake, E of Mt Peron, Watheroo, 15 km S Regans Ford, Walyunga National Park, Clackline, St Ronans Reserve (17 km W of York), Dale River (W of Beverley), Williams and Katanning. Casual further west (mainly in wandoo woodlands along Darling Scarp from the Helena River south to the Harvey River and at Wooroloo, Boyup Brook and Bridgetown).

Status etc.

Somewhat nomadic. Uncommon to common; usually in flocks (up to 40). Mainly eucalypt scrubs and woodlands, also heaths with or without emergent eucalypts; attracted to flowering *Eucalyptus oldfieldii*, *E. eudesmioides*, *E. loxophleba*, *Melaleuca* sp., *Dryandra sessilis* and *Grevillea petrophiloides*. Breeding from August to October; C/2 (3), 3 (3); parasitized by Pallid Cuckoo (4 records).

***Melithreptus (lunatus) chloropsis* Gould**

White-naped Honeyeater

Range

Southern, west to Moore River gorge (25 km W Mogumber), Yanchep and Neerabup National Park, north to Moora (formerly), Toodyay, Wambyn Reserve (12 km W York), Narrogin, Gnowangerup, Lake Cairlocup and Ravensthorpe Range, and east to 31 km E Ravensthorpe and 20 km E Hopetoun. Casual on Michaelmas and Bald Is.

Status etc.

Formerly moderately common to very common, but now declining in more disturbed parts of range, e.g. to large extent now only an uncommon autumn-winter visitor to Swan Coastal Plain; usually in pairs, family parties or small flocks. Eucalypt forests and scrubs; attracted to flowering *Eucalyptus cornuta*, *E. megacarpa*, *E. diversicolor*, *E. calophylla*, *E. marginata*, *Banksia menziesii*, *B. serrata*, *Dryandra* sp. *Paraserianthes lophantha* and *Anigozanthos viridis*, to gummy exudate of a teatree (*Melaleuca*) and *Agonis linearifolia*, and to over-ripe fruit and ripening sweet corn in Darling Range

orchards and gardens. Breeding from September to December; C/2 (5), 3 (2); parasitized by Pallid Cuckoo (3 records).

Phylidonyris novaehollandiae (Latham)

New Holland Honeyeater

Range

Southern, north to Stockyard Gully, Mullering Brook (8 km W Cataby), Wannamal Lake, Bindoon Range (? species), Toodyay, nearly to Northam, Wambyn Reserve (12 km W York), Beverley, Tutanning Reserve, Jitarning, Lake Grace and Lake King (18 km SSW of town); also Michaelmas, Bald and Coffin Is.

Status etc.

Uncommon to very common; usually in small parties, occasionally large loose flocks (up to 70) in autumn. Tall shrublands (including understory of forests), particularly beside water; attracted to flowering *Banksia menziesii*, *B. attenuata*, *B. ilicifolia*, *B. littoralis*, *B. prionotes*, *B. grandis*, *B. coccinea*, *Dryandra sessilis*, *D. carduacea*, *D. cuneata*, *D. formosa*, *Lambertia inermis*, *Grevillea hookeriana*, *Hakea crassifolia*, *H. multilineata*, *Adenanthos* sp., *Calothamnus sanguineus*, *Kunzea ericifolia*, *Melaleuca* spp., *Eucalyptus preissiana*, *E. buprestium*, *E. cornuta*, *E. occidentalis*, *E. diversicolor*, *E. calophylla*, *E. patens*, *E. nutans*, *E. flocktoniae*, *Paraserianthes lophantha*, *Amyema* sp., *Anigozanthus viridis* and several exotic plants (especially tree lucerne). Breeding from mid-June to early December, also occasionally from February to early April; C/2 (49), 3 (6); parasitized by Pallid Cuckoo (2 records).

Phylidonyris nigra mystacalis (Gould)

White-cheeked Honeyeater

Range

Upper west coast from Wittecarra Gully south to Balline. Mid-west coast from Cliff Head south to the Swan River and inland to the Brand Hwy (near the Arrowsmith River and at 32 km SSE Eneabba), Watheroo National Park, Moore River National Park, Lake Bambun and Kelmscott. Lower west coast and south-west coast from Cape Naturaliste to the Scott River. South-east coast and interior, north to Wongamine, west to West Toodyay, St Ronans (17 km W York), 20 km SW Beverley, Dryandra, Mt Saddleback, Broomehill, western Stirling Range, Chorkerup and Albany, and east to 8 km W Northam, Brookton, Tutanning Reserve, Bendering, The Humps, Bottle Rock, 20 km E Newdegate, Dunn Rock and Ravensthorpe Range. Casual or local in Darling Range (Helena River, Lesmurdie and upper Wungong Brook) and near Emu Rock.

Status etc.

Somewhat nomadic. Locally common but generally uncommon to moderately common and patchily distributed; in pairs or small flocks. Shrublands, especially of Proteaceae; attracted to *Dryandra sessilis*, *D. carduacea*, *D. nobilis*, *D. polycephala*, *Adenanthos* spp., *Banksia prionotes*, *B. menziesii*, *B. attenuata*, *B. media*, *Lambertia inermis*, *Beaufortia sparsa* and *Kunzea ericifolia*. Breeding from mid-July to early November, also March and April; C/2 (28), 3 (2). For notes on ecology etc. see J. Ford (1971, *Emu* 71: 117).

***Phylidonyris albifrons* (Gould)**

White-fronted Honeyeater

Range

Arid and semiarid zones, south and west to Cockleshell Gully, Badgingarra, Moora, the Wongan Hills, Elashgin Reserve, North Bungulla, Bruce Rock, Narembeen and Emu Rock. Casual further south and west (as far as 16 km NE Gingin, Wooroloo, Northam, Brookton, Dumbleyung, Mongup and Ravensthorpe).

Status etc.

Irregular visitor (mostly recorded in April-May and August-October). Uncommon to very common (abundance and frequency sharply declining southwards); in ones, twos or flocks (up to 50). Shrublands, especially on sandplains and lateritic ridges but also understory of woodlands and scrubs; attracted to flowering *Grevillea eriostachya*, *G. petrophiloides*, *G. paradoxa*, *G. leucopteris*, *Banksia sceptrum*, *B. prionotes*, *B. ashbyi*, *B. attenuata*, *Hakea multilineata*, *H. coriacea*, *Calothamnus asper*, *C. gilesii*, *Leptospermum erubescens*, *Eucalyptus eudesmioides*, *E. leptopoda*, *E. wandoo*, *Balaustion* sp. and *Amyema* sp. Breeding from late August to early December; C/2 (5), 3 (5).

***Phylidonyris melanops* (Latham)**

Tawny-crowned Honeyeater

Range

Greater part of mainland, north and east to the mouth of the Murchison, East Yuna, Mullewa, Caron, Watheroo, Piawaning, the Wongan Hills, Durokoppin and Nangeenan, but absent from much of humid and subhumid zones, i.e. Swan Coastal Plain between Forrestdale and Busselton, Darling Range (except for Darling Scarp between Greenmount and Kelmscott), deep south-west (except patchily on and near coast [Cape Naturaliste, Cowaramup Bay, Scott River, Lake Jasper, Point D'Entrecasteaux, Mt Chudalup, Nornalup, Peaceful Bay, Wilson Inlet and West Cape Howe] and for rare irruptions into forests of flowering karri and marri [H.O. Webster 1947, *Emu* 47: 63]), and the well-wooded country west of Calingiri, Bailup, St Ronans (17 km W York), Williams, Beaufort River (7 km S East Arthur), Cranbrook, Mt Barker (hill) and Albany.

Status etc.

Blossom nomad. Scarce to very common (most numerous near coast and in south-eastern interior [south of 33°S], least in hotter and drier parts of range where largely a cool-season [April-October] visitor); usually in ones, twos or small parties, also large loose flocks (up to 150) during migration. Heath and other low shrublands (with or without emergent low trees), particularly on sandplains and laterite, but also on coastal limestone and in hardpan seasonal swamps; attracted to flowering *Dryandra sessilis*, *D. armata*, *Grevillea eriostachya*, *G. hookeriana*, *Lambertia inermis*, *L. multiflora*, *Hakea costata*, *Petrophile macrostachys*, *Adenanthos cuneata*, *Banksia menziesii*, *Calothamnus quadrifidus*, *Eucalyptus occidentalis*, *E. calophylla*, *E. diversicolor* and *E.*

flocktoniae. Breeding from late July to mid-February; C/2 (65), 3 (4); parasitized by Pallid Cuckoo (2 records).

***Acanthorhynchus superciliosus* Gould**

Western Spinebill

Range

Southern, north to Cockleshell Gully, Watheroo National Park (28 km W Watheroo), Koolbung Valley (12 km W Moora), Moore River gorge (15 km W Mogumber), Muchea, Noble Falls, Wongamine, nearly to Northam, Wambyn Reserve (12 km W York), Beverley, East Pingelly, Dumbleyung, Lake Cairlocup, lower Fitzgerald River, lower Hamersley River, Ravensthorpe Range and No. 1 Vermin Fence (15 km NW Ravensthorpe-Esperance road).

Status etc.

Generally sedentary, but some wandering in late summer and autumn. Locally very common, e.g. around Albany and in the Stirling Range, but generally scarce to moderately common (least numerous in driest parts of range); usually in ones, twos or small parties. Shrublands (especially proteaceous scrubs), including taller heaths and understory of forests and woodlands; attracted to flowering *Banksia coccinea*, *B. menziesii*, *B. attenuata*, *B. littoralis*, *B. ilicifolia*, *Dryandra sessilis*, *D. nobilis*, *D. carduacea*, *D. cuneata*, *D. quercifolia*, *Lambertia inermis*, *Adenanthos meisneri*, *A. barbigerus*, *Petrophile* sp., *Calothamnus sanguineus*, *Kunzea recurva*, *Melaleuca densa*, *M. raphiophylla*, *Anigozanthos viridis*, *A. manglesii* and *Xanthorrhoea preissii*. Breeding from late July to January; C/1 (14), 2 (15); parasitized by Pallid Cuckoo (7 records).

***Lacustroica whitei* North**

Grey Honeyeater

Serventy and Whittell (1976, *Bds West. Aust.*, p. 408) state that it occurs south to about Geraldton and Mingenew, but the only recent records are from The Z Bend (Murchison River) and east of Mullewa.

***Manorina flavigula* (Gould)**

Yellow-throated Miner

Range

Arid and semiarid zones and drier parts of subhumid zone: in the west south to Pinjarra and east to Mogumber, Muchea and Mundijong; in the east south to the upper Kalgan River and Cape Riche and west to 5 km N New Norcia, Culham, Spencers Brook, Quellington, 7 km W Dangan, 25 km E Brookton, Cliffordville, 12 km WSW Narrogin, Tarwonga, 13 km S Darkan, Kojonup and Cranbrook. Casual or local further south (Waterloo, 55 and 50 km WNW and 3 km E Brookton, Williams, Mt Barker and Albany).

Status etc.

Uncommon to common (least numerous and patchily distributed in wettest parts of

range); usually in ones, twos or small flocks, occasionally large wandering flocks (up to 200) in late summer and autumn. Mainly open tall shrublands, including understory of woodlands and road verges; attracted to flowering *B. prionotes*, *B. menziesii*, *B. benthamiana* and other banksias, *Grevillea eriostachya*, *Hakea coriacea*, *Calothamnus* sp., *Eucalyptus wandoo* and *E. conglobata*. Breeding from July to January, also autumn after tropical cyclones of March 1953 and February 1955; C/2 (13), 3 (22), 4 (13); parasitized by Pallid Cuckoo (5 records).

***Acanthagenys rufogularis* Gould**

Spiny-cheeked Honeyeater

Range

Arid and semiarid zones, south to middle Pallinup River (Mongup) and Bremer Bay, and west to Lynton, Northampton, Nanson, Walkaway, Yandanooka, Carnamah, Marchagee, the Wongan Hills, Walyormouring Lake, Meenaar, Badjaling, Bilbarin, 12 km W Notting, Lake Grace and 26 km WSW Ongerup. Casual further west (Cockleshell Gully, Coomberdale, Moora, between Northam and Toodyay, and Broomehill).

Status etc.

Common north and east of wheat belt, scarce to moderately common further south; in ones, twos or small parties, sometimes wandering flocks (up to 25) in late summer and autumn. Tall shrublands, including understory of woodlands; attracted to flowering *Eucalyptus eudesmioides*, *E. eremophila*, *E. wandoo*, *Melaleuca elliptica*, *Grevillea eriostachya*, *Banksia prionotes*, *Dryandra sessilis* and *Calothamnus* sp. Breeding from July to early November, also March to May; C/2 (4), 3 (1); parasitized by Pallid Cuckoo (1 record).

***Anthochaera chrysoptera lunulata* Gould**

Little Wattlebird

Range

Western and southern, north to Arrowsmith Lake and inland to Coorow, North Dandaragan, 25 km W Mogumber, Cullala, Chittering, 22 km SW Toodyay, nearly to Northam, Wambyn Reserve (12 km W York), Yornaning Reserve, Narrogin, Lime Lake, Broomehill, Ongerup, Roes Rock and Ravensthorpe Range.

Status etc. Somewhat nomadic. Uncommon to common (least numerous in driest parts of range and in non-coastal parts of deep south-west); in ones, twos or small parties, occasionally flocks (up to 50). Tall shrublands (including understory of eucalypt forests), especially thickets of *D. sessilis* and other dryandras; attracted to flowering *D. sessilis*, *D. polycephala*, *Banksia menziesii*, *B. ilicifolia*, *B. attenuata*, *B. littoralis*, *Grevillea eriostachya*, *Hakea multilineata*, *Lambertia inermis*, *Eucalyptus patens*, *E. calophylla* and *E. incrassata*. Breeding from June to November, also March-April; C/1 (77); parasitized by Pallid Cuckoo (6 records).

***Anthochaera carunculata* (White)**

Red Wattlebird

Range

Greater part of mainland, presumably north to mulga-eucalypt line (reported north to

20 km N Eurardy, East Yuna [but not the Wandana area], upper Irwin River, Mt Gibson T/O from Great Northern Hwy, Bimbijy and 63 km N Bonnie Rock T/O from No.1 Vermin Fence). Casual on Rottnest I.

Status etc.

Migratory, largely vacating warmer and drier half of range in October-November and returning in April-May, and visiting coolest and wettest parts of range mainly in summer. Scarce to common (least numerous in warmest and driest parts of range); usually in ones or twos, but often roving in flocks (up to 100) from late summer to early winter. Well-wooded country, including towns and suburbs but not the heaviest forests (except when karri flowering); attracted to flowering *Banksia menziesii*, *B. attenuata*, *B. ilicifolia*, *B. grandis*, *B. prionotes*, *B. benthamiana*, *Dryandra sessilis*, *Lambertia inermis*, *Grevillea eriostachya*, *G. pritzelii*, *Hakea multilineata*, *H. laurina*, *Eucalyptus wandoo*, *E. diversicolor*, *E. calophylla*, *E. rudis*, *E. annulata*, *E. sargentii*, *Calothamnus* sp., *Templetonia retusa*, *Xanthorrhoea drummondii* and *X. preissii*. Breeding reported north to mouth of Murchison River, Caron and 23 km N Bonnie Rock T/O (from No.1 Vermin Fence) but not Darling Range south of Wungong Brook or far south-west (south of Ludlow and west of Albany): early July to mid-December, also once in May; C/1 (4), 2 (63), 3 (11); parasitized by Pallid Cuckoo (21 records).

Epthianura albifrons (Jardine and Selby)

White-fronted Chat

Range

Greater part of Division, including Rottnest I. but absent from most of Darling Range and interior of deep south-west. Casual at Wooroloo, Collie and Bridgetown and on Favorite, Cervantes and Garden Is.

Status etc.

Nomadic. Uncommon to common (most numerous in semiarid zone and drier parts of subhumid zone [including Rottnest I. and country east of Albany]); usually in pairs or small parties, also flocks (up to 60) in summer and autumn. Open or sparsely wooded country: bare waterside flats, samphire and other chenopod flats, weedy paddocks, short grass, growing crops and dwarf heaths. Breeding reported south and west to Lancelin, Gingin, Toodyay, Williams, Kojonup and Albany and on Rottnest I. and in Bunbury-Busselton area: mid-February to late December (mostly August to October); C/2(6), 3(28), 4(6); parasitized by Fan-tailed Cuckoo (1 record) and Horsefield's Bronze Cuckoo (1).

Epthianura aurifrons Gould

Orange Chat

Range

North-eastern, south to Lake Hinds and Yandegin (22 km SSE Bonnie Rock) and west to Morawa and Lake Nedo (17 km WSW Latham).

Status etc.

Rare and infrequent visitor (June to November); usually in pairs. Mainly samphire flats, also short grass.

Epthianura tricolor Gould

Crimson Chat

Range

Northern and eastern (mainly arid and semiarid zones), in the west south to Cottesloe and east to Chittering, Bullsbrook East and Millendon, and in the east south to Woodanilling, Ongerup and Lake King and west to Bakers Hill, 24 km W Brookton, Pingelly, Narrogin and Wagin.

Status etc.

Visitor (moderately frequent north of 29°S, infrequent south of 31°S; April to February, mostly in spring). Common or very common in certain years (e.g. 1949, 1977, 1981, 1983), but generally uncommon in northern interior and rare or scarce elsewhere; in ones, twos or flocks (up to 50). Sparsely wooded country, especially green herbage on low-lying flats, also farmlands. Breeding south to Two Rocks, Brookton, Dumbleyung and Lake Grace: August to October; C/2 (3), 3 (16). For notes on natural history see S.R. White (1950, West. Aust. Nat. 2: 49), and on 1981 irruption L. Milhinch (1983, West. Aust. Nat. 15: 109).

Fringillidae

Carduelis carduelis (Linnaeus)

Goldfinch

Exotic species established in Perth Metro Area from c. 1933 to ca. 1970 and at Albany since c. 1955.

Passeridae

Emblema pictum Gould

Painted Finch

Rare visitor to far north. A specimen in the British Museum (Natural History) labelled 'Champion Bay' (R. Bowdler Sharpe 1890, *Cat. Bds Br. Mus.* 13: 296), and heard at Tallering Peak by J.R. Ford on 1 September 1984.

Taxonomy

For the classification of Australian estrildines see L. Christidis (1987, *Emu* 87: 119-123).

Stagonopleura oculata (Quoy and Gaimard)

Red-eared Firetail

Range

Darling Range, north to Glen Forrest and east to Mundaring Weir, 5 km NW North Bannister and Mt Saddleback. Far south, north to Cape Naturaliste, Bridgetown, Lake

Muir, Stirling Range, upper Gairdner River (Calyerup) and Ravensthorpe Range (Woodenup Creek), including Bald and Coffin Is. Formerly Swan Coastal Plain north to Perth.

Status etc.

Scarce in peripheral parts of range (Darling Range north of Wungong Brook, Stirling Range, inland parts of Fitzgerald River National Park, and Ravensthorpe Range), but generally moderately common and locally common; in ones, twos or small flocks. Mainly densely vegetated streams and paperbark swamps, also heaths; attracted to seeding *Lepidospermum tetraquetrum* and *Allocasuarina fraseriana*. Breeding in October and November (? January); C/3-6.

Neochmia temporalis temporalis (Latham)

Red-browed Finch

Exotic species established in small part of Darling Range (between Bickley and Mundaring Weir) ca. 1960. Common; in flocks (up to 200). Orchards, densely vegetated streams and paperbark swamps; attracted to seeding *Poa annua*, *Digitaria sanguinalis* and other exotic grasses. Breeding from August to January; C/4 (12), 5 (2). See J. Dell (1965, *West. Aust. Nat.* 9: 160).

Taeniopygia guttata castanotis (Gould)

Zebra Finch

Range

Arid and semiarid zones south to Broomehill and Gnowangerup, west to the Zuytdorp Cliffs, mouth of Murchison River, Balline, Kojarena, Nangetty, Yandanooka (formerly), 10 km NE Three Springs, Wubin, Kondut, Wongan Hills, Wongamine, Clackline, York, Beverley and Wagin, and east to Bimbijy, Mt Churchman, Moondon, Kununoppin, Nangeenan, 20 km W Wogarl, Billericay and Lake Grace. Isolated colonies at Moora and Herdsman Lake. Casual at Gingin, Middle Swan and Lake Muir.

Status etc.

Resident and drought refugee. Very common in extreme north-east (Coolcalalaya and Yallalong Stations) and on upper Irwin River (until at least 1908), common in pastoral country north-east of Morawa and about *Hakea preissii* in farmlands immediately east and south of Northam, moderately common in far northern wheat belt (Galena, East Yuna and Tenindewa districts) and central wheat belt (from Goomalling, Wyalkatchem and Trayning, south-east through the Meckering and Tammin districts to Yoting and Kwolyin), rare to uncommon elsewhere; usually in pairs or small parties, occasionally flocks (up to 75). Lightly wooded, grassy country near drinkable water and prickly or dense shrubs suitable for nesting and shelter. Breeding from August to January; C/2 (1), 3 (3), 4 (4), 5 (3), 6 (2), 8 (1).

Before European settlement this bird was probably scarce and local. South of the mulga-eucalypt line it would largely have been confined to the valleys of the Murchison, Greenough, Irwin and Avon Rivers.

***Lonchura castaneothorax castaneothorax* (Gould) Chestnut-breasted Mannikin**

Exotic species established since *ca.* 1970 on Swan Coastal Plain (reported from seven localities between Lake Neerabup and Benger Swamp).

Sturnidae

***Sturnus vulgaris* Linnaeus Common Starling**

Status uncertain.

A pair and their nest and eggs were destroyed at Albany in March 1917 (W.B. Alexander 1917, *S. Aust. Orn.* 3: 56). Single birds were collected near Gingin in September 1936 and on Garden I. in June 1963. It is unknown whether these birds reached the Division unaided. However, a flock of 60-80 near Bremer Bay, first reported in February 1988 (P. Mawson), presumably came from the Esperance district; by mid-December *ca.* 100 birds, including many juveniles, had been killed by the Agriculture Protection Board; nests were found in hollow flat-topped yates *Eucalyptus occidentalis* in nearby swamps. In the same year the Board exterminated a colony of 22 birds at Manypeaks.

Grallinidae

***Grallina cyanoleuca* (Latham) Magpie-lark**

Range

Greater part of mainland but not extreme south-west (between the Scott River and Bow River and south of Carlotta and Pemberton). Casual on Whitlock and Rottnest Is and in extreme south-west (Tinglewood).

Status etc.

Scarce to common; usually in ones or twos, commonly in small parties, also wandering flocks (up to 100, mainly of immatures) in summer and autumn. Open or lightly wooded, bare or short-grass flats near water, including farm and station dams and mills. Breeding from late July to mid-November, also March to May; C/2 (3), 3 (14), 4 (29); parasitized by Pallid Cuckoo (2 records). For antiphonal song see S. Tingay (1974, *Emu* 74: 11-17).

Before European settlement this species would have been confined to sparsely vegetated flats beside streams, lakes, swamps and soaks. From colonial times until early this century it was only a non-breeding visitor to the Swan Coastal Plain, but by the mid-1930s it had colonized the Plain south to Busselton. In the next 20 years it colonized the farmlands between Busselton and Augusta. Meanwhile it had extended its range southwards from the Great Southern to Albany, where it was first observed in 1910. It reached Lake Muir in 1918 and Bridgetown *ca.* 1930.

Artamidae

***Artamus personatus* (Gould) Masked Woodswallow**

Range

Northern and eastern (mainly the arid and semiarid zones), south and west to the

Perth Metro Area, Bannister, Williams, Katanning, Tambellup and Cheyne Beach.

Status etc.

Visitor (late August to mid-May, earlier in far north than further south, mostly late October to mid-January). Scarce to very common (most numerous in northern half, during spells of hot north-easterly winds, and in certain years, e.g. 1912, 1916, 1972, 1982); usually in flocks of about 20 to a few hundreds, occasionally thousands. Lightly wooded country; attracted to swarming grasshoppers. Breeding reported in interior, south to Ongerup and west to East Yuna, Nangetty, the Nambung River, Moora, Jennacubbine, Grass Valley, York and Broomehill; early October to late November (? early December); C/2 (13), 3 (4), 4 (1); parasitized by Pallid Cuckoo (1 record).

Artamus superciliosus (Gould)

White-browed Woodswallow

One record from far northern interior: irregular visitor to East Yuna between September and January; usually with flocks of Masked Woodswallows (J. Dell and D.J. McGauran 1981, *Rec. West. Aust. Mus. Suppl. No. 30*: 90).

Artamus cinereus melanops Gould

Black-faced Woodswallow

Range

Greater part of mainland (mainly the semiarid zone), in the west south to Busselton district and east to Bindoon and the Darling Scarp, and in the east south to Broomehill, Ongerup, Jerramungup, 13 km N Hopetoun and 23 km E Ravensthorpe and west to New Norcia, 3 km NW Dewars Pool, Spencers Brook, 18 km W York, 52 km ESE Karragullen, Bannister, Quindanning, East Arthur and Kojonup.

Status etc.

Uncommon to common (most numerous in warmer and drier parts of range); in ones, twos or small parties, occasionally small feeding or roosting flocks (up to 30) in autumn-winter. Open or sparsely wooded country, especially heaths and road and rail verges in farming country; attracted to flowering *Xanthorrhoea preissii*. Breeding from early September to early January; C/2 (4), 3 (10), 4 (14), 5 (6); parasitized by Pallid Cuckoo (4 records).

This species has greatly increased its range and numbers since European settlement. In colonial times it was very local (J. Gould) and apparently still so fifty years later, for A.J. Campbell failed to see it anywhere in the Division in 1889-90. It was collected at Wandering in 1898 and Williams in 1900, but G.C. Shortridge did not record it south of Beverley in 1905-06. At that time it was common at Narembea (A.F. Crossman). By the late 1920s it was the only woodswallow at Dangin (E.H. Sedgwick); in that period it was a rare visitor to the Lake Grace district (I.C. Carnaby). It was established in the Busselton, Wagin, Dumbleyung and Lake Grace districts by 1950.

Artamus cyanopterus (Latham)

Dusky Woodswallow

Range

Ordinarily north to Yanchep, Beermullah Lake, New Norcia, Toodyay, Mokine Reserve, Wambyn Reserve (12 km W York), Boyagin Rock, Popanyinning, Dongolocking Reserves, 20 km E Kondinin and 16 km E Hyden, excluding heavily forested parts of Darling Range and interior of deep south-west. Casual or in autumn-winter further north (Cockleshell Gully, Perenjori, 76 km NE Wubin, Lancelin, Billyacatting Hill, Elashgin Reserve, Durokoppin) and on Rottnest I.

Status etc.

Partly migratory, tending to flock in autumn and fly northwards from coldest parts of range, e.g. Bridgetown and Broomehill. Uncommon to common (least numerous on Swan Coastal Plain and in wheat belt); in ones, twos or small parties, also feeding and roosting in flocks (up to 75) from April to September. Eucalypt woodlands and edge or clearings in eucalypt forests. Breeding from September to December (? early January); C/2 (2), 3 (15), 4 (7); parasitized by Pallid Cuckoo (1 record).

Following the clearing of salmon gum, wandoo and other eucalypt woodlands, it became extinct as a breeding species in much of wheat belt; it was last recorded at the Wongan Hills in 1903, Moora in 1913, Kellerberrin/Kwolyin in 1957 and Bruce Rock in 1960. It was very much more numerous than the Black-faced Woodswallow around Brookton in 1903 (H.E. Hill) but was gone from Dangin by 1929 (E.H. Sedgwick). There is some compensation in its colonization of parts of the deep south-west since the partial clearing of the denser forests. For example it was not recorded by S.A. White on the Leeuwin-Naturaliste Ridge in 1920; this strip (south to 5 km S Forest Grove) was occupied by the mid-1950s.

Artamus minor Vieillot

Little Woodswallow

Range

Northern and north-eastern arid and semiarid zones at the Murchison River Gorge (The Loop and near Hawks Head Lookout), on the middle Greenough River (East Yuna and Ellendale Pool) and on Bimbijy Station. Also party of six reported in October high over sandplains 5 km E 'Zuytdorp' wreck (perhaps in northern migration from the Murchison River Gorge, or do they breed in nearby coastal cliffs?).

Status etc.

Scarce visitor (April-December); in ones, twos or small parties (up to 8). Vicinity of river cliffs, breakaways and stony ridges. Breeding reported at East Yuna: spring.

Cracticidae

Cracticus torquatus torquatus (Latham)

Grey Butcherbird

Range

Greater part of Division, including Garden I. but not heavily forested parts of humid and subhumid zones.

Status etc.

Locally common, but generally scarce to moderately common; in ones or twos. Tall shrublands, including understory of open forests and woodlands and road verges. Breeding from mid-August to mid-November, also autumn at Dumbleyung after tropical cyclone of February 1955; C/2 (6), 3 (33), 4 (11), 5 (1), 7 (1).

Like the Dusky Woodswallow, this species has declined in parts of its original range but has gained new habitat elsewhere. Originally it was absent from the Darling Range and from the deep south-west apart from coastal scrubs at Yallingup, Flinders Bay, Scott River and Black Point. Clearing of the heavy eucalypt forests has enabled it to spread in the humid and subhumid zones; it was first recorded at Brookhampton in 1939, Collie in 1949, Wooroloo in 1951, Witchcliffe in 1953, Forest Grove in 1977, Karridale in 1982, Porongurup in 1986 and Lake Florence in 1988.

Cracticus nigrogularis (Gould)

Pied Butcherbird

Range

Northern and eastern (mainly the arid and semiarid zones) south to lower Hill River, Nambung River, Yewadabby Spring, Moore River gorge (25 km W Mogumber), Bindoon, Northam, Mawson, Corrigin, Kondinin, Lake Grace and 13 km E Lake King. Casual further south (Swan Coastal Plain, Gnowangerup, Ongerup and Ravensthorpe).

Status etc.

Scarce to common (most numerous in north, south to Dongara, Arrowsmith Lake, Coomberdale, Waddington, Wongan Hills, Trayning and Burracoppin); usually in ones or twos. Open woodlands, including partly cleared farmlands and road verges. Breeding from late August to mid-October; C/2 (1), 3 (14), 4 (2).

It has increased its range and numbers since European settlement. Evidently J. Gilbert did not see it, despite travelling as far north-east as the Wongan Hills (nor was it recorded here in 1903 by A. W. Milligan or F. L. Whitlock). Indeed before the wheat belt was cleared it was unknown south of Yandanooka, Woolundra and Narembeen. It first appeared at Moora in 1912 and was found nesting there in 1936 (P. T. Sandland). It was first recorded in the Northam district as an autumn-winter visitor in the early 1930s and as a breeding bird in 1972 (J. R. Masters and A. L. Milhinch).

Cracticus tibicen dorsalis (Campbell)

Australian Magpie

Range

Greater part of Division, including Garden I.

Status etc.

Scarce to very common (most numerous on Swan Coastal Plain and in the wetter

farmlands between Northampton and Cranbrook); usually in pairs or small parties (up to 20). Lightly wooded country with sparse low ground cover, especially farms but also lawns and parks in towns and cities, open flats around saltlakes and granite outcrops, burnt shrublands, road verges and airports. Breeding from late July to early November, mostly August and September; C/2 (2), 3 (29), 4 (34), 5 (10).

This species has been so quick to colonize cleared lands that little is known about its spread. It was unknown south and west of the Carburnup River in 1887 (T. Carter); soon after it must have begun to colonize the Leeuwin-Naturaliste Ridge, but it was still rare between Cowaramup and Margaret River in 1901 (A. W. Milligan) and had not reached Augusta in 1919. In the farmlands east of the forest block it occurred as far south as Cranbrook in 1889 (A.J. Campbell); it arrived at the Porongurup Range in 1910 but had not reached Albany in 1921 (T. Carter).

***Strepera versicolor plumbea* Gould**

Grey Currawong

Range

Formerly throughout the mainland, but now extinct in much of Swan Coastal Plain and central and northern wheat belt. Casual on Michaelmas and Mistaken Is.

Status etc.

Scarce to common (most numerous in south-eastern part of semiarid zone and in relatively undisturbed parts of humid and subhumid zones); usually in ones or twos, occasionally small flocks (up to 14). Mainly eucalypt forests, woodlands and scrubs, also *A. rostellifera* and other Acacia scrubs and coastal heaths. Breeding from mid-August to early December; C/2 (13), 3 (13).

Before European settlement it was the only plentiful and widespread corvid bird (in contrast to the then scarce and patchily distributed Australian Magpie and Australian Raven). It was evidently most numerous and widespread in the south and west and steadily diminished in abundance north-eastwards (it was probably always uncommon and patchily distributed in the arid zone). With the clearing of the wheat belt it began to decline, and still more so in the humid and subhumid zones as introduced helioid snails supplanted native snails of the genus *Bothriembryon*. As late as 1900 it occurred in vast numbers along the south-west coast both in the forest and coastal scrubs (B.H. Woodward). By 1920 it had so declined in the Cape Naturaliste/Margaret River area that S.A. White only occasionally saw or hear it; but it was still numerous at Nornalup in 1927 (at which time the Raven and Magpie were still absent). G. Masters and G.C. Shortridge found it very numerous around Albany in 1866 and 1905, but it was uncommon in 1921 (J.R. Kinghorn and H.O. Fletcher).

Ptilonorhynchidae

***Ptilonorhynchus maculatus guttatus* (Gould)**

Spotted Bowerbird

Vagrant in far north.

E. Ashby (1921, *Emu* 20: 136) was informed of one in dense sandhill scrub near

Geraldton. One was seen at 16 km S Mullewa on 13 June 1986 (Anon. 1986, *West. Aust. Bd Notes* No. 39: 6). Also a tentative record from much further south: one seen by A.F. Crossman (1909, *Emu* 9: 90) near Naremben in the latter part of 1908.

Corvidae

Corvus ceciliae Mathews

Western Crow

Range

Arid north-east, west and south to [4 km S Nerren Nerren], 13 km SW Lake Narromyne HS, 13 km W Rothsay and Mt Gibson (hill).

Status etc.

Scarce to moderately common (most numerous in extreme north-east about The Elbow of the Murchison River); in ones or twos. Wooded country. One breeding report (near Yallalong): September; C/2.

Corvus bennetti North

Little Crow

Range

At present northern three-quarters of mainland, in the west south to Harvey (? to Benger) and in the east south to Boyup Brook and Lake Magenta.

Status etc.

Migratory: after breeding in arid and semiarid zones (south to north-central wheat belt), tending to flock and move southwards and south-westwards into cooler and less arid country. Uncommon to very common; usually in flocks (frequently of hundreds). Lightly wooded country, especially farmlands; attracted to ploughing, lambing, abattoirs, piggeries and thermals. Breeding reported south to Yorkkrakine and Kodj Kodjin: July to October; C/4 (2).

Because of the general inability of naturalists to distinguish *Corvus* spp., little is known of the present distribution of this crow, let alone the past. Almost certainly it occurred nowhere south of the mulga-eucalypt line before the clearing of the wheat belt. It was first recorded in 1952 (at Yoting) and first collected in 1953 (at Beverley). However, it must have colonized the northern wheat belt at least 30 years earlier, for the seasonal northward and southward movements of crows near the Darling Scarp was noticed in the 1920s (D.L. Serventy 1928, *Emu* 28: 71).

Corvus coronoides perplexus Mathews

Australian Raven

Range

At present most of Division, including Milligan, Fisherman, Boullanger, Escape, Rottnest, Garden, Penguin and Sandy Is, but not far north-east (east of Coolcalalaya, Mallee, 11 km NNE Mullewa and Red Lake Well on Barnong Station).

Status etc.

Uncommon to very common (most numerous in farmlands; least in heavily wooded country away from main roads and railways); usually in ones, twos or small parties, also larger aggregations at food-rich sites. Lightly wooded country, especially farmlands; attracted to road-killed animals and other carrion, lambing, nesting seabirds and waterfowl, garbage and abattoirs. Breeding reported north to the lower Murchison (upstream to Galena), East Yuna, Mullewa and 13 km W Rothsay and on Escape, Rottnest and Garden Is: late April to October, mostly July and August; C/2 (2), 3 (6), 4 (23), 6 (16).

[*Corvus splendens* Vieillot

House Crow

Occasionally reaches west-coast ports on ships from southern Asia.]

GAZETTEER

Latitudes are south and longitudes east, unless otherwise indicated

- Ajana 27.57, 114.38
 Albany 35.01, 117.54
 Albatross I. 40.23, 144.39
 Aldersyde 32.23, 117.15
 Alfred Cove 32.02, 115.49
 Allong Spring 27.40, 114.10
 Amelup 34.15, 118.13
 Amsterdam I. 37.55, 77.40
 Anderson Lake 34.11, 117.58
 Archipelago of the Recherche 34.05, 123.00
 Armadale 32.09, 116.00
 Arrino 29.26,
 Arrowsmith 29.34, 115.03
 Arrowsmith Lake 29.33, 115.05
 Arrowsmith River 29.33, 115.05
 Arthur River 33.21, 117.02
 Auckland Is 50.35, 166.00
 Augusta 34.19, 115.09
 Australind 33.17, 115.42
 Avon River 31.45, 116.05
 Avon Valley National Park 31.37, 116.12

 Baandee 31.35, 117.59
 Badgingarra 30.24, 115.29
 Badjaling 32.00, 117.30
 Bailup 31.44, 116.16
 Bakers Hill 31.45, 116.27
 Balcatta 31.52, 115.49
 Bald I. 34.55, 118.27
 Balicup Lake 34.15, 117.47
 Balingup 33.47, 115.59
 Balline 27.59, 114.13
 Banjup 32.08, 115.53
 Bannister 32.38, 116.29
 Barnong 28.38, 116.17
 Barragup Swamp 32.34, 115.47
 Barren Ranges 34.05, 119.40
 Bass Strait 39.30, 146.00
 Bateman 32.03, 115.51
 Beacon 30.27, 117.52
 Beagle Is 29.48, 114.52
 Beaufort Inlet 34.27, 118.52
 Bedforddale 32.10, 116.02
 Beermullah 31.15, 115.45
 Beermullah Lake 31.12, 115.47
 Beetalyinna Pool 28.47, 115.04
 Bejoording 31.23, 116.32
 Bellambi 34.21, 150.54

 Bendering 32.23, 118.18
 Bengier 33.11, 115.52
 Bengier Swamp 33.10, 115.50
 Beringbooding Rock 30.34, 118.30
 Beverley 32.07, 116.55
 Bibra Lake 32.05, 115.49
 Bickley 32.01, 116.04
 Big Brook 34.24, 116.00
 Bilbarin 32.12, 117.57
 Billericay 32.17, 118.20
 Bilyacatting Hill 31.03, 118.01
 Bimbijy 29.42, 118.02
 Bindi Bindi 30.38, 116.22
 Bindoo Hill 28.30, 115.14
 Bindoon 31.23, 116.05
 Bindoon Range 31.19, 116.08
 Bird I. (Shoalwater Bay) 32.16, 115.40
 Bird I. (South Georgia) 54.00, 38.02W
 Black Point 34.25, 115.32
 Blackwood River 34.20, 115.10
 Blight Hill 33.03, 117.09
 Bluff Point 27.51, 114.06
 Boddington 32.48, 116.28
 Bokan Lake 32.59, 117.31
 Bokarup Swamp 34.20, 116.51
 Bolgart 31.16, 116.30
 Bompas Hill 27.17, 115.19
 Bonnie Rock 30.32, 118.22
 Bonnie Rock Turnoff 30.34, 118.31
 Booragoon Lake 32.03, 115.51
 Boranup 34.10, 115.02
 Borden 34.05, 118.16
 Boscabel 33.40, 117.05
 Bottle Rock 32.44, 119.08
 Boullanger I. 30.19, 115.00
 Bow Bridge 34.58, 116.57
 Bow River 34.59, 116.56
 Boxwood Hill 34.22, 118.45
 Boyagin Rock 32.28, 116.53
 Boyanup 33.29, 115.44
 Boyup Brook 33.50, 116.23
 Breaksea I. 35.04, 118.03
 Bremer Bay 34.24, 119.23
 Bridgetown 33.58, 116.08
 Brockman River 31.41, 116.07
 Broke Inlet 34.55, 116.28
 Brookhampton 33.37, 115.52

Brookton 32.22, 117.00
 Broomehill 33.51, 117.38
 Broun Bay 32.14, 115.41
 Brown Lake 32.34, 117.38
 Bruce Rock 31.52, 118.09
 Buller I. 30.40, 115.07
 Bullsbrook 31.40, 115.59
 Bullsbrook East 31.40, 116.02
 Bulyee 32.22, 117.31
 Bunbury 33.20, 115.38
 Bunjil 29.39, 116.22
 Bunketch 30.26, 117.09
 Buntine 29.59, 116.34
 Burns Beach 31.44, 115.43
 Burracoppin 31.24, 118.29
 Bushmead 31.54, 116.00
 Busselton 33.59, 115.20
 Byenup Lagoon 34.30, 116.44
 Byford 32.13, 116.00

 Calingiri 31.05, 116.27
 Calyerup Rocks 33.54, 119.05
 Camballup Pool 34.32, 117.11
 Campbell I. 52.30, 169.10
 Campion 31.01, 118.30
 Canal Rocks 33.41, 114.59
 Canna 28.54, 115.51
 Canning Dam 32.09, 116.07
 Canning River 32.00, 115.51
 Capamaura Lake 29.53, 115.55
 Cape Freycinet 34.06, 114.59
 Cape Hamelin 34.16, 115.02
 Cape Leeuwin 34.22, 115.09
 Cape Mentelle 33.58, 114.59
 Cape Naturaliste 33.32, 115.00
 Cape Peron 32.16, 115.41
 Cape Riche 34.36, 118.46
 Capel 33.33, 115.33
 Capel River 33.31, 115.31
 Carburnup 33.42, 115.11
 Carburnup River 33.42, 115.11
 Cardiminup Swamp 34.25, 119.20
 Carlingup Creek 33.32, 120.10
 Carlotta 34.00, 115.45
 Carnac I. 32.07, 115.39
 Carnamah 29.42, 115.53
 Caro Swamp 30.45, 115.29
 Caron 29.35, 116.19
 Carraburmup Swamp 32.38, 115.41
 Casuarina Is 35.04, 116.44
 Cataby 30.43, 115.31
 Cathedral Rocks 32.00, 114.58

 Cement Spring 27.39, 114.12
 Cervantes 30.30, 115.04
 Cervantes Is 30.32, 115.02
 Champion Bay — see Geraldton
 Chandala Swamp 31.30, 115.57
 Chapman 28.30, 114.49
 Chatham I. 35.02, 116.30
 Chester Pass 34.24, 118.07
 Cheyne Beach 34.53, 118.24
 Cheyne I. 34.35, 118.46
 Chillinup 34.20, 118.38
 Chittering 31.27, 116.06
 Chorkerup 34.50, 117.42
 Christchurch 43.33, 172.40
 Christmas Tree Well 32.14, 116.25
 City Beach 31.56, 115.46
 Clackline 31.43, 116.31
 Cliff Head 29.32, 114.59
 Cliffordville 32.40, 117.24
 Cobline River 33.25, 117.46
 Cockburn Sound 32.11, 115.44
 Cockleshell Gully 30.09, 115.06
 Coffin I. 35.00, 118.13
 Collie 33.22, 116.09
 Collie River 33.17, 115.42
 Congelin 32.51, 116.53
 Coogee 32.07, 115.46
 Coolcalalaya 27.32, 115.03
 Coolup 32.45, 115.52
 Coomberdale 30.28, 116.02
 Coorow 29.53, 116.01
 Cormorant I., Antarctica 64.40, 63.50
 W Corrigin 32.20, 117.52
 Cosy Corner 34.15, 115.01
 Cottesloe 32.00, 115.45
 Coujinup Creek 33.23, 120.15
 Coujinup Hill 33.20, 120.15
 Cowalellup Rock 34.06, 118.32
 Cowaramup 33.51, 115.06
 Cowaramup Bay 33.52, 114.59
 Coyrecup 33.40, 117.49
 Coyrecup Lake 33.42, 117.51
 Crackers Swamp 30.55, 115.35
 Cranbrook 34.18, 117.33
 Crozet Is 46.27, 52.00
 Crystal Springs 34.59, 116.36
 Cue 27.25, 117.54
 Culham 31.25, 116.26
 Culham Inlet 33.54, 120.04
 Cullala 31.17, 116.02
 Cunderdin 31.39, 117.14

- Dalaroo Swamps — presumably Lake Dalaroo and the swamps to its north-east
- Dale River 32.04, 116.50
- Dalwallinu 30.17, 116.40
- Damboring 30.31, 116.43 Damperwah 29.18, 116.41
- Dandaragan 30.41, 115.42
- Dangin 32.02, 117.20
- Dardanup 33.24, 115.45
- Darkan 33.20, 116.45
- Darling Range 32.20, 116.05
- Darling Scarp 32.20, 116.01
- Darlington 31.55, 116.04
- Darradup 34.04, 115.37
- Dead Mans Swamp 33.30, 116.58
- Dempster Inlet 34.04, 119.40
- Denmark 34.57, 117.21
- Dewars Pool 31.29, 116.27
- Dinninup 33.49, 116.33
- Dongara 29.15, 114.56
- Dongolocking Reserves 33.03, 117.41
- Donnybrook 33.34, 115.49
- Doodlakine 31.37, 117.52
- Doubtful Is 34.22, 119.35
- Dowerin 31.12, 117.02
- Dragon Rocks 32.49, 119.02
- Drummond Rock 29.57, 114.58
- Dryandra 32.49, 116.57
- Duck Rock 31.59, 115.34
- Dudinin 32.52, 117.54
- Dulbelling 32.03, 117.15
- Dumbleyung 33.19, 117.44
- Dumbleyung Lake 33.20, 117.40
- Dundas 32.24, 121.46
- Dunn Rock 33.20, 119.29
- Dunns East Swamp 33.56, 115.12
- Dunsborough 33.36, 115.06
- Duranillin 33.31, 116.48
- Durokoppin Reserve 31.24, 117.45
- Dwellingup 32.43, 116.04
- Dyer I. 32.01, 115.34
- East Arthur 33.25, 117.03
- East Beverley 32.02, 117.02
- East Chapman River 28.45, 114.43
- East Nugadong Reserve 30.11, 116.53
- East Wallabi I. 28.27, 113.44
- East Yuna 28.28, 115.13
- Eatha Spring 30.06, 115.02
- Ebano (Hills) 29.10, 115.40
- Ebenezer Flats 31.55, 116.25
- Eclipse I. 35.11, 117.53
- Edward I. 31.02, 115.19
- Elashgin Nature Reserve 31.20, 117.27
- Elleker 35.01, 117.44
- Ellendale 28.52, 114.58
- Ellendale Pool 28.52, 114.59
- Emu Rock 32.27, 119.25
- Eneabba 29.49, 115.16
- Eneminga Pool 30.46, 115.27
- Eradu 28.42, 115.02
- Escape I. 30.20, 114.59
- Essex Rocks 30.21, 115.00
- Eticup 33.51, 117.35
- Eurardy 27.34, 114.40
- Ewlyamartup 33.42, 117.44
- Fairy Tern I. 32.19, 115.42
- Falkirk Forest 28.25, 115.10
- Favorite I. 30.17, 115.00
- Fisherman Is 30.08, 114.56
- Fitzgerald River 34.06, 119.38
- Fitzgerald River National Park 34.00, 119.30
- Flagstaff Lake 33.30, 117.16
- Flat I. 34.51, 115.59
- Flat Rock 32.08, 115.39
- Flinders Bay 34.21, 115.10
- Floreat Beach 31.55, 115.46
- Floreat Park 31.56, 115.47
- Football Lake 31.09, 116.03
- Footballers Lake 32.54, 117.37
- Forest Grove 34.04, 115.06
- Forrestdale 32.09, 115.55
- Forrestdale Lake 32.09, 115.56
- Four Mile Pool 27.50, 114.41
- Frank Hann National Park 32.55, 120.17
- Frankland 34.22, 117.05
- Frankland River 35.00, 116.46
- Fred Swamp 30.56, 115.36
- Fremantle 32.03, 115.45
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