

INTRODUCTION

Volume 6 is the second of three volumes dealing with the passerines (Order Passeriformes)—the largest and most diverse order of birds, comprising well over half the world's known bird species. In the HANZAB region, there are some 382 species in 39 families. This volume deals with 107 species in seven families and, with its completion, HANZAB has dealt with a total of 789 species, 83% of the total to be covered by the series.

HANZAB holds, with few exceptions, the first attempts to integrate all information available on the biology of bird species of the Australasian and Antarctic regions. From the start, the major goals of HANZAB have been to summarize all that we know of the birds of the HANZAB region and in doing so to make clear what we do not know; and to provide detailed descriptions of the plumages and other external morphology of the birds of the region, allocating and describing all sources of variation observed. We see the work's most important function as stimulating further studies and synthesis, and encouraging publication of existing information and the results of new research. The success of this goal can in part be judged by the many citations of HANZAB in the primary literature, particularly the journals *Emu*, *Notornis* and *Australian Bird Watcher*.

A full introduction to the series, including the scope and arrangement of each section, and glossaries where needed, was given in Volume 1 and a full revision for most sections was provided in Volume 5. We have followed the style and layout of Volume 5 without modification.

Some abbreviations and conventions are used throughout the work; others are applied only to a particular section. All are listed on pages 22–26.

TAXONOMY AND NOMENCLATURE **Birds** The publication of the ground-breaking *Directory of Australian Birds: Passerines* by Schodde & Mason (1999 [abbreviated throughout this volume as DAB]) has provided a substantial base from which to further investigate the variation in species and subspecies of Aust. birds, and has greatly assisted us in the preparation of this volume. For the first time in contemporary ornithology in the Aust. region, DAB presents a complete listing and analysis of the terminal taxa of Aust. passerine birds.

As in Volumes 3–5, for families and species we continue to follow the arrangement and nomenclature of Christidis & Boles (1994) and amendments (Christidis & Boles in prep.); the latter will incorporate several changes published in DAB. In this volume, details of subspecies and subspecific nomenclature essentially follow DAB except in cases where it conflicts with species limits set out in Christidis & Boles (1994, in prep.). However, even in those instances, subspecific treatment of DAB is always discussed within the texts and reasons for departure from DAB are given.

The arrangements of the few species recorded in the wider HANZAB region that were not included within the above publications were determined in consultation with L.

Christidis and W.E. Boles (representing Birds Australia's Taxonomic Advisory Committee, and Christidis is a member of the Handbook Steering Committee), based on the principles and sources used by Christidis & Boles in compiling their 1994 publication. For NZ species, scientific nomenclature follows OSNZ (1990) except in cases where it conflicts with Christidis & Boles (1994, in prep.).

English names follow those of Christidis & Boles (1994); English names for species endemic to NZ follow those of OSNZ (1990).

Plants and animals other than birds All scientific names, other than those of birds, were checked against the following references; for those groups for which volumes have been published, we have used the multi-volume series the *Flora of Australia*, the *Fauna of Australia* and the *Zoological Catalogue of Australia*. **Plants** For Aust., Hnatiuk (1990), ABRs (1993) and, for specific families, George (1986, 1989), Chippendale (1988) and Orchard (1995, 1998); for NZ, Allan (1961), Poole & Adams (1963), and Moore & Edgar (1970); and, more generally or outside these areas, Wallis & Airy Shaw (1973). We have retained *Eucalyptus* as a single genus. **Animals** GENERAL INVERTEBRATES: Marshall & Williams (1972). MOLLUSCS: Vaught (1989). SPIDERS: Main *et al.* (1985). INSECTS: Campbell *et al.* (1988), Common (1990), CSIRO (1991), Lawrence & Britton (1994), Lawrence *et al.* (1987), Naumann (1993), Nielsen *et al.* (1996) and Taylor *et al.* (1985). FISH: Paxton *et al.* (1989), Eschmeyer (1990) and Gommon *et al.* (1994). AMPHIBIANS AND REPTILES: Cogger *et al.* (1983) and Cogger (1992). MAMMALS: Bannister *et al.* (1988) and Strahan (1995).

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CUT-OFF DATES FOR TEXTS Most texts for this volume were prepared between the end of 1999 and Mar. 2002, with editing and refereeing extending to mid-2002. It is not, however, simple to give an overall cut-off for all sections and texts because preparation of different sections took place at very different rates. By and large, we have not been able to include in detail material either published, in press or in preparation after Dec. 2000, though we have tried at least to cite important papers that appeared after completion of the texts, to incorporate what information we could, and to comment on major discrepancies between new data and older information within our texts that resulted from such papers. We are grateful to our referees for making this information available and apologize to them for not including it as fully as we would like.

We have commented on a section below only where there has been some departure in approach from Volume 5, or where there are specific conventions that we feel warrant explanation.

DISTRIBUTION AND POPULATION The detailed descriptions of distribution need to be read in conjunction with the maps, which themselves obviate the need for much text.

Appendix IV shows the regions, divisions and districts of the various Aust. states that are used in conjunction with town and place names and geographical features to describe distribution. The end-paper map for NZ (inside rear cover)

shows the regions of the main islands which are used to describe distribution there.

Maps Presentation of maps remains as in previous volumes, with breeding areas shown in full red and areas of occurrence where breeding has not been recorded in half-tone red. Because we know little of the limits of breeding and non-breeding distribution of species in New Guinea and Indonesia, distribution in these regions has usually been shown in half-tone red, giving no indication of breeding range outside the HANZAB region.

MOVEMENTS As in previous volumes, a summary of banding recoveries is given in the final paragraph of this section. Where appropriate, summaries of the results of other banding or radio-tracking studies or other published recovery records are also presented in the final paragraph. Banding recoveries are presented in categories of distance from banding site (<10 km, 10–49 km, 50–99 km, ≥100 km). For Aust., these figures are calculated from data supplied by the ABBBS, most of which are summarized in Baker et al. (1999). Where a species could have been banded in islands of the sw. Pacific or New Guinea or both, these totals are also incorporated (because they could not easily be extracted from the calculations). Details are provided for all long-distance recoveries (i.e. ≥100 km) where they are available (see below). The information on recovery rate in distance categories is excluded from species with recent taxonomic splits and where there is subsequent uncertainty as to the specific identity of banded birds. Recoveries were summed for taxa that have been recently lumped but are recorded separately in the ABBBS database.

The Banding paragraph begins with a statement giving the total number of birds of that species banded in Aust. (and New Guinea and the sw. Pacific if a species occurs there), between 1953 and Aug. 2001, and the total number of recoveries. The number of recoveries includes repeat recoveries, and is not the number of individuals recovered. This data was taken from the ABBBS database during Aug. 2001 and includes all data entered to that date.

Banding recoveries from July 1984 to Aug. 2001 are presented in categories of distance from banding site (as described above). The number of individual birds recovered is known for this period, and is stated when presenting these recoveries. The source of this information was extracted from the database during Aug. 2001, and included all recoveries from the inception of the database in June 1984 to those entered by this date. Other sources of recoveries from the ABBBS, including microfiche records, are not included because they were not readily accessible and most or all would be birds re-trapped at or very close to banding sites.

All long-distance recoveries (≥100 km from banding site) are included where possible, including those from before 1984 (including records on microfiche), and details of banding and recovery given as follows.

LONG-DISTANCE RECOVERIES: Data are presented in the following summarized form:

Kenmore, se. Qld, to Wewak E., Sepik Province, PNG
 (1) (2)
 (2825 km, 337°, 3 months^D, Mar., J, M)
 (3) (4) (5) (6) (7) (8)

(1) Banding site; (2) recovery site; (3) minimum distance from banding site to recovery site (great circle distance); (4)

direction from banding to recovery site (great circle); (5) number of months elapsed between banding and recovery; a superscript ^D indicates recovery of dead bird; (6) month of banding; (7) age at banding, if known (P = pullus; J = juvenile, 1 = 1 year old, blank = unknown or >1 year old); and (8) sex if known (M = male, F = female, blank = unknown).

Where appropriate, recoveries showing site-fidelity are also discussed. Longevity from banding records of wild birds is also given (if records >12 months).

REFERENCES

Baker, G.B., et al. 1999. *Report on the Australian Bird and Bat Banding Scheme, 1996–97*. Environment Aust. (ABBBS), Canberra.

VOICE Sonagrams were made, where suitable recordings were available, using an Apple Macintosh computer. Sounds were digitized at 16-bit resolution and edited using SoundEdit software (Macromedia Inc.). Irrelevant intrusions and background noises were, as far as possible, removed. Sonagrams were made using Canary 1.2.4 software (Bioacoustics Res. Prog., Cornell Lab. Orn.). The analysis used a Hamming window function, a filter bandwidth of c. 350 Hz, smooth display style, 50% overlap and 256 point FFT size. Sonagrams were sent in electronic form (as PICT files) to the publisher. Each sonagram is shown with an overlay, with time on the horizontal scale and frequency on the vertical scale. The amplitude (loudness) of a sound is shown by the darkness of the tracing.

To permit reference to the actual sound used to make a sonagram, published recordings have been used as much as possible, particularly those from the compilations attempting to cover all species in our region (Buckingham & Jackson for Aust.; McPherson for NZ). Recordings from the sound library of the Australian National Wildlife Collection (CSIRO Division of Sustainable Ecosystems, Canberra) have been used to complete the coverage; we have also made use of the large collection contributed by D.A. Stewart. The caption to each sonagram lists the recordist, place and date of the recording, and the source of the recording. If the source is given as the letter P followed by a number then the source is a published recording and is listed below.

Sonagrams show 2.5 s, 5 s, or 10 s of sound. The vertical frequency scale is used regardless of the length of time shown, so that increases or decreases in pitch appear to be more rapid in sonagrams showing longer durations of sound. Reader beware! For sonagrams of the White-browed Scrubwren *Sericornis frontalis* the vertical (frequency) scale has been extended, and for one sonagram for this species a different horizontal scale has been used.

In the introduction to Volume 5 we paid tribute to the completion, in 12 cassettes, of *A Field Guide to Australian Birdsong*, compiled for the Bird Observers Club by the late R. Buckingham and by L. Jackson. This compilation has continued to be of great value, and its sounds have been the source of most sonagrams. The Bird Observers Club has begun a revised edition on compact disc, compiled and edited by H. Plowright, and intended for quick reference. It does not replace the cassette edition with its comprehensive booklets, and a particular track from the cassette edition may be abbreviated or omitted in the CD edition, which also contains some new recordings. The sonagrams in this volume that are made from calls in *A Field Guide to Australian Birdsong* are from calls in the cassette edition, which may or may not be included in the CD edition.

PUBLISHED SOUND RECORDINGS

- P19 Crouch, H., & A. 1982. *Birds of Rotamah Island*. Authors, Belair, SA.
- P49 Buckingham, R., & L. Jackson. 1992a. *A Field Guide to Australian Birdsong*. 7. *White-winged Triller to White-breasted Whistler*. Bird Obs. Club Aust., Melbourne.
- P50 —, — 1992b. *A Field Guide to Australian Birdsong*. 8. *Little Shrike-thrush to Hall's Babbler*. Bird Obs. Club Aust., Melbourne.
- P73 —, — 1994. *A Field Guide to Australian Birdsong*. 9. *Chestnut-crowned Babbler to Redthroat*. Bird Obs. Club Aust., Melbourne.
- P75 —, — 1995. *A Field Guide to Australian Birdsong*. 10. *Calamanthus to Noisy Friarbird*. Bird Obs. Club Aust., Melbourne.
- P94 —, — 1999. *A Field Guide to Australian Birdsong*. 12. *Crimson Chat to Torresian Crow and Supplementary Calls*. Bird Obs. Club Aust., Melbourne.
- P106 McPherson, L.B. 1990. *New Zealand Birds: A Sound Guide*. 6. Author, Christchurch.
- P107 McPherson, L.B. 1990. *New Zealand Birds: A Sound Guide*. 7. Author, Christchurch.

PLUMAGES AND RELATED MATTERS These sections are primarily based on examination of material within the collections of museums in Aust., NZ and, less often, elsewhere. For each species, the editor or editors responsible for compiling these sections is given at the start of the Plumages section.

PLUMAGES This section opens with a summary paragraph that states the Handbook editor who prepared this and subsequent sections and describes the overall sequence of plumages and moults from nestling to definitive plumage as far as it is known. The descriptions that follow are based on museum skins unless otherwise stated. Unlike earlier volumes, we now state the number of skins of each sex and age that were examined in preparing the descriptions, and the museum collections from which they came. Where more than one subspecies is described separately in Plumages, the number of skins are given separately for each subspecies. If other sources of information (e.g. examination of live birds) form a major portion of the descriptions, they are also noted here; otherwise they are simply given in the text.

The appearance of tracts or topographical areas of the bird are described, with the appearance of individual feathers described as appropriate; individual feathers are frequently described for the wing and tail. Where individual feathers are not described, the description of the tract also applies to the feathers (e.g. if the mantle is described as black, it consists entirely of black feathers). Terms used to describe patterns of feather are shown in the figures of topography (see HANZAB 5).

The identity of colour perceived depends on the light in which it has been seen and how precisely it needs to be defined. The greatest problem is that different people perceive colours differently. We have observed all skins in diffuse natural light or under a daylight globe (Philips 60W Daylight). Colour names given are simple (e.g. dark brown) so that readers unfamiliar with more technical names (e.g. burnt umber) will not be misled. Wherever possible we have also used the F.B. Smithe *Naturalist's Color Guide* (Smithe 1975, 1981) in describing colours. The identification numbers for the closest equivalent from this guide are bracketed in the text, after the simple names of colours, e.g. dark brown (121). When the match is not particularly close the colour

number is qualified, often with the abbreviation 'c', e.g. dark brown (c121). For colours that have no equivalent in the guide, we place (ne) in brackets after the colour descriptor. If we have not been able to compare colours with the guide and this is not clear from the context, we have denoted such colours (-). Where two colours are combined, the last-named colour is dominant (e.g. buff-yellow is more yellow than buff); sometimes the suffix 'ish' is added to a colour to denote a weaker tinge of that colour (e.g. buffish yellow has a weaker tinge of buff than buff-yellow). We have not used the names given to colours themselves in Smithe's colour-guide; these were only used by Smithe to convey a sense of familiarity.

MOULTS A primary moult-score (PMS) is a sum of the individual feather scores. In birds with ten primaries the PMS will lie between 0 (moult of primaries has not yet begun) or 50 (moult of primaries has recently finished). When calculating PMS, feathers labelled O and V are scored 0; feathers labelled N are scored 5; and S can equal 5 or 0 depending on the circumstances. For example, a bird that has temporarily suspended moult of primaries may have a moult sequence of S⁴O⁶ in which case S = 5 and the PMS = 20. When this bird begins moulting again it may have the sequence S⁴N¹S¹O⁴, again S = 5 and the PMS = 28. However, a bird that has undergone a partial moult of outer primaries may have a moult sequence of O⁷S³. In this case, S = 0 and the PMS = 0. Unless otherwise stated, we have scored the moult of the primaries of one wing. We have not recorded condition of moult of the remicle, or used it in moult-scores.

MEASUREMENTS For most species, measurements are given for length of wing, tail, bill, tarsus and middle toe; total length of head, and width and depth of bill have also been recorded for some species. Measurements of skins, taken by HANZAB researchers, are given for nearly all species. Published measurements from the literature or unpublished

data of live birds or skins, are also given where they available, or references listed.

Measurements of skins and of live birds are presented separately because there is variation in measurements taken by different individuals and because post-mortem shrinkage can have substantial effects on measurements.

For species in which males and females look similar, sexing of skins has been based on data on labels. We have reduced the numbers of mis-sexed birds in our samples by relying mainly on specimens for which gonads were sketched or described, and on specimens prepared by experienced workers, a process that can involve rather subjective decisions. It is likely a few mis-sexed specimens were not discarded on this basis; we have mentioned those few cases where it is thought that mis-sexed specimens may have affected the means calculated for either sex. Where published measurements contained obvious errors, we have often included the measurements, with a note of the error.

GLOSSARY

BERGMANN'S RULE: An ecogeographical trend whereby populations of a species at lower latitudes and altitudes (warmer environments) have smaller body mass than those at higher latitudes and altitudes (colder environments).

ALLEN'S RULE: An ecogeographical trend whereby populations of a species at lower latitudes have larger extremities (bills, feet) than those at higher latitudes.

GLOGER'S RULE: An ecogeographical trend whereby populations of a species living in sunnier, more highly irradiated and, commonly, arid environments are paler and less intensely pigmented than those in cloudier and, commonly, wetter environments.

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General

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Lastly, the members of the Handbook team extend our sincere thanks and appreciation to our spouses, partners and families, who cannot fail to be in some way involved in, or affected by, a project of this size.

EDITING AND ARTWORK**EDITING**

Field Identification D.W. Eades prepared or edited most of the accounts for the Pardalotidae (except *Dasyornis*), part of the Petroicidae (*Microeca* and *Petroica*), part of the Cinclosomatidae (*Cinclosoma*), Neosittidae and part of the Pachycephalidae (*Mohoua*); K. Bartram prepared accounts for Pomatostomidae, part of the Cinclosomatidae (*Sophodes*) and most of the Pachycephalidae (except *Mohoua*); A. Rogers prepared accounts for part of the Pardalotidae (*Dasyornis*), part of the Petroicidae (*Melanodryas*, *Tregellasia*, *Eopsaltria*, *Poecilodryas*, *Heteromyias* and *Drymodes*) and Orthonychidae. Most Field Identification texts were also reviewed by editors of Plumages and related matters. A. Williamson prepared or edited all of the accounts for **Habitat** except *Petroica phoenicia*, which was prepared by J.M. Peter. The accounts for **Distribution and Population** were all prepared by J.M. Peter. All of the **Movements** sections were prepared or edited by R.N. Price, except for some of the Pardalotidae, which were prepared by P.S. Lansley (*Pardalotus*, *Acanthiza* and *Aphelocephala*) and J.M. Peter (*Dasyornis*). K.Y. Al-Dabbagh prepared or edited all the **Food** sections. The accounts for **Social Organization** and **Social Behaviour** were prepared or edited by M. Considine (Pardalotidae [except *Pardalotus*], Orthonychidae and Pomatostomidae) and P.S. Lansley (*Pardalotus* in Pardalotidae, Petroicidae, Orthonychidae,

Cinclosomatidae, Neosittidae and Pachycephalidae [except two *Pachycephala*, as follows], and M.A. Weston (*P. rufogularis* and *P. inornata*). For **Voice**, all accounts were written and all sonagrams made by T. Howard, except for the account for the White-browed Scrubwren, which was written by R.D. Magrath and T. Howard. D. Robinson made contributions to the accounts for *Petroica multicolor* and *P. phoenicea*. **Breeding** was prepared or edited by H.M. Gibbs (Pardalotidae [except *Acanthiza*, *Aphelocephala pectoralis* and *Aphelocephala nigricincta*], Orthonychidae, Pomatostomidae and Cinclosomatidae), J.R. Starks (*Aphelocephala pectoralis*, *A. nigricincta* in Pardalotidae, Petroicidae [except *Petroica macrocephala*, *P. australis*, *P. traversi*, *Eopsaltria australis*, *E. griseogularis* and *E. georgiana*], Neosittidae and Pachycephalidae), and K.Y. Al-Dabbagh (rest of Pardalotidae and Petroicidae). **Plumages and related matters** were prepared by F.J.G. Copley, A.M. Dunn, and J.S. Matthew; for each species, the editor or editors responsible for all sections of Plumages and related matters is identified at the start of the Plumages text.

Mastheads For each species, I.J. Mason and R. Schodde prepared the nomenclatural details of the original description and the summaries of subspecies. The etymologies of the scientific names and, as needed, recommended English names, were prepared by J. Jobling. **Ectoparasites** The list of ectoparasites of Australian, New Zealand and Antarctic birds

CONTRIBUTORS AND REVIEWERS

Many people have assisted with the production of this volume by preparing or reviewing texts, either in part or in full, for a species or for groups of species. *Birds Australia* insists on the review of all Handbook texts by ornithologists or other biologists expert in particular fields, or with expertise in individual species or groups of species. Reviewing of texts is an essential part of the preparation of the texts and we would like to thank all who made the time to assist us in this regard. Their assistance has greatly improved the accuracy and completeness of the texts. However, any errors within the text remain the responsibility of the editors. We apologize for any inadvertent omissions from the following list.

While it is not possible to attribute credit in detail for all texts reviewed by individuals, a number of people provided special assistance by reviewing substantial numbers of species accounts in this volume: J.C.Z. Woinarski reviewed 30 species accounts; R.H. Loyn 24; G.A. Carpenter 22; J.S. Matthew 21; and L. Nielsen 21.

The contributors listed below prepared one or more sections of the species accounts listed, and the sections prepared are usually identified in the accounts themselves. In all cases, the sections on Plumages and related matters were prepared by HANZAB editors. Contributors later reviewed the whole accounts for which they prepared sections and often contributed additional information.

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R.D. Magrath (White-browed Scrubwren)
J.L. Gardner (Speckled Warbler)
A. Overs (Grey-crowned Babbler)

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ABBREVIATIONS AND CONVENTIONS

Compass directions

N, NE, E, SE, S, SW, W, NW + standard intermediates. Note, however, when used as an adjective (e.g. northern Aust., north-eastern coast, and so on) the style is lower case with a full point: n., ne., e., se., s., sw., w., nw., and so on.

Units

Standard SI units and their recommended abbreviations are followed throughout.

Statistical arrangement

Throughout, simple statistical data are presented in the form: MEAN (STANDARD DEVIATION; RANGE; SAMPLE SIZE), e.g. 285 g

(5.23; 276–298; 14). By presenting the data in this way, if any one figure is missing from within the brackets it is obvious what it is. If only range is available, it is presented in brackets, e.g. 253 g (276–298). If only standard deviation is available it is presented as MEAN±STANDARD DEVIATION, e.g. 253±5.23 g. If only the sample size is available it is presented as MEAN (n=...), e.g. 253 g (n=14).

In the sections on Measurements and Weights, the last column of the tables indicates significance of the t-test of the sample means:

- ns no significant difference
- * means are significantly different at 0.05
- ** means are significantly different at 0.01

GENERAL ABBREVIATIONS

A'asia(n)	Australasia(n)	HS	Homestead	pp	pages
ACT	Aust. Capital Territory	Hwy	Highway	ppt	parts per thousand
Arch.	Archipelago	I.	Island	Pt(e)	Point(e)
asl	above sea-level	Is	Islands	Qld	Queensland
Aust.	Australia(n)	Isl.	Islet(s)	R.	River
BATH	Banders Aiding the Handbook, a project established to collect data on the external morphology of Aust. birds for HANZAB, especially biometric and moult data	L.	Lake	Ra.	Range
		Ls	Lakes	Ras	Ranges
		MIA	Murrumbidgee Irrigation Area	Rd	Road
		min	minute(s)	Rs	Rivers
BMR	Basal Metabolic Rate	Mt	Mountain	s	second(s)
C.	Cape	Mts	Mountains	SA	South Australia
c.	<i>circa</i>	NI	North Island, NZ	SF	State Forest
Ck	Creek	NP	National Park	SI	South Island, NZ
CP	Conservation Park	NR	Nature Reserve	SP	State Park
CSN	Classified Summarised Notes (see Bird Reports below)	NSW	New South Wales	sp.	species
Div.	Division (e.g. Kimberley Div.)	NT	Northern Territory	spp	species
Grp	Group	NZ	New Zealand	St	Saint
h	hour(s)	p.	page	Stn	Station
		p.a.	per annum	Str.	Strait
		Pen.	Peninsula	Tas.	Tasmania
		Pl.	Plate	UK	United Kingdom
		Pll	Plates	USA	United States of America
		PNG	Papua New Guinea	Vic.	Victoria
				WA	Western Australia

OTHER ABBREVIATIONS

Several abbreviations are special to various sections.

FOOD		imm.	immature(s)	unident.	unidentified
% freq.	% frequency	incl.	including		
% no.	% number	indet.	indeterminate		
% vol.	% volume	juv.	juvenile(s)	PLUMAGES	
% wt	% wet weight	larv.	larva, larvae	(ne)	'no equivalent', in reference to colour-matches with the Smyth Colour Guide (see Introduction to Plumages and related matters)
ad.	adult	lvs	leaves		
ads	adults	obs.	observations		
excl.	excluding	sh.	shoots		
fl.	flowers	sds	seeds		
fru.	fruits	tr.	trace	PMS	primary moult-score

MUSEUMS AND OFFICIAL ORGANIZATIONS

AAD	Australian Antarctic Division	MM	Macleay Museum, University of Sydney
ABBBS	Australian Bird and Bat Banding Schemes	MV	Museum of Victoria, Melbourne
ABC	Australian Bird Count (Birds Australia)	NMNH	National Museum of Natural History, Leiden, Germany
ABSA	Australian Bird Study Association	NMNZ	Museum of New Zealand Te Papa Tongarewa, Wellington (formerly National Museum of New Zealand)
AIM	Auckland Institute and Museum, Auckland	NRE	Department of Natural Resources and Environment (Vic.) (formerly Conservation & Natural Resources [CNR])
AM	Australian Museum, Sydney	NRS	Birds Australia Nest Record Scheme
AMNH	American Museum Natural History, New York	NSW NPWS	NSW National Parks and Wildlife Service
ANARE	Australian National Antarctic Research Expedition	NZ NRS	OSNZ Nest Record Scheme
ANWC	Australian National Wildlife Collection, CSIRO, Canberra	OM	Otago Museum, Dunedin (formerly Otago University)
AOU	American Ornithologists Union	OSNZ	Ornithological Society of New Zealand
AWSG	Australasian Wader Studies Group	PWH	Department of Parks, Wildlife and Heritage (Tas.)
BARC	Birds Australia Records Committee (formerly RAOU Records Appraisal Committee [RAC])	QDEH	Queensland Department of Environment and Heritage
BAS	British Antarctic Survey	QM	Queensland Museum, Brisbane
BMNH	British Museum of Natural History	QNPWS	Queensland National Parks and Wildlife Service
BOU	British Ornithologists Union	QVM	Queen Victoria Museum and Art Gallery, Launceston
BTO	British Trust for Ornithology	RAC	RAOU Records Appraisal Committee (now BARC)
CALM	Department of Conservation and Land Management (WA)	RAOU	Royal Australasian Ornithologists Union (now Birds Australia)
CAMBA	China–Australia Migratory Bird Agreement	RBC	OSNZ Rare Birds Committee
CCNT	Conservation Commission of the Northern Territory	RFBPS	Royal Forest and Bird Protection Society (NZ)
CM	Canterbury Museum, Christchurch	RSPB	Royal Society for the Protection of Birds (UK)
CSIRO	Commonwealth Scientific and Industrial Research Organization (Aust.)	SA NPWS	SA National Parks and Wildlife Service
DOC	Department of Conservation, Wellington (NZ)	SAM	South Australian Museum, Adelaide
DSIR	Department of Scientific and Industrial Research (NZ)	TMAG	Tasmanian Museum and Art Gallery, Hobart
HLW	H.L. White Collection (housed in MV)	WAM	Western Australian Museum, Perth
ICBP	International Council for Bird Preservation (now Birdlife International)	WWF	World Wide Fund for Nature
JAMBA	Japan–Australia Migratory Bird Agreement	ZMA	Zoological Museum, Amsterdam
MAGNT	Museum and Art Gallery of the Northern Territory, Darwin (formerly Northern Territory Museum [NTM])	ZMM	Zoological Museum, Moscow

STANDARD REFERENCES

Some references appear *ad nauseam* throughout the book. These are given in an abbreviated form in running text and are not cited in the list of references at the end of each text.

ACT Atlas	Taylor, M., & Canberra Ornithologists Group. 1992. <i>Birds of the Australian Capital Territory. An Atlas</i> . Canberra Orn. Grp & National Capital Planning Auth., Canberra.	BWP	<i>Birds</i> . Revised edn. Reader's Digest, Sydney. Cramp, S., & K.E.L. Simmons. 1977, 1980, 1983, 1985, 1988, 1992, 1993, 1994. <i>The Handbook of the Birds of Europe, Middle East and North Africa — The Birds of the Western Palearctic. Volumes 1–9</i> . OUP, Oxford.
Aust. Atlas	Blakers, M., S.J.J.F. Davies, & P.N. Reilly. 1984. <i>The Atlas of Australian Birds</i> . Melbourne Univ. Press, Melbourne.	Campbell	Campbell, A.J. 1900. <i>Nests and Eggs of Australian Birds</i> . Privately, Sheffield.
Aust. CL	Condon, H.T. 1975. <i>Checklist of the Birds of Australia. 1. Non-Passerines</i> . RAOU, Melbourne.	Cleland	Cleland, J.B., J.H. Maiden, W.W. Frogatt, E.W. Ferguson, & C.T. Musson. 1918. <i>Scient. Bull. Dept Agric. NSW</i> 15: 1–112.
Aust. CL 1926	RAOU Checklist Committee. 1926. <i>Official Checklist of the Birds of Australia</i> . Second edn. H.J. Green, Melbourne.	DAB	Schodde, R., & I.J. Mason. 2000. <i>Directory of Australian Birds: Passerines</i> . CSIRO Publ., Melbourne.
Aust. RD	<i>Reader's Digest Complete Book of Australian Birds</i> . 1976. Reader's Digest, Sydney. AND Schodde, R., & S.C. Tidemann (Eds). 1986. <i>Reader's Digest Complete Book of Australian</i>	FAB	Barker, R.D., & W.J.M. Vestjens. Undated [c. 1989]. <i>The Food of Australian Birds. 1. Non-passerines</i> . CSIRO, Canberra. AND Barker, R.D., & W.J.M. Vestjens. Undated [c. 1991]. <i>The Food of Australian Birds. 2. Passerines</i> . CSIRO, Canberra.

Gould	Gould, J. 1865. <i>Handbook to the Birds of Australia</i> . Privately, Lond. (Facsimile edn. 1972. Lansdowne, Melbourne.)	Standard References below for citations of volumes used in HANZAB 6.
Hall	Hall, B.P. (Ed.) 1974. <i>Birds of the Harold Hall Australian Expeditions, 1962-70</i> . Br. Mus. (Nat. Hist.), London.	Serventy & Whittell Serventy, D.L., & H.M. Whittell. 1976. <i>Birds of Western Australia</i> . Univ. West. Aust. Press, Perth.
Lea & Gray	Lea, A.H., & J.T. Gray. 1935-36. <i>Emu</i> 35: 63-98, 145-78, 251-80, 335-47.	Storr 7 Storr, G.M. 1977. Birds of the Northern Territory. <i>Spec. Publ. West. Aust. Mus.</i> 7.
Mathews	Mathews, G.M. 1910-27. <i>Birds of Australia</i> . Witherby, London. (All volumes and supplements.)	11 ——— 1980. Birds of the Kimberley Division, Western Australia. <i>Spec. Publ. West. Aust. Mus.</i> 11.
North	North, A.J. 1901-14. <i>Nests and Eggs of Birds found Breeding in Australia and Tasmania</i> . Spec. Cat. 1; Aust. Mus., Sydney.	16 ——— 1984. Birds of the Pilbara Region, Western Australia. <i>Rec. West. Aust. Mus. Suppl.</i> 16.
NZ Atlas	Bull, P.C., P.D. Gaze, & C.J.R. Robertson. 1985. <i>The Atlas of Bird Distribution in New Zealand</i> . OSNZ, Wellington.	19 ——— 1984. Revised List of Queensland Birds. <i>Rec. West. Aust. Mus. Suppl.</i> 19.
NZCL	Ornithological Society of New Zealand (E.G. Turbott, Convenor, Checklist Committee). 1990. <i>Checklist of the Birds of New Zealand and the Ross Dependency, Antarctica</i> . Third edn. Random Century, Auckland.	21 ——— 1985. Birds of the Gascoyne Region, Western Australia. <i>Rec. West. Aust. Mus. Suppl.</i> 21.
NZCL 1970	Ornithological Society of New Zealand (F.C. Kinsky, Convenor, Checklist Committee). 1970. <i>Annotated Checklist of the Birds of New Zealand</i> . Reed, Wellington.	22 ——— 1985. Birds of the Mid-eastern Interior of Western Australia. <i>Rec. West. Aust. Mus. Suppl.</i> 22.
NZCL 1953	Ornithological Society of New Zealand (C.A. Fleming, Convenor, Checklist Committee) 1953. <i>Checklist of New Zealand Birds</i> . Reed, Wellington.	24 ———, R.E. Johnstone & P. Griffin. 1986. Birds of the Houtman Abrolhos, Western Australia. <i>Rec. West. Aust. Mus. Suppl.</i> 24.
NZRD	<i>Reader's Digest Complete Book of New Zealand Birds</i> . Reader's Digest, Sydney.	26 ——— 1986. Birds of the South-eastern Interior of Western Australia. <i>Rec. West. Aust. Mus. Suppl.</i> 26.
OED	<i>The Oxford English Dictionary</i> . Clarendon Press, Oxford. Includes abridgements, such as <i>The Shorter Oxford English Dictionary</i> .	27 ——— 1987. Birds of the Eucla Division of Western Australia. <i>Rec. West. Aust. Mus. Suppl.</i> 27.
Oliver	Oliver, W.R.B. 1955. <i>New Zealand Birds</i> . Reed, Wellington. (Reprinted 1974.)	28 ———, & R.E. Johnstone. 1988. Birds of the Swan Coastal Plain. <i>Rec. West. Aust. Mus. Suppl.</i> 28.
Peters	<i>Check-list of Birds of the World</i> . Harvard Univ. Press or Museum of Comparative Zoology, Cambridge, Massachusetts. See Additional	35 ——— 1991. Birds of the South-western Division of Western Australia. <i>Rec. West. Aust. Mus. Suppl.</i> 35.
		Vic. Atlas Emison, W.B., C.M. Beardsell, F.I. Norman, R.H. Loyn, & S.C. Bennett. 1987. <i>Atlas of Victorian Birds</i> . Dept. Cons. Forests and Lands and RAOU, Melbourne.

ADDITIONAL STANDARD REFERENCES

Several references are used as standard references in this Volume only:

Peters	Mayr, E., & R.A. Paynter Jr. (Eds) 1964. <i>Check-list of Birds of the World</i> . 10. Museum of Comparative Zoology, Cambridge, Massachusetts.	Boles	Boles, W.E. 1988. <i>The Robins & Flycatchers of Australia</i> . Angus & Robertson, Sydney.
	Paynter Jr, R.A. (Ed.) 1967. <i>Check-list of Birds of the World</i> . 12. Museum of Comparative Zoology, Cambridge, Massachusetts.	Longmore	Longmore, W. (Ed.) 1991. <i>Honeyeaters and their Allies of Australia</i> . Angus & Robertson, Sydney.
		NPIAW	National Photographic Index of Australian Wildlife. 1982. <i>Wrens and Warblers of Australia</i> .

STANDARD SOURCES FOR PHOTOS USED AND REFERRED TO IN BARE PARTS

Aust. RD (see Standard References above for full citation).	NPIAW (see Standard References above for full citation).
Boles (see Standard References above for full citation).	Stepnell, K., & W. Boles. Undated. <i>Australia's Beautiful Birds and Their Young</i> . Australian Consolidated Press, Sydney.
Flegg, J., & S. Madge. 1995. <i>Reader's Digest Photographic Field Guide. Birds of Australia</i> . Reader's Digest, Sydney.	Trounson, D., & M. Trounson. 1994. <i>Australian Birds</i> . National Book Dist. & Publ., Sydney.
Lindsey, T.R. 1992. <i>Encyclopedia of Australian Animals. Birds</i> . Angus & Robertson, Sydney.	Wade, P. (Ed) 1975. <i>Every Australian Bird Illustrated</i> . Rigby, Adelaide.
Longmore (see Standard References above for full citation).	
Morcombe, M. 1990. <i>The Great Australian Birdfinder</i> . Weldon Publishing, Sydney.	

BIRD REPORTS

As with other standard references, they are cited in an abbreviated form. For most, the name of the report is followed by the year that the bird report covers (not the year in which the report was published); for Classified Summarised Notes and Tasmanian Bird Reports, the volume number of the journal in which the report is published is given instead.

CSN Classified Summarised Notes, published in *Notornis* (OSNZ)
 ACT Bird Rep. Published in *Canberra Bird Notes* (Canberra Orn. Grp)

NSW Bird Rep. Published in *Australian Birds* (formerly *Birds*) (NSW Field Orn. Club)
 Qld Bird Rep. Published in *Sunbird* (Qld Orn. Soc.)
 SA Bird Rep. Published in *South Australian Ornithologist* (S. Aust. Orn. Assoc.)
 Tas. Bird Rep. Published in *Tasmanian Bird Report* (BIRDS Tas. [formerly Bird Obs. Assoc. Tas.])
 Vic. Bird Rep. Published by Bird Obs. Club Aust.
 WA Bird Rep. Published by WA Group of the RAOU

STANDARD PLANT AND ANIMAL NAMES

Some common species or genera of plants and animals are referred to often and throughout the text. For simplicity, where such species have recognized English names, their scientific names are not given in the accounts. The scientific names of these species are given below.

PLANTS

Eucalypts *Eucalyptus*
 Black Box *E. largiflorens*
 Blakely's Red Gum *E. blakelyi*
 Coolibah *E. microtheca*
 Flooded Gum *E. grandis*
 Forest Red Gum *E. tereticornis*
 Grey Box *E. microcarpa*
 Jarrah *E. marginata*
 Karri *E. diversicolor*
 Manna Gum *E. viminalis*
 Marri *E. calophylla*
 Messmate *E. obliqua*
 Mountain Ash *E. regnans*
 Mugga *E. sideroxylon*
 Red Ironbark *E. tricarpa*
 River Red Gum *E. camaldulensis*
 Salmon Gum *E. salmonophloia*
 Snow Gum *E. pauciflora*
 Spotted Gum *E. maculata*
 Tuart *E. gomphocephala*
 Wandoo *E. wandoo*
 Yellow Box *E. melliodora*
 Yellow Gum *E. leucoxylon*
Mimosaceae
 Black Wattle *Acacia auriculiformis*
 Brigalow *A. harpophylla*
 Gidgee *A. cambagei*
 Golden Wattle *A. pycnantha*
 Mulga *A. aneura*
 Myall (Boree) *A. pendula*
 Pindan Wattle *A. tumida*
 Silver Wattle *A. dealbata*
Casuarinaceae
 Belah *Casuarina cristata*
 Black Oak *C. pauper*
 Black Sheoak *Allocasuarina littoralis*
 Buloke (Bull Oak) *A. luehmannii*
 Coast Sheoak *C. equisetifolia*
 Compass Bush *A. pinaster*
 Desert Oak *A. decaisneana*
 Drooping Sheoak *A. verticillata*

Dwarf Sheoak *A. pusilla*
 Forest Oak *A. torulosa*
 River Sheoak *C. cunninghamiana*
 Slaty Sheoak *A. muelleriana*
 Swamp Oak *C. glauca*
 Western Sheoak *A. fraseriana*
Proteaceae
 Coast Banksia *Banksia integrifolia*
 Heath Banksia *Banksia ericifolia*
 Silver Banksia *Banksia marginata*
Other plants
 Bracken *Pteridium esculentum*
 Flame Heath *Astroloma comostephioides*
 Hoop Pine *Araucaria cunninghamii*
 Lantana *Lantana camara*
 Monterey Pine *Pinus radiata*
 paperbark *Melaleuca*
 Peppercorn *Schinus molle*
 tea tree *Leptospermum*
 Turpentine *Syncarpia glomulifera*
 willow *Salix*
Fruits
 Apple *Malus sylvestris*
 Apricot *Prunus armeniaca*
 Blackberry *Rubus fruticosus*
 Grapes *Vitis vinifera*
 Peach *Prunus persica*
 Pear *Pyrus communis*
 Pineapple *Ananas sativa*
 Quince *Cydonia vulgaris*
 Sweetbriar *Rubus rubiginosa*
Nuts
 Chestnut *Castanea sativa*
 Peanut *Arachis hypogaea*
 Pistachio *Pistacia vera*
 Walnut *Juglans nigra*
Vegetables
 Potato *Solanum tuberosum*
Cereals
 Canola *Brassica napus*
 Corn or Maize *Zea mays*

Oats *Avena sativa*
 Safflower *Carthamus tinctorius*
 Sunflower *Helianthus annua*
 Wheat *Triticum aestivum*
Common genera
 acacias or wattles *Acacia*
 banksias *Banksia*
 casuarinas *Casuarina* and *Allocasuarina*
 eucalypts *Eucalyptus*
 grevilles *Grevillea*
 lignum *Muehlenbeckia*; this would be, in most cases, *M. cunninghamii* but species often not given in avian literature
 paperbarks *Melaleuca*
 tea-tree *Leptospermum*
ANIMALS
 Black Rat *Rattus rattus*
 Brown Hare *Lepus capensis*
 Brown Rat *Rattus norvegicus*
 Cat *Felis catus*
 Cattle *Bos taurus*
 Common Brushtailed Possum *Trichosurus vulpecula*
 Common Ringtailed Possum *Pseudocheirus peregrinus*
 Dingo *Canis familiaris dingo*
 Dog *Canis familiaris*
 Donkey *Equus asinus*
 Fox *Vulpes vulpes*
 Goat *Capra hircus*
 Horse *Equus caballus*
 House Mouse *Mus musculus*
 Pig *Sus scrofa*
 Rabbit *Oryctolagus cuniculus*
 Sheep *Ovis aries*
 Water Buffalo *Bubalus bubalis*