



HELM FIELD GUIDES

Birds of Northern South America

An Identification Guide

Robin Restall
Clemencia Rodner
Miguel Lentino



Birds of
Northern South America
AN IDENTIFICATION GUIDE

Volume 1: Species Accounts

Robin Restall

Clemencia Rodner and Miguel Lentino

with contributions from David Ascanio
Guy Kirwan, Bruno Walther and Olivier Tostain

Discography by Shaun Peters



CHRISTOPHER HELM
LONDON

For every birder who ever struggled to identify a mystery bird

For those loved ones who supported us so valiantly

Author credits

The plates and captions, and black-and-white line drawings were all done by Robin Restall, with comments and suggestions, not to mention corrections, by Clemencia Rodner and Miguel Lentino. The distribution maps were compiled and produced by Miguel Lentino. The majority of the text was written by Clemencia Rodner and Robin Restall, but all species and subspecies descriptions were written by Robin Restall. Species accounts for Vireonidae, Corvidae, Alaudidae, Hirundinidae, Troglodytidae, Polioptilidae, Cinclidae, Bombycillidae, Muscicapidae, Mimidae and Thraupidae were prepared by Bruno Walther. The species accounts were reviewed in critical detail by Olivier Tostain and Guy Tudor. All plates were reviewed by David Ascanio, with many captions corrected and additional captions suggested. Shaun Peters produced the discography. The entire text was edited by Guy Kirwan (who also wrote four of the introductory sections), and proof-read by Keith Marsh.

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PREFACE

Over many years of working with others in the field and in a bird museum, we noticed that people fall into a certain behavioural pattern when using field guides; this came to be referred among ourselves as ‘the shoehorn syndrome’. We have seen this in action among students as they attempt to identify unfamiliar birds they take from the mist-net at banding stations, we have seen it in the field with birders of every kind and level of experience, and also with visitors to the Phelps Collection when they come to ask about birds they have seen and tried to identify. The ‘shoehorn syndrome’ is ready to strike whenever a bird comes along that is not instantly recognised, when the observer needs to consult his field guide. Almost invariably, he or she goes straight to the plates and tries to match the bird to one of the illustrations. If the bird is ‘not-quite-but-almost’ a particular species, it may well get shoehorned into fitting the nearest illustration.

Sometimes, identification by means of illustrations alone may turn out to be correct, but a fair number of times, especially in an unfamiliar country, the foot will have been shoehorned into the wrong shoe. After experiencing numerous instances of these often innocent misidentifications, we became convinced that the reason why the shoehorning of birds into plate illustrations leads to wrong identifications is because, in most guides, fewer than half the *plumages* of birds are illustrated. In some cases, even a number of species are left out of the plates.

Many birders wisely turn to the text to see if there is a species that is not illustrated that fits the description (and we have observed that field-guide users generally *like* plates, but *trust* text). However, it is quite amazing how many people do not check the text, and how often they do not realise that the plates are not as helpful as they should be. The shortcomings of plates in a field guide only become evident if one undertakes a careful analysis of the species concerned, or when some tough confusion species are being examined. Among other problems, ‘shoehorning’ causes species that are illustrated, invariably the commonest and the ones most likely to be seen, to be recorded more often than they occur in reality, while the ones not illustrated, are recorded rather less often than they have been seen in reality.

The many guides for the countries of northern South America, which we have drawn upon freely in researching for this book, are getting better with every generation, and the most recent ones illustrate almost all the species in their respective countries. However, for many species it is still only the adult male in breeding plumage that is shown, and occasionally a dull female is tucked away behind him, half showing. It is rare indeed to see a complete set of juvenile, immature, female and male plumages, plus different colour morphs, distinct subspecies and non-breeding plumages, all together on a plate, even in the specialised handbooks.

In his wonderfully illuminating book, *The Speciation and Biogeography of Birds* (Newton 2003), Ian Newton says that “...every regional handbook on birds can now give details, not only of the size and colour differences between similar species, but also of the size and colour variation found across the geographical range of a single species, and from one subspecies to another. Such details can often also be given on song and other characteristics. Hence, for birds more than other animals, the geographically definable population has become the customary taxonomic unit of study”.

Whilst this may well be true of the Old World and also for North America, it is still not true, unfortunately, for the Neotropics. Vast areas of South American territory are even now waiting for in-depth surveys and detailed population studies. The incredibly useful *Handbook of the Birds of the World* (del Hoyo *et al.*) is sufficiently comprehensive to partially comply with Newton’s assertion but, at the time of writing, only two-thirds of the series’ volumes have been completed, and it seems unlikely to be finished before 2010. In any case, although each volume seems to be an improvement over the previous one, at least for the Neotropics, it falls a little short of Newton’s somewhat Utopian description of the present state of knowledge of avian geographic variation. In the Neotropics, there still remains much to be learned about subspecies and their distributions.

The original inspiration for *Birds of Northern South America* was the recognition that, in the 2,300 or so species that occur in the countries that we selected as our region, there are probably more than 7,000 distinct plumages, very many of which have never been illustrated anywhere, and a considerable number of which are only known, with luck, from one or two specimens. In our everyday work at the Phelps Museum, we were frustrated on an almost daily basis, with inadequate references to identify some taxon or other. RR set out to correct this deficit, by visiting the great collections in North America and making detailed identification drawings. ML joined the project by preparing maps based on known and confirmed specimens, and then CR joined to start making notes on behaviour and status. Christopher Helm and Nigel Redman showed great interest in the proposed book, and the project became a reality.

Work on the book started in 1996, and has taken ten years to complete. The original aim was simply to illustrate as many of the distinct plumages of the species of birds that occur in northern South America as could be found in museums and the literature by the senior author, together with a map for each species and text to assist in identifying and

better understanding the variations. Along the way, we also found that illustrating all the species and subspecies would necessarily require an ongoing update of the increasingly fluid taxonomy of Neotropical birds. This led to the interim publication in 2000 of the *Checklist of the Birds of Northern South America* (Rodner *et al.* 2000). This list recognised 2,245 species and included information on all the subspecies found in the region. It formed the basis of the taxonomy for the present volumes, although the number of species has now risen to 2,308. At the time of going to press we believe we are up to date with the latest taxonomic decisions, and certainly we are in step with the SACC list of the AOU. But we are fully aware that further profound changes are on the way, which is likely to increase the number of species in the region, but at least we hope that most of these 'new' species will have been illustrated and described in this book, albeit as subspecies at the present time.

It has proved impossible to illustrate and carefully describe absolutely every single distinct plumage, as originally planned, in the same way that it has proved impossible to present a definitive taxonomy. Some 6,388 individual figures have been painted, with work continuing on the illustrations up to the day before the material went off to the printers. We suspect one could add about 1,000 more. However, we trust that we have come as close as possible at the present time in fulfilling the original goal and sincerely hope that this book, in its complete two volumes, with so many subspecies and plumages illustrated for the first time and a much-needed updated taxonomy for the species of this South American region, will make a significant contribution in the direction of that ideal situation described by Professor Newton.

Robin Restall
Caracas, May 2006

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It took ten years to complete this volume. During that time we consulted with countless people – professionals and amateurs, university professors, museum curators, taxidermists, bird artists and illustrators, ornithologists and field researchers, tour guides, birdwatchers, bird trappers and others. We were given advice, problems were solved, leads for follow-up research were given and corrections suggested. All gave encouragement as well as help. We are all ashamed that there are many people who helped at some time, and yet we failed to record their names to include here. To these people most of all, heartfelt thanks for your input.

Firstly, we thank Christopher Helm who had the faith in RR to encourage the project right from the start, regularly offering words of praise and encouragement through the years – and for a mean steak-and-kidney pie! David Ascanio reviewed the plates and plate pulls several times, and made many constructive comments that enabled better captions to be written on the plates; he also reviewed the maps, and his review of the text for Tyrannidae and several other families was invaluable. Shaun Peters did a masterful job in creating a discography of the species in the book. Margarita Martinez drafted text for conebills and several individual oscines, and prepared the list of species that extend into eastern Panamá, northern Peru and northern Brazil; she also helped in countless ways as a research assistant at the Phelps Collection. Guy Kirwan and Olivier Tostain made endless quality comments on the species accounts, sharing unrivalled experience and wisdom with absolute generosity, and patience. Chris Milensky made superb digital photographs of difficult and complicated species, enabling RR to figure out relevant characteristics for many obscure subspecies. Chris Sharpe gave many helpful comments on status during the preparation of the species accounts of non-passerines. Hugh Eva (European Commission Joint Research Centre) kindly prepared the wonderful maps of altitudinal zones and vegetation cover in the introduction. Keith Marsh diligently transposed the various information codes onto the plates as well as pointing out numerous discrepancies between the plates and text.

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In addition to these stalwarts, countless numbers responded to queries made over the years on the NEOORN list server for people working with Neotropical birds. To all those who offered opinions and answers, this book would be less effective in many ways without your contributions, and we are truly grateful.

We also had the privilege of being able to study specimens in the following collections: Museo de Historia Natural La Salle; Museo de la Estacion Biologica, Rancho Grande, Maracay; Louisiana State University Museum of Zoology, Baton Rouge; Harvard University Museum of Comparative Zoology, Cambridge, Mass.; American Museum of Natural History, New York; United States National Museum of Natural History (Smithsonian Institution), Washington, D.C. Our truly profound thanks to the curators and directors of these establishments for their courtesy and help. Without this, it would have been impossible accurately to illustrate nearly half of the birds shown.

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This work is essentially the product of the individual enthusiasm of three people. We were not underwritten or supported by anybody, nor any institution. All travel and other expenses for over ten years were paid for by ourselves out of our own pockets – and I regret that this limited our ability to cover all the collections we would have liked to visit. The actual work was done in our homes and on the premises of the Phelps Ornithological Collection, where RR and CR were, and remain, unpaid volunteers. The Phelps Foundation is to be acknowledged and thanked profoundly for allowing us complete freedom of access to the quite magnificent library, and what is probably the finest single-country collection of bird specimens in the world. Despite all the above, the authors of course take full responsibility for any errors that might remain, but it is worth recording that whenever we three disagreed on a point of taxonomy, I made the decision. And I also take sole responsibility for any errors in the illustrations.

INTRODUCTION

Objectives of this book

This book was conceived as, and is primarily intended to be a *visual* guide to the identification of all of the birds one is likely to see within the geographic boundaries of northern South America. It was never intended as a field guide, but as a complement to the various guides that are currently available. It was our ambition to illustrate every distinct plumage of every species in the region, for such has not existed before.

This ambition came to be modified slightly, as there are cases where it was simply impossible to find adequate references, whether they be specimens or original descriptions. Indeed, with some species, there are plumages of females and juveniles that are not even known. But, as it stands, this book contains illustrations of almost every distinct plumage of over 2,300 species and includes many plumages not previously illustrated anywhere, not even in the most eclectic journal. The key word here is 'distinct', for where females and juveniles are sufficiently like the adult male to be indistinguishable in the field they are usually represented by a single illustration. Many flycatchers, for example, fall into this category. We have sought to illustrate every visually distinct subspecies. This permits a comparative look at the full species in the region, and helps identify birds that might be intermediate in a clinal species.

If the user of this book finds that he or she has a good reference for a plumage that is missing, we will be most grateful to receive it and will incorporate it into future editions, along with the inevitable new species that are being described and discovered, even as this book is in production. The cut-off date for new material for this book was the end of May 2006. All data received after that time is being stored for use in a future second edition.

Taxonomy

We have sequenced the families following the American Ornithologists' Union (AOU) Checklist, incorporating the necessary additions of exclusively South American families as revised by the AOU's South American Checklist Committee (SACC). The new order is published on the AOU website (www.aou.org/checklist/index.php3) and was last checked by us in May 2006. The species order within a family generally follows the SACC list but does not always mirror it. The full SACC list is published on the following website: www.aou.org/checklistsouth.php3.

There are occasions when the authors of any guide are faced with the dilemma of the recognition of a species. Whenever this has occurred in our case, we have usually decided to recognise the split, and in this we have gone beyond the SACC list. Since this book has no pretensions to be a taxonomic reference, we feel comfortable in following this policy for the sake of clarification in taxon recognition and prompting more accurate attribution of taxa. One notable example is that of the lumping of Red-backed Hawk with Puna Hawk into a single, indivisible Variable Hawk by Farquhar (1998). There seemed to be an instant wave of agreement with this decision (e.g. Ridgely & Greenfield 2000), but it was not unanimous and we have decided not to follow it. In this case, our decision was subsequently made easier as both the AOU and Dickinson (2003) retained the two as separate species. Subsequently, a new paper presenting a strong case for retaining the two species appeared (Cabot & De Vries 2003), but there is still disagreement about these birds. The plates took ten years to complete and, in some cases, we followed splits proposed by Ridgely & Greenfield (2001), only to find that subsequently these splits were rejected by the SACC on grounds of insufficient published evidence. In some of these cases we have retained the appearance of a split, giving each 'species' its own English name and map, but retained the official scientific name, making the situation clear. In each case of taxonomic uncertainty, the current situation is explicitly mentioned in the species accounts.

We make no pretensions to taxonomic authority. This book should not be quoted as a primary or authoritative source for any taxonomy. Our objective is to aid in the visual recognition of taxa. Our 'recognition' of any taxon is absolutely not an authoritative, formal treatment with scientific credentials. The last thing we would wish is to be accused of having exhibited the 'taxonomy by field guide' syndrome. The species limits presented here are simply what we have accepted, for our purposes of identifying taxa, in as unequivocal way as possible.

Nomenclature

We have followed the most widely used common names throughout. These broadly follow the SACC list, but we have noted alternative English names occasionally. However, we have chosen to follow 'Howard & Moore' (Dickinson 2003) and the new IOC-endorsed list of recommended English names (Gill & Wright 2006) with regard to the hyphenation of English names. Both works explain the rationale for their use of hyphens, but generally they take a minimalist approach, avoiding hyphens unless it is considered essential to use them.

The scientific names follow the SACC list (which in turn follows the names used by the American Ornithologists' Union where possible), unless there is a recent precedent not to do so. Any departures from the SACC list are explained in the Notes sections at the end of the species accounts. These scientific names have gender endings according to the principles set out by David & Gosse (2000a and 2000b), and in consequence some names will appear to be slightly different from those used in other field guides, or even in our own Checklist (Rodner *et al.* 2000). For example, the Great Green Macaw is now called *Ara ambiguus*, whereas it was formerly known as *Ara ambigua*, and Speckled Crane, formerly *Coturnicops notata*, is now *C. notatus*.

Geographical area covered

The countries covered by the illustrations and the text (but not the maps) are continental Ecuador, continental Colombia, Venezuela and its offshore islands, the islands that were part of the Netherlands Antilles offshore from Venezuela, namely Aruba, Curaçao and Bonaire, and also Trinidad & Tobago, Guyana, Suriname and French Guiana. It should be noted that whilst we recognise Trinidad & Tobago as a single political unit, in distributional terms we accord them separate recognition, thus 'Tr' refers only to Trinidad and 'To' to Tobago, and they are not shorthand for Trinidad *and* Tobago, which is always written 'T&T'.



Northern South America, as defined in this book.

The maps are cut off by a straight, latitudinal line eastwards from the southernmost point of Ecuador, at approximately 5° S of the equator. They show the distribution of birds north of this line, as far as we could estimate, thus depicting ranges that extend into or across northern Peru and northern Brazil. We believe that ending a bird's range at the political boundary of a country is not helpful to the user of a book such as this. To observe that a species continues into Peru, Panama or Brazil signals an opportunity for further research, and perhaps a broader understanding of the bird being studied. But please note, we do not identify, nor describe or illustrate, any distinct subspecies that may occur in these extralimital areas. The continuation of the range on the maps into, for instance, northern Brazil means the species occurs there, but we do not identify which subspecies. Nevertheless, this guide may be used (with caution) by birders visiting northern Peru and Brazil north of the Amazon; both these regions still lack a satisfactory field guide.

A few extralimital species have been included for the purpose of reducing possible confusion. An example is the hummingbird, Marvellous Spatuletail *Loddigesia mirabilis* which seems unlikely to occur in southern Ecuador, but for which there has been at least one contentious sighting. Other species occurring just beyond our boundaries will doubtless be recorded in our region in the future, but it has not been possible to include all of these.

Moult and ageing

We have generally avoided mentioning moult in the text, though the effects of age, and wear throughout the year, may be touched upon when they are significant. With some families, the various plumages are so numerous and complex, for example in gulls and hawks, that it is regrettably beyond the scope of this book to be so comprehensive as to illustrate all of these. The reader is invited to refer to specialist books for a more detailed treatment; there are many of these, some of which are very comprehensive and helpful (e.g. *Gulls of Europe, Asia and North America* by Klaus Malling Olsen and Hans Larsson, *Sylvia Warblers* by Hadoram Shirihai, Gabriel Gargallo and Andreas Helbig, *Pipits and Wagtails of Europe, Asia and North America* by Per Alström and Krister Mild, and *Raptors of the World* by James Ferguson-Lees and David Christie). Regrettably, there are virtually no books dealing with Neotropical birds in such detail. However, it is relevant to note that in every species with a distinct contrast between juvenile plumage and the adult (usually male) plumage, there will be a period when the bird is moulting from one to the other, and may look nothing like either. These have been illustrated in only a few cases. In the case of parrots, in most species the sexes and juveniles all look alike, but there is a change of iris colour from juvenile to adult in many species. Juveniles usually have dark brown eyes, whilst adults may develop red, yellow or even white eyes, though many continue to have brown eyes.

Moult may be sudden and dramatic, as in the case of an adult male Mallard *Anas platyrhynchos*, or may be spread over several years, as in the case of wing moult in pelicans and albatrosses. It is important to recognise that, in most cases, the bird needs to be able to fly, and therefore wing-feathers are shed in a steady sequence, with replacement feathers for a few old feathers growing before the old feathers are dropped. Tail- and wing-feathers are usually replaced in matched pairs, a feather or two on each side. At times this might dramatically change the flight profile of a bird; for example, where the central pair of tail-feathers is shorter than those either side, creating a forked-tail impression in a species that normally has a blunt or rounded tail. It is as well to ponder these aspects when faced by a bird that does not quite match the illustrations or descriptions. In most species, post-breeding moult affects the entire plumage. This is true also for birds about to migrate, though many species delay their moult until they reach their wintering grounds. Subsequently, there is a partial moult prior to breeding that only involves body-feathers. There are many different strategies and exceptions to the rules, but below are the various typical plumages and moults, not all of which may be noticeable or significant; note that this sequence does not apply to all species:

Juvenile plumage followed by post-juvenile moult (usually body-feathers only) → first-winter / immature / intermediate / first adult plumage, followed by pre-breeding moult → first-summer plumage, followed by post-breeding moult → adult (winter / non-breeding) plumage, followed by post-breeding moult → adult summer plumage, etc.

The subject and study of moult of birds in the Neotropics is a very large and complicated one, and merits a dedicated book of its own. The subject has been well covered in North America (e.g. Pyle *et al.* 1987), and thus the moult strategies of Nearctic migrants are comparatively well known.

Migrants usually have a basic (winter) plumage that differs from their alternate (breeding) plumage, but this complicates rather than simplifies identification. Whilst some are only seen in winter plumage, others may be observed in any stage of plumage and moult, from breeding to non-breeding. It has been impossible to illustrate every one of these plumages, but those that may be expected in the region are all depicted.

There are several species that migrate north to spend their non-breeding period in northern South America, and there are considerable numbers of North American species that pass their winter in South America. Some migrants pass overhead, with very few individuals alighting in northern South America, whilst others are generally seen during one passage period and not the other due to their overall routes being elliptical. And, finally, there is the case of altitudinal migrants, where birds breed at higher elevations and move lower when not breeding. All migrants in a non-breeding situation tend to have different feeding habits and vocal behaviour from those on their breeding grounds, and different habitat preferences, which may differ yet again when the birds are in transit.

In some species it is often the case that a few individuals stay in the region the entire following year, returning north only 15–18 months after their arrival. This is particularly true of juveniles that have physiological problems, e.g. illness, parasites or are underweight. These birds do not moult into breeding plumage during their stay, but remain in a basic or winter plumage for the duration, though a few might undertake a partial moult.

HOW TO USE THIS GUIDE

Concept of the book

The concept of the book is to provide as comprehensive a visual guide as possible to the thousands of different plumages of the birds of northern South America, with additional text descriptions and details of subspecies. The text also gives information about the natural history of each species, and the whole should help to resolve all those questions about identification that remain after a bird is identified to species level. As such, it is intended to complement the various country field guides, and be of particular assistance to researchers of plumage variation.

The contents of this book, despite being handled as concisely as we felt possible, have necessitated two volumes. The species accounts appear in the first volume and the plates and maps in the second. The two books are obviously complementary. However, recognising the habits of many field workers and birders to take plates alone into the field, and keep the text back at base for use at the end of the day, we have endeavoured to make the plates more comprehensive than usual with the addition of caption text on the plates themselves and coded information about status and abundance below the maps. In order to keep Volume 2 as portable as possible for field use, most of the introductory material is included in Volume 1, together with the appendices and Discography. However, some parts of the Introduction have been repeated in Volume 2 so that the latter may be used on its own if desired.

The species accounts (Volume 1)

These are short and tight, and are largely complementary to the plates and maps. Species accounts are subdivided into the following sections:

Name A reference to the Plate number in Volume 2 is given after the English and scientific names. Hypothetical species (either unconfirmed for the region or considered to be possible future additions to the list) have their names placed in square brackets.

Identification The accounts begin with the length of the bird, as taken from a live bird or a freshly dead specimen. This is not always recognised by scientists as being a reliable indicator, but in this context it offers a good comparison between species. For some species, such as seabirds, the wingspan (W) is also given. For polytypic species, the description that follows is usually of the nominate form or the most typical race of the region. Distinguishing features of other races are briefly mentioned under Subspecies.

Subspecies (Sp.) Each taxon's name is followed by abbreviated distributional data. The countries of the region are abbreviated as follows:

Ec	Ecuador	Tr	Trinidad
Co	Colombia	To	Tobago
Ve	Venezuela	T&T	Trinidad & Tobago
Ar	Aruba	Gu	Guyana
Bo	Bonaire	Su	Suriname
Cu	Curaçao	FG	French Guiana
ABC	Aruba, Bonaire & Curaçao		

Distributions are further refined by means of the points of the compass, thus: SC Co = south-central Colombia, NE Ve = north-east Venezuela, NW Gu = north-west Guyana etc. There follows a brief comment that helps discriminate between subspecies. This is particularly useful when not all subspecies are illustrated.

Habits These data have been limited to a few relevant notes. Emphasis has been given to features that assist in the identification of the species.

Status Remarks on status are best read in the context of the map from where a better idea of the distribution of each species will be gained. We have compiled data regarding relative abundance from the main and most current references for each country, which often permits a pattern to emerge, giving an idea of centres of abundance and population densities throughout the range of a species in the region.

Habitat Altitudinal zones or actual altitude figures (sometimes both) are given – see definitions on page 15.

Voice Avian vocalisations are an ever-important contribution to the process of identifying birds, and the technique of responsible playback, to entice a bird close enough to be seen, is increasingly used by birders and ornithologists alike. We have often presented several different versions of a species' vocalisations which in some cases refer to the same calls

or songs. These are transcriptions or interpretations, usually by very accomplished ornithologists, and the source of each is given (see 'References and citations') below. The 'Discography' at the end of the book lists all the recordings of relevant bird vocalisations currently available commercially. Furthermore, it also lists bird species whose vocalisations have been recorded (in taxonomic order), cross-referenced to the available compilation and including details of where the recording was made.

Note(s) These are appended (and referenced) when there is an aspect of a species' taxonomy that is relevant to its identification, especially if conflicting data on taxonomy is apparent in other literature. Alternative English or scientific names, or synonyms, are also given here.

References and citations

Throughout the preparation of this book, we have repeatedly referred to the principal guides of the region. These have not been referenced or cited in the species accounts, except in the **Voice** and **Notes** sections. They were invaluable and deserve particular recognition. It is interesting to note that these sources are sometimes contradictory, usually complementary, and invariably informative. It is assumed that ornithologists and birders alike will generally have access to these books, at least the most recent and readily available ones. They give much more local data than will be found herein. The regional guides referred to, together with their abbreviations which have been used to save space, are as follows (complete citations appear in the bibliography):

R&G	<i>The Birds of Ecuador</i> by R. S. Ridgely & P. J. Greenfield
H&B	<i>A Guide to the Birds of Colombia</i> by S. L. Hilty & W. L. Brown
MdS&P	<i>A Guide to the Birds of Venezuela</i> by R. Meyer de Schauensee and W. H. Phelps, Jr.; also the amended Spanish version, <i>Aves de Venezuela</i> (P&MdS)
H	<i>Birds of Venezuela</i> by S. L. Hilty
Snyder	<i>The Birds of Guyana</i> by D. E. Snyder
BFR&S	<i>A Field Checklist for the Birds of Guyana</i> by M. Braun, D. Finch, M. Robbins & B. Schmidt
H&M	<i>The Birds of Surinam</i> by F. Haverschmidt and G. F. Mees
Tostain <i>et al.</i>	<i>Oiseaux de Guyana</i> by O. Tostain, J.-L. Dujardin, C. Erard & J.-M. Thiollay.
Voous	<i>The Birds of the Netherlands Antilles</i> K. H. Voous
ffrench	<i>A Guide to the Birds of Trinidad and Tobago</i> R. ffrench
SFP&M	<i>Neotropical Birds: Ecology and Conservation</i> by D. F. Stotz, J. W. Fitzpatrick, T. A. Parker & D. K. Moskovits
F&K	<i>Birds of the High Andes</i> by J. Fjeldså & N. Krabbe
Clements	<i>A Field Guide to the Birds of Peru</i> by J. F. Clements & N. Shany
Sick	<i>Birds in Brazil</i> by H. Sick
S&M	<i>Taxonomy and Distribution of Birds of the World</i> by C. G. Sibley & B. L. Monroe, Jr.

Please note that a number of other key references are frequently referred to in the Voice and Notes sections by abbreviations or incomplete citations. These refer to major sources such as family monographs, and they are listed at the ends of the introductory paragraphs as 'Additional references used'. For example, in the tanagers, I&I refers to *Tanagers* by M. L. Isler & P. R. Isler. Full citations appear in the bibliography.

The plates (Volume 2)

The purpose of the plates is to show as many different plumages of the birds of the region as possible. Every species recorded in the region has been illustrated, together with almost every distinct subspecies and plumage variation. A few hypothetical species have been included (especially seabirds), on the basis of unconfirmed records for the region or the likelihood of being recorded in the future. Their names are placed within square brackets (as are their text entries in Volume 1).

Species are arranged on the plates more or less taxonomically but, inevitably, concessions have had to be made and some species appear out of sequence. Please note that, *within a family, all of the birds are drawn in proportion to each other*. Thus, the user can view a plate with a familiar species and know at once how much larger or smaller any other related, but unfamiliar, bird in that family is.

Right at the start, we decided to show the birds in a strictly comparative style, somewhat ritualised, but showing jizz characteristics as much as possible. In this way, comparisons of subtle detail in the plumages may be made. The differences

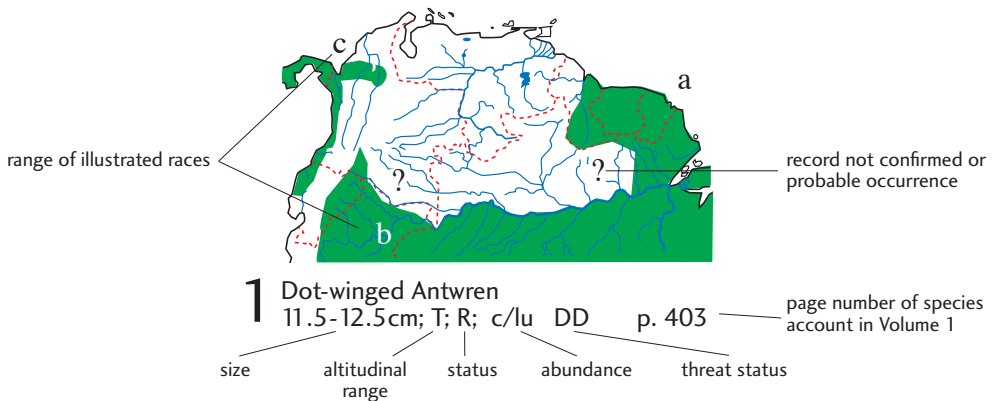
in coloration and pattern that are shown between one race and another are not accidents of the printing process, but are deliberate indicators of the differences between one form and another. It would have been beyond my limited abilities as an illustrator to depict every bird in a different and natural pose based on field sketches and photographs. And, whilst the book has taken over ten years to complete, such a requirement would have doubled the preparation time. Another aspect of the birds as drawn is that they are sometimes drawn four-dimensionally in order to show both rump and ventral areas. Most hummingbirds perch with their wing-tips tucked *beneath* their tails, and their bills pointing upwards. In many cases birds have been drawn with their wings in a rarely held position in order to show diagnostic undertail-coverts as well as uppertail-coverts. Many birds hold their wings folded over their lower back and rump, with the tertials concealing the feathers below, including most of the uppertail-coverts, but here they are usually drawn with the wings slightly apart in order to show the lower back, rump and uppertail-coverts. These apparent flaws are a deliberate attempt to draw attention to diagnostic plumage features.

To make the plates more useful, pointers highlight a key feature of the bird in question. Furthermore, additional information is given on the plates themselves by means of caption text. These highlight key habitat preferences or behaviour which, it is hoped, will assist in the identification process and enable Volume 2 to be used on its own in the field.

The threat status of those species listed in *Threatened Birds of the World* is coded next to the English name of each species on the plates (as well as underneath the map). See below for an explanation of these two-letter codes.

The maps (Volume 2)

The areas within which a species occurs are shown in green. The maps also show political boundaries in red and major river systems in blue. The river systems, especially, provide an instant visualisation of whether a species is a bird of high country, for example, or whether it is a bird associated with well-drained lowlands.



We have avoided as much as possible using blanket ranges within which a particular species might be found, assuming appropriate habitat, altitude, etc. Instead, we have indicated where a bird is confirmed to occur. This is not wholly successful, as there are many species for which it is only possible to prepare a distribution map by relying on the work of others, thereby following their broad strokes, errors or generalisations. Where we have left a simple interrogative “?” on a map, it signifies that a record has not been confirmed, is in doubt, or the occurrence of the species is likely or even probable, but simply not known.

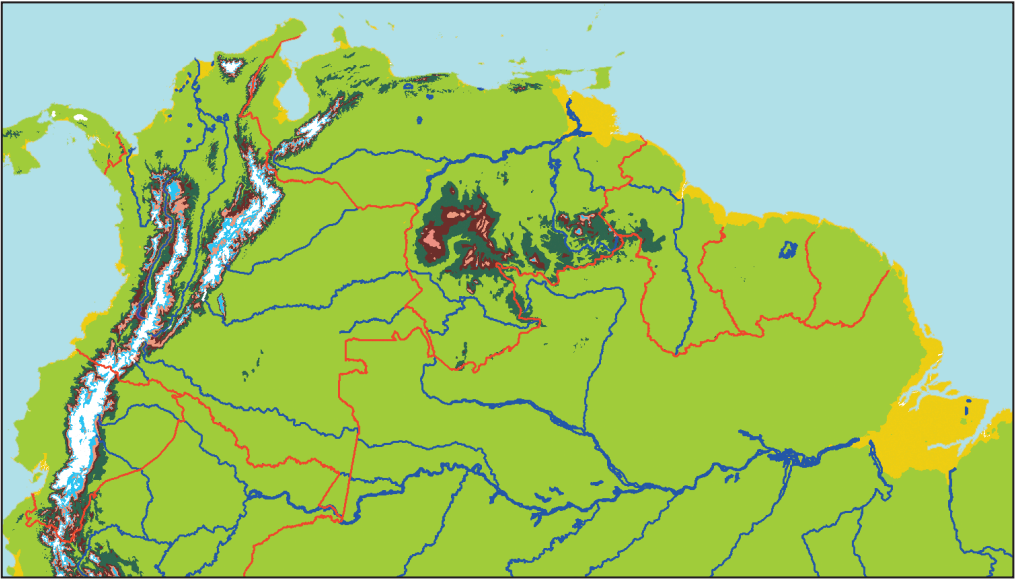
Where more than one race has been illustrated, the approximate ranges of these races are indicated on the map (where possible) with the letters ‘a’, ‘b’, ‘c’ etc. The precise ranges of subspecies in the region is too imperfectly known for this to be done with any great accuracy, and our maps are necessarily rather small.

Abbreviated information

Below each map is a set of data specific to that species. This gives certain basic information in coded form for every species. The purpose of this is to make Volume 2 more useful in the field when used without Volume 1. For fuller details, particularly subspecific differences, please check the species accounts in Volume 1.










The top line has the English name of the species and the page number in Volume 1 where the species account is located. The bottom line presents the following five pieces of information:

Size: approximate or average, or range of, sizes in centimetres (cm). Occasionally, a tail or bill length might also be mentioned, and sometimes the sizes of both males and females, in the case of strongly sexually dimorphic species.



Altitudinal Zones of northern South America as defined in this book. Derived from the US Geological Survey's 30 arc-second database 'GTOPO30' (USGS 1997; Bliss and Olsen 1996).

Altitudinal range: the various altitudinal zones are referred to by name in the species accounts in Volume 1, and by codes in Volume 2:

	O Oceanic (coastal habitats)
	T Tropical (from sea level to c.1,400–1,600m)
	LT Lower Tropical (sea level to c.800–900m)
	UT Upper Tropical (c.800–900m to c.1,400–1,600m)
	S Subtropical (c.1,400–1,600m to c.2,300–2,600m)
	LS Lower Subtropical (1,400–1,600m to c.2,000m)
	US Upper Subtropical (c.2,000m to c.2,300–2,600m)
	Te Temperate (c.2,300–2,600m to c.3,100–3,400m, or to the treeline)
	P Páramo (from the treeline, c.3,100–3,400m, to the snowline)

The two lowest zones – Tropical and Subtropical – are each divided into two subzones, in order to be more specific for species that have a narrower altitude range, such as those found exclusively in the lowlands or on lower slopes. When a species ranges throughout the entire Tropical or Subtropical zone, only the general abbreviation is used.

The codes can be used together to indicate a range in altitude, e.g. T-LS indicates Tropical to Lower Subtropical, i.e. sea level to 2,000m.

Status: generally single letters, but combinations are possible (e.g. a species can be both resident and a boreal migrant, thus R/B):

R Resident	a species that resides within its range throughout the year and breeds
B Boreal migrant	a species that breeds in the Nearctic region (North America) and migrates to spend the post-breeding season (northern winter) in our region
A Austral migrant	a species that visits our region from elsewhere in South America
V Vagrant	a species outside its normal range
I Introduced	a species introduced into our region, with a self-sustaining population
? Unconfirmed	status uncertain

Abundance: in order to be as user-friendly as possible, only five codes are used, plus one qualifier (l = local) which may be used with any of the five codes. Thus, lc = locally common etc. Given that abundance will vary considerably in such a huge region, two categories are frequently used, to show the range of abundance within northern South America. The category of the most frequently occurring abundance is generally placed first. Thus, f/s = fairly common to scarce (i.e. the species is more often fairly common than scarce); and u/lc = uncommon to locally common.

c	common	invariably encountered within its normal habitat
f	fairly common or frequent	usually, but not invariably, encountered within its normal habitat
u	uncommon	relatively frequently, but not regularly, encountered within its normal habitat
s	scarce	only irregularly and infrequently encountered within its normal habitat
r	rare	rarely encountered
l	local	only occurs patchily within its range

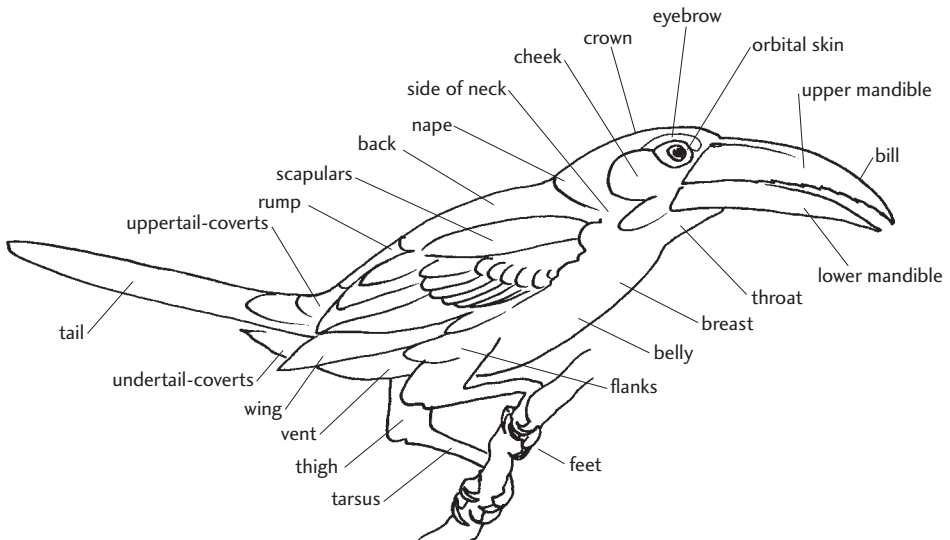
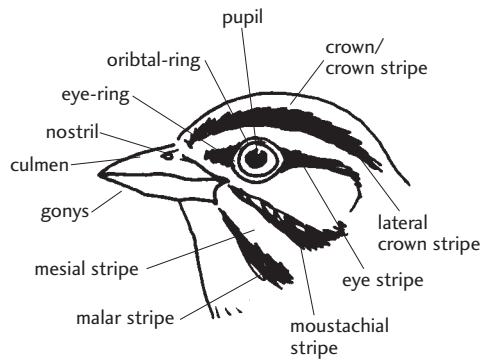
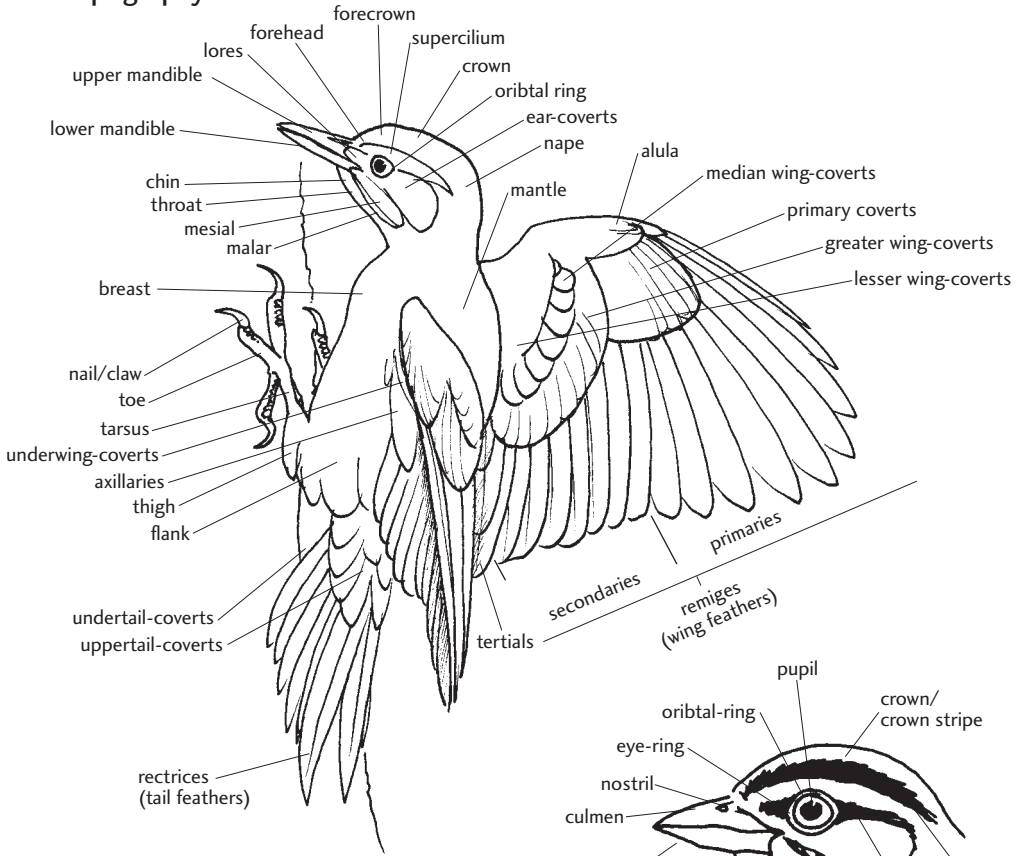
Threat Status: this gives the status of those species listed in *Threatened Birds of the World* (BirdLife International 2000). The codes are as follows:

CR	Critical	species facing an extremely high risk of extinction in the wild in the near future
EN	Endangered	species facing a very high risk of extinction in the wild in the near future
VU	Vulnerable	species facing a high risk of extinction in the wild in the medium-term future
NT	Near Threatened	species coming very close to qualifying as Threatened (i.e. CR, EN or VU)
LC	Least Concern	species considered to be at less risk of extinction than Near Threatened
DD	Data Deficient	species for which there is inadequate information to make an assessment of its risk of extinction
NE	Not Evaluated	species not assigned a risk category (for example, newly described species with very small ranges or in threatened habitats)

Errors and Corrections

It is hoped that eventually this work will appear in an enlarged and completely revised second edition. When that happens, not only will species new to the region be added, but sexes and juveniles that have been excluded because they were unknown or specimens were unavailable, will be added, as will new descriptions of vocalisations. The reader thus has the opportunity to contribute to this project by informing the authors of any errors on the plates, modifications to the maps, and refinements and corrections to the texts, including vocalisations. Please write to the senior author c/o A&C Black.

Bird Topography



CLIMATE, VEGETATION AND HABITATS

A three-dimensional relief map of northern South America does not provide the most interesting of subjects, for the greater part of region will appear to be rather flat (see map of altitude zones on page 15). The only significant areas of relief are the southern tablelands of the Guianan Shield, the outliers of the Andes along the northern coasts of Venezuela and Colombia (for example, the ornithologically famous Sierra Nevada de Santa Marta, which reach almost 5,800m), and, of course, the Andean chain itself which runs from extreme north-western Venezuela through Colombia (where it divides into three distinct ranges) and throughout Ecuador (where there are just two main ranges), and on to the southernmost tip of the continent. In our region, the Andes reach their peak in Ecuador at the 6,272m Volcán Chimborazo, which is one of the highest summits in the entire continent. Relief is, of course, a major influence on the prevailing climate of this tropical region, and is the principal factor determining temperature, which declines by approximately 6°C per 1,000m. At a single station, for example, in western Colombia, mean temperatures may otherwise only vary by 2°C during the course of a year.

Starting in the west, the climate of Pacific Ecuador and Colombia is chiefly hot, humid and very wet, with annual rainfall at many localities in Ecuador being 3,000–4,000mm per annum. Rainfall to some extent varies with latitude (increasing towards the north), with up to 10,000mm reported in parts of western Colombia, whilst the Quibdó region is the wettest in the Western Hemisphere, regularly receiving up to 13,000mm and a maximum of almost 20,000mm. In Ecuador, most rainfall falls in the first five months of the year and there is also marked variation caused by El Niño events, which can lead to torrential downpours that cause significant infrastructural damage. The original forests in this region, especially in western Ecuador, are very much reduced and development is increasingly affecting the Chocó region of Colombia.

In contrast the north coasts of Colombia and Venezuela are subject to very dry trade winds during December to April, and mean annual rainfall can be as low as 300mm (on the Guajira Peninsula), though at the base of the Andes this might increase to as much as 3,000mm (generally less than 2,500mm in Venezuela, where rainfall totals generally diminish above 2,000m in elevation), and parts of the Santa Marta massif are permanently snow-capped. In the Caribbean lowlands dry deciduous or evergreen woodland, desert scrub and mangrove formations are the most important vegetation types, giving way to montane tropical forests and subsequently cloud forests above about 750m. On the leeward side of the cordillera, one enters another rather drier zone with deciduous or semi-deciduous forests. In areas such as the central-north coast of Venezuela, travellers moving inland will note a swift transition between these habitat types, but elsewhere the coastal plain is often considerably wider. Deforestation has been severe in parts, for example in the Santa Marta massif, and the interior slope of the northern cordillera in Venezuela is one of the most heavily populated regions of the country with the inevitable consequences for the native vegetation.

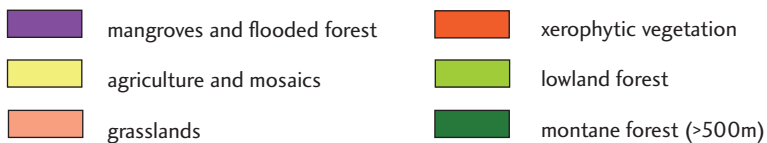
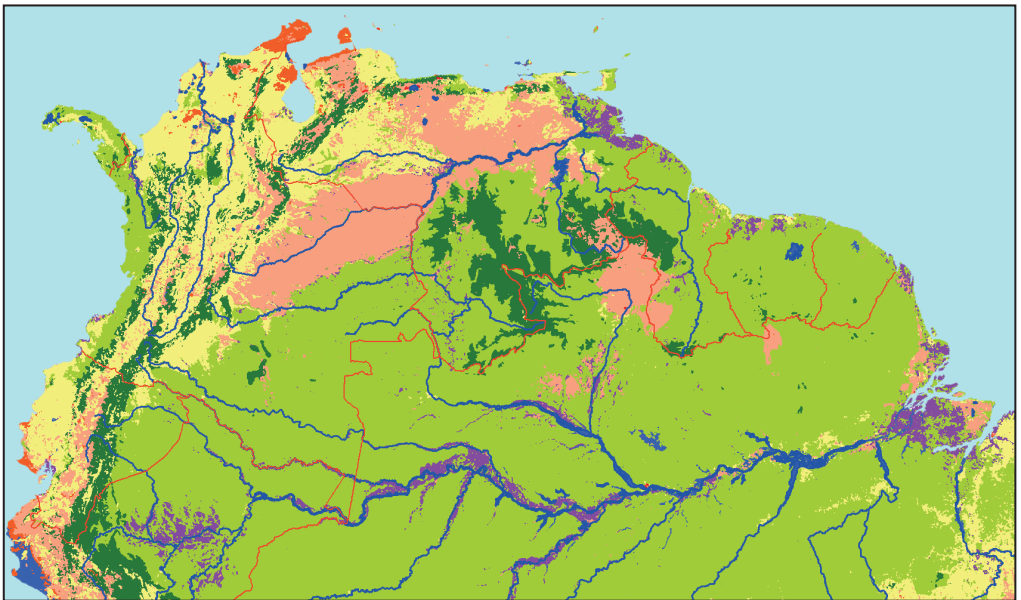
Rainfall throughout the Andes is much less seasonal, though in the three Colombian cordilleras, two wet and two dry seasons can be identified during the course of the year, with the longest dry period running from June to September (July–August in Ecuador). Annual rainfall varies between 1,500 and 4,000mm per annum, and permanent snow commences at around 5,000m, but even in this region localised drier regions occur (in the rainshadow of mountains) with vegetation dominated by thorn scrub and cacti; as in the north of the region rainfall declines at really high elevations. Major habitats within the Andes include subtropical montane forest, temperate montane forest, elfin and *Polylepis* woodlands, páramo and montane scrub (see the Glossary of Habitats below). Throughout the Andes forest loss has been significant, especially in the valleys (some of which, like Colombia's Magdalena Valley, have served as major trade routes for centuries) and in the foothills.

The vast grasslands of central Venezuela and parts of eastern Colombia, known as the *llanos*, experience a monsoon climate type with a pronounced wet season between May and October and a long dry season from November to April. Rainfall varies between about 1,000mm on the leeward side of the coastal mountains of Venezuela to 1,500mm over most of the region and more exceptionally c.3,000mm at the base of Andes in Colombia. Flooding, in season, can be particularly extensive in the south of this region, but for birdwatchers the time to visit is in the late dry season when huge numbers of waterbirds may congregate in the remnant patches of floodwater. Dry forest is a feature of the higher land at the rim of the *llanos*, whilst the presence of pockets of gallery forest leads to a varied passerine avifauna with origins in the adjacent semi-arid zones, but also many others of widespread or Amazonian provenance.

The eastern lowlands of Colombia and Ecuador and thence through southern Venezuela and the Guianas barely, with the exception of a few isolated metas (tablelands) in Amazonian Colombia and the Ptaritepui region of southern Venezuela and Guyana, do not rise much above 500m. Population levels in all of these regions generally remain low,

though pressure from development (such as oil exploration) is increasing virtually throughout, and much of these lowlands is still covered in humid forest of various types, principally *terra firme* which is never subject to flooding. Annual rainfall is generally 2,000–3,000mm per annum, though totals in the Gran Sabana of southern Venezuela may locally be considerably less (just over 1,000mm in places), and in southernmost parts of northern South America, in the headwaters of the ríos Negro and Orinoco, may reach 3,500mm, and even 3,900mm around the Macarena highlands in Colombia. The tepui highlands provide the only significant area of relief within this otherwise very uniform landscape, with most of the tablelands reaching a few hundred metres below 3,000m, though most of their famed endemic birds are found much lower, at around 900–1,000m. As mentioned elsewhere, the avifauna of this part of our region has particularly fascinated students of biogeography for almost a century.

There is no clear-cut dry season in many parts of the lowlands, though March and September average slightly drier in Venezuela, and July–August is the driest ‘season’ in eastern Ecuador. In southernmost Colombia, most rain falls in November to May and, like elsewhere in Amazonia, rain principally falls in short, sharp ‘shocks’ each afternoon (all-day rain is not unknown, but comparatively infrequent). Amongst the most interesting habitats of the Amazonian part of northern South America are *várzea* (which is seasonally flooded forest along river systems), riparian woodland in floodplains, river islands (of great interest to birdwatchers due to their highly specialised avifaunas), oxbow lakes and their often-related Moriche palm savannas and swamps. Nonetheless, the avifaunas of northern and western Amazonia are generally slightly more depauperate and certainly less endemic-rich than other parts of the Amazon basin. In the east of our region the avifauna is principally defined by a distinctive subset of so-called Guianan species, many of which are habitat specialists of sandy soil regions.



Vegetation map of northern South America. Derived from Eva et al. (2004) in the GLC 2000 series.

Glossary of habitats

- Arid scrub** is fairly open land, albeit sometimes impassable, usually with thorn bushes, cacti and drought-resistant trees.
- Borders and edges** of forests and woodland form a rather distinct habitat, with species that normally occur in the canopy or upper levels of the forest being found lower at the edges. Some borders have full rounded bushes and low trees that do not occur within forest, others may be densely tangled or simply densely grown. Some species of birds only venture to these marginal areas early in the morning.
- Clearings** represent similar habitat to borders and edges, but generally offer more security for forest-dwelling species and may be used later in the morning and earlier in the afternoon. Clearings range from natural ones caused by rivers, landslides or treefalls, to others that are man-made along trails and paths.
- Cloud forest** is, strictly speaking, forest regularly embraced by low clouds. There are both dry and humid cloud forests.
- Coastal** refers to habitats along the coast, typically beaches and shores, cliffs and rocky coastlines; also coastal waters, including saline swamps and lagoons, etc., though mangrove swamps are usually specified as such.
- Cultivation** is generally land used for agriculture, including plantations. Birds listed as occurring in cultivation are, by implication, to some extent, tolerant of disturbed habitat and of man's presence.
- Deciduous forest** is also known as tropical dry forest or just dry forest.
- Desert scrub** - see Arid scrub.
- Dwarf forest** and **elfin forest** are terms often used interchangeably, but Fjeldså & Krabbe (1990) separate them neatly.
- Espeletia** is known locally as frailejon: rosette plants with thick fleshy leaves and yellow flowers on thin stalks that are scattered evenly over vast areas of páramo. They may grow to several metres high.
- Gallery forest** may be referred to as riparian woodland, but whereas gallery forest occurs alongside waterways, undergrowth and woodland beside rivers is better referred to as riparian.
- Llanos** are extensive flatlands, often flooded; soil varies from poor to rich and supports open woodland or savanna.
- Mangroves** are usually found in coastal areas. These dense and usually low forests grow in areas permanently or periodically flooded. There are several species of mangrove, of which those known as red mangrove (genus *Rhizophora*) are commonest and generally most widespread, and typically grow in areas closest to the sea.
- Marshes** are low-lying areas, permanently wet, sodden or inundated; plant growth consists of stunted low shrubs or scattered bushes, reeds, sedges or even tall grasses, but no trees.
- Melastomes** (family Melastomataceae) are typical constituent trees of montane evergreen and elfin forests in the Andes, and include widespread genera such as *Miconia* and *Tibouchina*.
- Moriche swamp (Morichale)** may also be referred to as Moriche marsh, and are forested swamps that are more or less permanently inundated wherein the Moriche Palm *Mauritia flexuosa* dominates. Some bird species are strongly associated with this habitat.
- Offshore** refers to sea areas, including those within sight of land.
- Oxbow lakes** develop over long periods and are caused by a meandering river gradually pushing further into a curve until a small crescent-shaped lake is formed, whereupon the river may well form a new course, leaving the lake unfed. The surrounding area may be swampy or marshy and support a distinct plant community, creating a special habitat favoured by some species.
- Páramo** is open, barren alpine land that occurs from the treeline to the snowline, and may be wet, being often shrouded in cloud or drizzly mist. The characteristic flora of the wetter páramo in Venezuela is *Espeletia* (see above); also endless tufts or clumps of *Stipa* grass. Further south, in drier páramos (e.g. in Ecuador), *Puya* bromeliads and *Chuquiraga* shrubs grow.
- Parks and gardens** present man-made or man-modified habitats, with ornamental or natural shrubs and trees that offer important habitats for those species that can adapt to some level of disturbance
- Pasture** is open grassy land where bovines and other mammals periodically graze. Pasture generally has fewer species of birds than ungrazed land.
- Pelagic** seabirds are those that stay out of sight of land. Truly pelagic species only come ashore to breed, and spend the rest of their lives at sea.
- Plantations** present various forms, and may have well-spaced tall trees to provide shade for crops or, if the crop benefits from direct sunlight, then there are few trees. Birds that occur in plantations are, by implication, to some extent tolerant of disturbed habitats and of man's presence. Some birds only occur in the canopies of shade trees in such habitat.

Polylepis forest is formed by the woody shrub *Polylepis* which grows at the treeline (roughly 3,000–3,400m) and up to 5,000m. It occurs in ravines and protected gullies, and is favoured by many bird species, some of which are specialists of the habitat.

Riparian wooded habitats evolve gradually along rivers and waterways and in seasonally flooded land, initially with fast-growing plants, typically dominated by *Gynerium* cane and *Cecropia* trees, but gradually become more substantial. Some birds are riverine habitat specialists.

River island scrub or second growth is fast-growing, early succession flora on seasonally flooded or recently exposed islands. Some bird species are specialists of this habitat and are poorly known.

Savanna, also called grassland or campo.

Savanna woodland is open, often scrubby woodland with many gaps and light undergrowth on poor, often sandy soil.

Scrub or scrubby areas: fairly bare land with low rainfall, typically with scattered tough, sparse plants; in dry and desertic areas the dominant plants tend to be thorns, cacti and stunted trees; at higher elevations the character changes a little, but the effect is the same. Never supports a rich avifauna.

Second growth or secondary woodland are usually human-created wooded habitats that are naturally much less species-rich than primary (and thus much less disturbed) woodland and forests.

Shade trees are tall with bare trunks but spreading canopies, planted or left untouched, to provide protection from the sun for cultivated crops such as coffee.

Swamps are usually lowland areas with permanent, often stagnant water. They often have tall grasses, and usually scattered bushes and a few trees, whilst some have strips or patches of woodland where the ground is damp but not inundated and their borders densely grown with shrubbery.

Semi-deciduous forest: also called tropical moist forest.

Tepuis are tall, flat-topped, almost vertically-sided mountains in the states of Bolívar and Amazonas in southern Venezuela. They generally have unique or specific flora and fauna. Many birds described as occurring atop the tepuis really occur on their slopes. Many tepuis have different species or subspecies, and a complete review and comparative analysis of the natural history of the Pantepui region is badly needed.

Terra firme forest is usually referred to simply as *terra firme* and is a type of lowland tropical evergreen forest that typically grows on well-drained upland soils, principally in Amazonia; differs from *várzea* in never being flooded. They are floristically diverse and often statuesque.

Treefall gaps and clearings describe a small area of forest where a large tree has fallen leaving an open area where smaller trees and shrubs have been destroyed by the collapsing branches. The clearing passes through various stages before it is reclaimed by new trees, thus it is a comparatively short-lived microhabitat that particularly attracts border and edge-loving bird species.

Tropical humid forest may be referred to simply as humid forest.

Tropical wet forest, also known as semi-deciduous forest, is rather restricted in extent, being principally found near the base of the Andes and coastal cordillera in Venezuela, as well as in the *llanos* and south of the Orinoco in the same country. It usually occurs on slopes or hilltops.

Várzea forest, usually written simply as *várzea*, refers to forest growing on seasonally flooded land.

Xerophytic areas are dry habitats with low rainfall - see Arid scrub.

AVIFAUNA OF NORTHERN SOUTH AMERICA

Northern South America truly represents a paradise for birdwatchers; it is as if biodiversity has run wild ('megadiversity' as it was described in one recent work). Approximately 2,300 species occur here or, put another way, just a couple of hundred species short of 25% of the global avifauna. Such a staggering total is, of course, unsurprising when one considers that the Colombian avifauna alone consists of over 1,860 species (the highest single total of any country on Earth), that of Ecuador comprises over 1,600 species (an incredible total for such a tiny country), and Venezuela almost 1,400 species, though of course there is considerable overlap between the avifaunas of all three and with the other countries included in this book. What is more, despite the efforts of a legion of past collectors and field workers, all of these totals are still growing. However, unlike the well-known avifaunas of the developed world, the additions are just as likely to be previously overlooked residents (in some cases even species previously unknown to science) as vagrants blown off course. And, virtually no-one has devoted much effort to the marine avifaunas of any of the countries covered in this book; the opportunities for gathering new data on pelagic seabirds, especially off the Pacific coastline, are just waiting for someone to grasp the nettle!

Included here are the islands of Trinidad & Tobago and the Netherlands Antilles, both groups that are ostensibly Caribbean, but in zoogeographic terms unsurprisingly (given their proximity to the mainland) clearly best considered South American. The two former islands, in particular, make an ideal first destination for those who wish to dip a toe into the world's richest avifauna without being completely overwhelmed, for Trinidad & Tobago can truly be said to represent a microcosm of the continent as a whole. They are also amongst the biggest vagrant hotspots in northern South America, and not only regularly produce sightings of boreal visitors more usually to be found further north in the Antilles, but even records of Old World species.

Most of the families endemic to South America occur in our region. In terms of endemic species, the big three countries (Colombia, Ecuador and Venezuela) can muster totals of 60+, 14 and 40+; impressive enough, but certainly less significant than the total of 20 Endemic Bird Areas (EBAs) identified by BirdLife International in the region as a whole, though Ridgely & Greenfield (2001) suggested some modifications to the boundaries of those EBAs in Ecuador. In a different study, Stotz *et al.* (1996) subdivided South America into 34 zoogeographic regions, of which 13 lie wholly or partially within northern South America, despite our region accounting for less than one-third of the total land area of the continent.

What are the reasons for such phenomenal avian diversity? Principally, of course, the answer lies in the tremendous range of habitats that is to be found in northern South America. From coastal wetlands, offshore islands and mangroves to the altiplano of the high Andes, via the full range of forest types to be found in Amazonia. Further diversity is to be found in the forested tepuis (tablelands) of southern Venezuela and adjacent Guyana, the famous 'Lost World' of Arthur Conan Doyle (and the origins of which avifauna have long provoked debate and bewilderment amongst ornithologists), and the Sipaliwini Savanna of southern Suriname, where a number of species more synonymous with the *cerrados* of central Brazil find their northernmost outpost. But, it is the Andes where avian diversity reaches its extraordinary pinnacle, for in these relatively young mountains, which split into three main cordilleras in Colombia, the dynamics of speciation are about as obvious in anywhere in the world, doubtless due in part to the hand of man as habitats are destroyed and fragmented, creating 'island' pockets of native vegetation. The first-time visitor will find the barrage of new species that accompanies each slight change in elevation quite staggering, and even 'old hands' continue to marvel at such richness. Quite simply, anyone with a strong interest in birds should visit this part of the world and experience its wonders at least once.

The first serious investigations of the ornithology of northern South America were made by Alexander Humboldt at the close of the 18th century. Amongst his discoveries was the remarkable Oilbird *Steatornis caripensis* whose nesting grounds at the famous Cueva de los Guácharos, near Caripe, in north-eastern Venezuela, he was shown by local missionaries. Soon, the collectors that followed were sending back to Europe thousands of trade skins from the northern Andes, which were described by Gould, Gray, Lafresnaye and others. Many of these were simply labelled Bogotá and whilst some were almost certainly taken within reasonably close proximity of the city, a great many more were probably or certainly not. In some cases, these skins present still-unsolved problems in identifying the real range of the species in question.

Despite the efforts of those pioneers such as Schomburgk, who reached Roraima in the 1840s, it was not until the first two decades of the 20th century that the work of Frank Chapman and his associates at the American Museum of

Natural History permitted the first syntheses of the avifauna of northern South America, with the publication of classic works on Colombia and Ecuador, both beautifully illustrated by one of the masters of South American bird art, Louis Agassiz Fuertes. Thereafter, others continued the good work, particularly the Phelps family in Venezuela and the truly extraordinary professional collector, Melbourne Carriker, in Colombia, amongst others.

By the mid-20th century, a new era of synthesis was upon us, with Rodolphe Meyer de Schauensee taking the lead by publishing important works on Colombia, then South America as a whole, and finally a field guide to Venezuela - the first to any South American country - in partnership with William Phelps and magnificently illustrated by Guy Tudor. For the first time, field identification of birds in South America was possible, prompting a fresh wave of scientific exploration and the first amateur birdwatchers to visit the continent. Particular mention must be made of the dedicated research into Ecuadorian birds led by Bob Ridgely and the Academy of Natural Sciences at Philadelphia, resulting in a splendid new field guide to this incredibly bird-rich nation, and Steve Hilty's ground-breaking field guides to Colombian and Venezuelan birds. After decades of American-led research in many parts of South America, there is currently a noticeable awakening of interest in birds amongst native South Americans, with particularly vibrant conservation and birding communities springing up in Colombia, Ecuador and Venezuela. Under such favourable circumstances, our knowledge of the avifauna of the entire continent is destined to mushroom.

MIGRATION

The bulk of migrants occurring in northern South America are non-breeding visitors from North America (with a handful also moving south from their breeding grounds in the Caribbean), though overall numbers and species diversity amongst Nearctic migrants are significantly less than further north in Middle America and the West Indies. Other migrants, albeit many fewer, reach the principally southern borders of our region from much further south. So-called austral migration has received greatly increased attention from ornithologists in recent years, but most species that perform such dispersal do not penetrate any further north than the Amazon, thus the phenomenon is relatively inconspicuous in northern South America. Finally, a number of species appear to practice more limited and, to some extent, erratic or altitudinal movements. For both birdwatchers and researchers, perhaps the most interesting subset within the latter group is formed by those species dependent on bamboo seeding events.

Nearctic migrants

More than 420 species of Nearctic breeding birds make seasonal movements to the Neotropics to a greater or lesser degree, of which the greatest diversity occurs in the Central American lowlands, with pine and pine-oak forests representing important winter refuges for many species, especially those that are to some extent restricted to undisturbed forests at this season. Generally speaking, the proportion of Nearctic migrants within Neotropical avian communities decreases with latitude, though south of our region numbers are dramatically reduced, as, for instance, the vast majority of wood warblers (the largest single family of Nearctic migrants) does not regularly reach further south than northern South America. Across much of central and southern South America the number of species is relatively uniform. Quite a number of shorebirds, however, winter principally in Tierra del Fuego, the high Andes of the extreme south or the pampas of Argentina and adjacent countries. Most of these species generally overfly our region and/or are only recorded in certain parts of northern South America at particular seasons, as they perform loop migrations (generally passing further east in autumn and further west on the return route in spring). In addition to latitudinal differences, altitude is also a significant factor in delimiting species distributions amongst such migrants, with rather few species found above 1,500m. Amongst Nearctic migrants, a reasonable number have separate breeding populations within the Neotropics, including northern South America. Many of these are waterbirds, but passerines such as Yellow Warbler *Dendroica petechia* and Red-eyed Vireo *Vireo olivaceus* are other examples. A very small, but somewhat interesting subset of northern migrants moves south to winter in our region (and perhaps beyond) from their sole breeding grounds in the Antilles. Some of these are difficult to identify for one reason or another, e.g. Antillean Nighthawk *Chordeiles gundlachi*, and thus their winter ranges are very poorly known. In the case of Cuban Martin *Progne cryptoleuca*, the wintering grounds are completely unknown but generally speculated to be in South America.

Recent years have witnessed much greater interest in the wintering grounds of Nearctic migrants due to irrefutable declines in many species. Several factors have been identified as the root, but a number of commentators have speculated

that loss of tropical forest in the non-breeding quarters is a significant driving force. This has had the happy effect of increasing conservation interest and available resources for preserving such habitats. Nonetheless, as ably argued by Stotz *et al.* (1996), such speculation is not wholly founded on the available facts, which in contrast suggest that rather few Nearctic migrants are habitat specialists and that many passerines are prevalent in secondary and successional habitats. Therefore, their vulnerability to habitat modification on the wintering grounds is somewhat limited, and loss of tropical forest is probably not a key factor in the recent declines of such species, though logging and conversion of lower and mid-elevation forests in the Andes is of real concern for a small suite of Nearctic migrants, including Cerulean Warbler *Dendroica cerulea*. That is not to say that those species which are habitat specialists in winter are not at risk. Loss of their winter grassland habitats in southern South America appears to be a significant factor behind the decline in Buff-breasted Sandpiper *Tryngites subruficollis* and may also have limited the ability of Eskimo Curlew *Numenius borealis* to recover from market hunting in North America. Furthermore, as more data become available and the existing information subjected to closer scrutiny, it may be that some species currently believed to be at low risk in their winter quarters are proven to be rather less secure than currently believed. Remsen's (2001) already classic study of the Veery *Catharus fuscescens* in its winter range revealed that, rather than occurring over much of southern Central and South America, as previously believed, the 'true' limits of its distribution at this season were restricted to comparatively small areas of Amazonia, and that most other records were, in fact, probably of migrants. Overestimation of the winter range may be true for many species of Nearctic migrants, and represents a significant 'pitfall' for conservationists attempting to design appropriate conservation strategies. Such over-mapping is probably common even in 'standard' and otherwise highly authoritative works.

Austral migrants

The phenomenon of austral migration has garnered much attention in recent years, though it is rather weakly expressed in northern South America, as most of these visitors from the south tend to stop short of our region in the central and southern Amazon basin. Nonetheless, some species do make it to our region, such as the recently split Sick's Swift *Chaetura meridionalis*, which breeds in northern Argentina to parts of Bolivia and Brazil, and migrates north as far as Colombia and even Panama. Such movements doubtless generally went unnoticed by earlier ornithologists, for many such species are in fact widespread birds, and the austral migrants will easily go unnoticed as they temporarily absorb themselves within the range of their resident counterparts. Nowadays, of course, we recognise the flocks of Tropical Kingbirds *Tyrannus melancholicus* and Fork-tailed Flycatchers *T. savanna* that may line riverbanks in Amazonia in their hundreds for what they really are, southern breeders escaping a cold climate, rather than dismissing them as merely unusual, temporary aggregations.

Unlike Nearctic migrants which comprise a broad spectrum of families and species, austral migration is dominated by representatives of just three groups, namely the Tyrannidae (New World flycatchers), Anatidae (ducks and geese) and Emberizinae (sparrows and finches). The first-named is especially important, as over one-third of those species identified to date as austral migrants are tyrannids. However, these differences are mainly reflective of taxonomic differences in the make-up of the southern South American versus North American avifaunas. Just like Nearctic migrants, those species of austral migrants which perform the longest-distance movements are those which breed at the highest latitudes (in other words furthest south). Nonetheless, there is nothing to compare with the immense distances covered by some arctic tundra-breeding shorebirds which winter in the southern cone. Also in common with the Nearctic breeders, austral migrants generally show little habitat specialisation on their wintering grounds, with the exception of a handful of tyrannids and *Sporophila* seedeaters which seem to be dependent on the steadily decreasing *cerrados* (natural grasslands) of central Brazil.

Intra-tropical migrants

Two forms of intra-regional migration also require a brief summary here. Compared to south-east Brazil and parts of Middle America, e.g. Costa Rica, regular elevational movements (other than local and highly temporary dispersal in response to inclement weather at the highest altitudes) in the tropical Andes are not a pronounced feature. Stotz *et al.* (1996) admitted that some hummingbirds appear to perform regular movements up- and downslope, but pointed to the existence of considerable, year-round field work and collecting at Andean locations that had failed to yield much evidence of such migrations. Nonetheless, it is certainly the case that some species, again often flycatchers, perform seasonal altitudinal movements, albeit usually with an equally strong latitudinal component, and some species, e.g. Dull-coloured

Grassquit *Tiaris obscura*, appear to move west–east from the Andes to the lowlands in winter, leading some more recent authors to question how deep our year-round knowledge of many Andean localities really is.

Finally, a small but highly distinctive set of Neotropical birds depends on bamboo seeds for food, examples in our region being Maroon-chested Ground Dove *Claravis mondetoura* and Slate-coloured Seedeater *Sporophila schistacea*. The very recently discovered Carrizal Seedeater *Amaurospiza carrizalensis* is probably another example of a bamboo-dependent species. Our knowledge of these birds and their ecologies is almost invariably very poor. Their appearances are almost always ephemeral, although they may sometimes occupy certain areas for a number of years before moving on elsewhere. Whether their appearances are more cyclical or truly nomadic is unknown. Even within apparently suitable areas, at times of peak abundance, their usage of, and spatial distribution within, the available habitat is frequently uneven and, to our human eyes, apparently random. Elucidating the mechanisms behind these species' uncanny ability to locate suitable habitat, or even garnering fresh data on their basic life histories, is one of the many special challenges facing Neotropical ornithologists.

CONSERVATION

We perch, somewhat precariously, on the brink of an extinction crisis of potentially epic proportions, a crisis that is, according to some reputable scientists, already irrevocable and driven by sufficiently deep-rooted factors that it threatens our own existence as well as that of the species with which we share this planet. Within such a context, if mankind faces annihilation, why should he devote attention to attempting to preserve birds and other biota? The answer, of course, is rather obvious; the factors at play in the potential extinction of the Earth's biodiversity are, for the main, human-created. The same factors, rising sea temperatures (for example) that wreak havoc upon breeding seabirds, are those at the root of our own precarious position. Threats facing South America's birds include, above all, habitat loss, particularly forest clearance but also conversion of wetlands and grasslands to agriculture and infrastructural development, as well as pollution, the wild bird trade and the threats posed by introduced species.

It has been well known for centuries that natural diversity reaches its pinnacle in the Neotropics. The largest number of species on any of the world's continents occurs in South America. Almost two-thirds of the world's avian families occur there and almost 30% of this total is endemic to the continent. It is, as many before have noted, perhaps as close to paradise as anywhere on Earth. The realisation that all was not well in this other 'Garden of Eden' has been comparatively late in coming. Even now, in the first decade of the 21st century, taxonomists are still kept busy cataloguing new species and finding the best solutions to arrange the existing ones, but nonetheless within the last two decades considerable efforts have turned away from simple cataloguing to conserving. In 1988, Nigel Collar and Paul Andrew, in *Birds to Watch*, listed 350 Neotropical birds as being at risk or potentially at risk of extinction, an increase of 226 species from the second edition of the *Red Data Book*, published just seven years previously. Although overall numbers of species considered globally threatened in the Neotropics had (thankfully) advanced relatively little by 2004, the date of publication for BirdLife International's most recent overview of the state of the world's birds, the number of species regarded as Near Threatened or Lower Risk has been steadily increasing over time. In other words, the warning signs for the next batch of threatened species are already there.

Within the last 20 years, two events might be singled out for their importance in raising awareness of the imperilled conservation status of Neotropical birds. The first was the publication, in 1992, of the magisterial *Threatened Birds of the Americas* (Collar *et al.*), which provided a detailed compendium of our knowledge of 327 species in the Neotropics considered by the authors to be at risk of extinction. The second was the publication four years later of *Neotropical Birds: Ecology and Conservation* (Stotz *et al.* 1996). Though the bulk of the latter book consists of ecological and distributional databases for the birds of the entire region, the introductory chapters to this work provide a series of analyses of the avian communities of Middle and South America and the Caribbean designed to formulate landscape-scale priorities for the conservation of this biological treasure-house. Although the format of these two works and the conservation priority ratings assigned differ, one critical conclusion was reached by both; the time for action was not tomorrow, but now. Both also served to dispel any ongoing misconceptions as to the real battlegrounds for conservationists in South America. It is not the Amazon, but the Atlantic Forests and, in our region, the Northern Andes (amongst others) that demand our attention. These works, and others, have served as clarion calls to field workers to include a greater

conservation component in their work and to continue to elucidate the range, biology and threats facing some of South America's most threatened birds.

Other than the Red Data Books for birds, BirdLife has also published a listing of Endemic Bird Areas of the World (Stattersfield *et al.* 1998), of which 20 such regional centres of avian endemism lie either entirely or partly within northern South America. Considerable overlap exists between these priorities for conservation action and those set by Stotz *et al.* Further refining their focus to a finer scale, in 2005, BirdLife in partnership with Conservation International also published (entirely in Spanish) an inventory of Important Bird Areas (IBAs) in the tropical Andes, which covers the countries from Venezuela and Colombia south to Bolivia, a region with 209 globally threatened species. The work listed 455 IBAs, with the largest single total (128) being in Peru. As elsewhere in the world where the BirdLife partnership has been identifying IBAs, the criteria used to establish this network of sites is the same: populations and ranges of globally threatened birds, restricted-range species, and biome-confined and congregatory species. The latter grouping, however, are not particularly well served by the current listing due to a lack of data. An important facet of the IBA work is the establishment of local groups with an interest in preserving and documenting the fauna in their own IBAs.

In other words, the groundwork for the conservation of South America's avifauna has been laid, namely the identification of regions, sites and species that are most at risk. The IBA book suggests that a significant percentage of important sites still lack any form of protection. The challenge currently facing those working in the region is to bring about a change wherein all IBAs, and hence at least the majority of threatened species, enjoy some form of protection. Organisations like ProAves (in Colombia) and Fundación Jocotoco (in Ecuador) have already been grasping the nettle and have purchased a number of areas of land in recent years that protect both important representative avian communities and globally threatened birds.

TINAMIDAE – Tinamous

Tinamous are odd birds, as evidenced by the microscopic structure of their feathers, which is curiously different from that of all other birds. Considered one of the oldest groups of birds on the continent, most tinamous make their home on dense forest floors, where they live solitary, shy and secretive lives, walking silently and deliberately, taking berries and small fruits from bushes or noiselessly turning leaves to find insects and seeds amid the ground litter. A few species have adapted to less secluded habitats, such as brushland and even savannas, where they tend to go around in small parties. But whether in forested or semi-open areas, people seeking them find them vexing and elusive. The calls are easily heard, for tinamous have low, full voices that carry long distances even through thick growth, and they are intriguing – long-drawn, melodious, eerie whistles – surely among the most beautifully haunting sounds of Neotropical forests. In reality, tinamous are often heard but seldom seen, and the rare encounters with them, especially forest species, occur serendipitously in isolated clearings or remote tracks. It is generally by their vocalisations that tinamous are identified and recorded by birders, and differences in calls should be the basis for species comparisons. They are notably poor flyers – the near-absence of tail, short rounded wings and relatively small heart and lung capacity are handicaps that disable them for anything except fast, laborious take-offs and clumsy landings. Thus, it is unsurprising that tinamous constitute an important prey base for many Neotropical carnivores. One wonders how nestlings survive predators, for the simple nests are usually set snugly between buttress roots at the base of a large tree or hidden in thickets or under a bush, where even ground-dwelling animals can easily take them. Hunters consider them prime trophies, and search for them using calling lures, which make females particularly vulnerable. Near human settlements, tinamous are subject to extensive poaching or pressure from subsistence hunting, which has caused severe population reductions in some species. Habitat loss is also a great threat, but where habitat is virgin and remote, they tend to be abundant, thanks to a very efficient breeding strategy, with males polygynous and females polyandrous, and in a reversal of roles that is yet one more odd tinamou trait, the males incubate the eggs and rear the chicks without any help from the female.

Additional references used for this family include Blake (1977) and Cabot (1992).

Tinamus tinamous are large birds of comparatively lower elevations, found on the well-shaded floor of humid and wet forests, shy and likely to walk away at the slightest disturbance. They roost low down, sitting lengthways along a branch.

GREY TINAMOU *Tinamus tao* Pl. 1

Identification 42.5–49cm. Adult is large with a dark brown head and neck finely mottled in pale rows down the neck, chin and throat very pale, mottled dark brown, upperparts mottled

very heavily with blackish and rufous, inclining to bars on back, wings and tail; underparts deep grey, rich rufous-orange on undertail-coverts; eyes dark, bill dark grey above, paler below, legs and feet bluish-grey. Immature like adult, juvenile sparsely speckled with white above, heavily barred black, bright cinnamon on nape with pure white stripe on neck-sides.

- Ssp.** *T. t. kleei* (SC Co: Pacific slope in Cauca, E Ec) similar to *larensis* but greyer, more heavily barred above than *septentrionalis*
T. t. larensis (NC Co: Perijá mts and E slope of E Andes, NW Ve: Perijá mts, Andes from Lara to Táchira, coastal mts Yaracuy to Sucre) as described; browner than *septentrionalis*, undertail-coverts deeper rufous
T. t. septentrionalis (NE Ve, NW Gu) greyer than *larensis*, with whiter throat

Habits Always forages on forest floor, shy and evasive, walking away if approached – and before being seen! Eats mostly fruit, some seeds and insects, and sporadically, small vertebrates. Nests at foot of large trees, amid buttress roots. Usually sings at dusk.

Status Local, very rare in Ecuador, rare in Colombia, and uncommon and local in Venezuela. Not recorded in Guyana in recent times.

Habitat Tropical to Lower Subtropical Zones. Humid *terra firme* forests (occasionally *várzea*); humid pristine or very mature secondary forests on slopes of Andes; cloud forests in Venezuela.

Voice Males utter an abrupt single hoot, often answered by female with a shorter, higher pitched hoot (H&B).

BLACK TINAMOU *Tinamus osgoodi* Pl. 1

Identification 40–46cm. Adult is large, black above, deep grey below, rufous on thighs, vent and undertail-coverts, barred black.

- Ssp.** *T. o. hershkovitzi* (SC Co)

Habits Unknown.

Status Local and very rare in Colombia.

Habitat Upper Tropical but mostly in Subtropical Zone, 1,500–2,100m. Heavy, humid forest at head of Magdalena Valley, where epiphytes, tree ferns, bromeliads and mosses abound.

Voice Apparently an easily imitated descending whistle (Hardy *et al.* 1995).

GREAT TINAMOU *Tinamus major* Pl. 1

Identification 40–46cm. A large, rather variable, brown bird with pale underparts. Essentially olive-brown above, barred darkly to blackish, bars may be broken or irregular but there is no obvious spotting; crown, head-sides and neck brown to rufous, barred so lightly as to be scale-like, chin and throat pale to white, crest varies in colour and length.

- Ssp.** *T. m. latifrons* (SW Co, W Ec) like *saturatus*, but pileum sooty black and crest longer
T. m. major (E Ve, Gu, Su, FG) dark head, crest deep chestnut; browner below, heavily vermiculated
T. m. peruvianus (SE Co, E Ec, Ve?) pileum bright rufous, crest very short; heavy dorsal barring, crown rufous
T. m. saturatus (NW Co) distinct occipital crest deep rufous and finely barred; heavily barred above

epiphytes abound, up to treeline. Sometimes in small clearings. Prefers light, not too tall forest and elfin forest.

Voice Descriptions include a loud, two-note whistle, and a series of high trills, *t'rr'r'a, t'rr'r'a*, fluttery and fading towards end (Hilty).

Crypturellus tinamous are smaller than the preceding genera, being generally birds of lowland forests and woodland, and like all tinamous their beautiful songs – typical of lowland forests – are heard far more often than the birds are seen.

BERLEPSCH'S TINAMOU

Crypturellus berlepschi

Pl. 2

Identification 29.5–32cm. Apparently entirely black, but darkest on head and neck; eyes pale reddish-brown or ochre, legs and feet reddish-brown. Eyes reddish or yellowish, bill black above and grey below, legs and feet greyish-brown. Immature barred on wings and sides with cinnamon, scalloped on breast-sides and barred below with same colours but cinnamon more noticeable. Smaller than Black Tinamou, which it almost overlaps, and lacks reddish undertail-coverts.

Ssp. Monotypic (NW Ec: Esmeralda and Pichincha, W Co: W foothills of W Andes and Pacific coast)

Habits Very poorly known. Seems to be fairly solitary on wet forest floor.

Status Scarce in Ecuador. In Colombia, widespread and thought to be quite common in suitable habitat.

Habitat Lower Tropical Zone to 900m, mostly below 500m. Wet primary or mature secondary forests, especially dense second-growth woods of the Pacific coastal lowlands.

Voice Song a short, high-pitched piercing whistle *teeeee* (R&G).

CINEREOUS TINAMOU

Crypturellus cinereus

Pl. 2

Identification 29–32cm. Overall dark ashy brown, becoming fairly reddish on crown and crest, darker on neck and back. Fine white shaft-streaks on neck, bolder on throat, slightly barred dusky on thighs and undertail-coverts. Juvenile barred on wings, rump and tail with cinnamon, darker brown and whitish.

Ssp. Monotypic (E Ec, SE Co, S Ve, Gu, Su, FG)

Habits Shy and elusive, runs to hide at slightest noise. Feeds on berries, fruits and seeds, also ants, crickets and other insects. Does not construct a nest, eggs are simply laid amid thick undergrowth. Reports on their colour vary from salmon to purple to chocolate-brown.

Status Common in Ecuador. Frequent in Colombia, uncommon to locally frequent in Venezuela, frequent in Guyana. Very common in Suriname (especially littoral), common in French Guiana.

Habitat Lower Tropical Zone. Humid forests, especially *várzea*, where generally locally abundant, but also swamp woods, secondary forests and coffee and cocoa plantations. Clearings, borders and even patchy trees provided there is dense undergrowth.

Voice Single tremulous whistles, occasionally in faint series (H&B), or strong, penetrating whistles, resembling a police

whistle (P&Mds). A clear, ringing whistle on single pitch, *puuuu*, lasting just under 1 s and repeated every 3–5 s, sometimes for long periods (R&G).

LITTLE TINAMOU *Crypturellus soui* Pl. 3

Identification 21.5–24cm. Highly variable (see plate) and races virtually impossible to separate in field, some are sexually dimorphic with colour phases, others virtually monomorphic. Small; male has crown and head-sides blackish, throat white, neck greyish to brown, upperparts uniform brown, always unbarred and usually unspotted; underparts from bright ochre to bright rufous; eyes vary from grey to pale brown to yellow, bill usually blackish above, and from grey to yellow below, legs and feet greenish-yellow or olive. Female like male but may be much richer rufous both above and below.

Ssp. *C. s. andrei* (NE Ve: E slopes of Andes, coastal mts Lara to Sucre and Monagas, Tr) like *soui* but darker

C. s. caquetae (SE Co: SW Meta and S Putamayo) male similar to *soui*, female darker, browner

C. s. cauae (NC Co: Cauca Valley from S Cordoba and Magdalena Valley to Tolima and Cundinamarca) female darker than *mustelinus* with sooty pileum, male similar to *mustelinus* but paler than *soui*

C. s. harterti (W Co: Pacific coast, W Ec) female more greyish, male darker than *cauae*, greyer above than *caquetae*, weaker barring below

C. s. mustelinus (NE Co: NW Ve Sucre to Cesar to Boyacá and W Arauca, NW Ve: Perijá mts and W slope of Táchira and Mérida Andes) as *soui* but less rufescent above, buffier below; female paler with brownish pileum

C. s. nigriceps (E Ec) the darkest race

C. s. soui (E Co, Ve: Delta, Amazonas and Bolívar, Gu, Su, FG) as described

Habits Forages singly, in pairs or small family groups, searching for fruits, berries, tubers and seeds, as well as ants, termites and other insects. Constantly swallows small pebbles. Shy and elusive, will not flush. Nests at foot of a tree.

Status Locally common in Ecuador. Frequent to common and found in many localities, but subject to severe hunting pressure, in Colombia and Venezuela. Frequent in Guyana, Suriname and French Guiana.

Habitat Tropical Zone, to 2,000m in Colombia, to 1,700m on slopes of tepuis in Venezuela. Dry or humid forests, mostly in dense undergrowth. Edges and clearings, young second growth, plantations, cane fields.

Voice The most frequently-heard tinamou call, said to be an imitation of Great Tinamou but flatter and less resonant. Two main songs described: a two-note song, with first whistle ascending and second descending in tone; and a series of whistles, each higher, louder, more rapid, ending abruptly. Also a slurred call that rises and falls, *pee-ee-ee yer-r-r*, and phrases that resemble Great Tinamou but are never as loud or as resonant, nor low-pitched (R&G). Several song types, and sexual differences, complicate song recognition. At dawn and dusk both sexes give a long song, a slightly quavering series of 5–6 slow whistles, each a half step

higher in pitch. Common day calls are various shorter whistles, often doubled, with each note sliding a quarter-tone lower and quavering slightly at end, *weeeeuuuu*, or a single long whistle, sliding up a quarter-tone in middle, trembling and then falling again, *wuuuuuuuuuuuu*. Both sexes often counter-call using these different vocalisations (P. Schwartz recording, Hilty).

TEPUI TINAMOU

Crypturellus ptaritepui

Pl. 2

Identification 28.5–30cm. Poorly known. Uniformly dark above, with no black or white markings, sides of face grey and throat also pale grey, breast, belly and flanks deep grey, scaled dusky brown, eyes pale creamy to yellowish, bill dark above, yellowish below, legs and feet dark green.

Ssp. Monotypic (Ve: Sororopán, Auyán and Ptari tepui, and possibly other E Bolívar tepuis)

Habits Forages in small groups when not breeding. Swallows small pebbles to aid digestion.

Status Vulnerable. Venezuelan/Pantepui endemic – small range and tiny population. Frequent on tops and high slopes of tepuis, scarcer on lower slopes. Common on Auyán Tepui.

Habitat Upper Tropical and Subtropical Zones, 1,350–1,800m. Dense cloud forests on tops and sides of some tepuis.

Voice Song a long, pure-toned whistle, lasting nearly 4 s, the first half on the same, high pitch, the rest descending and fading (Hilty).

BROWN TINAMOU

Crypturellus obsoletus

Pl. 2

Identification 25–30cm. Small, reddish-brown forest tinamou. Adult has blackish crown, grey head, uniform reddish-brown upperparts (somewhat variable, may be quite chestnut), underparts also variable, usually deeper reddish-brown on breast, somewhat greyish on lower breast and belly, more ochraceous from flanks and vent to undertail-coverts, scalloped with long crescents, becoming bars on longest undertail-coverts. Sexes alike, female often more rufescent. Juvenile similar but has small black-and-buffy spots on wings, and soft dusky barring on flanks to undertail-coverts.

Ssp. *C. o. castaneus* (EC Co to E Ec) larger, more uniform chestnut above and below than others

C. o. cerviniventris (N Ve: NW Lara, Falcón, Aragua to Miranda) generally slightly paler than *knoxii*, especially below, barring on flanks brighter and better defined

C. o. knoxii (NW Ve: N Táchira to SE Lara) illustrated; very much like *cerviniventris* but darker below

Habits Main food seeds and insects. Follows army ants; turns up leaf-litter when foraging. Nests at base of a tree.

Status Rare in Ecuador. Uncommon and scarce in Venezuela, but somewhat frequent in a few remote localities. Perhaps extinct in Colombia.

Habitat Tropical Zone on eastern slope of Andes, but reaching Subtropical and even Temperate (cloud forest) Zones on western slope; 1,300–2,200m. Forests, stands of *Alnus*,

second growth, edges and clearings, tracks through forest.

Voice Calls mornings and evenings, especially in twilight. Song described as loud, strong and very tremulous *eEEeert* whistled outbursts, repeated at short intervals or in sequences that swell in crescendo (H&B). A long (4 s) high-pitched, pure-toned whistle on same pitch, the second half fading away (D. Ascanio in Hilty).

UNDULATED TINAMOU

Crypturellus undulatus

Pl. 2

Identification 28–32cm. Medium-sized; crown sooty, face-sides grey, throat white finely scaled grey, back to tail dark rufous, wing-coverts noticeably paler and more olivaceous, greater coverts basally browner, remiges browner, the entire upperparts finely vermiculated dusky; breast to undertail-coverts creamy to white, flushed tawny on flanks and thighs, finely vermiculated on breast, flanks and thighs broadly barred black, undertail-coverts barred with well-spaced black lines. Eyes pale yellowish-brown, bill black above, grey below, legs and feet yellow. Whitish underparts and strong barring distinctive.

Ssp. *C. u. manapiare* (S Ve) dark, dusky forehead and crown
C. u. simplex (SW Gu, FG) flanks and undertail-coverts paler, duller, less chestnut back
C. u. yapura (SE Co, E Ec) variable, but distinguished by greyish breast

Habits Little known, although less shy and secretive than other *Crypturellus*; seems to prefer riparian habitats and is thus easier to see where there is less undergrowth. Takes small fruits, seeds and insects. Being entirely terrestrial, it moves away from flooded areas during rainy season.

Status Common, though subject to severe hunting pressure near human settlements in Colombia and Ecuador. Locally frequent in Venezuela. Frequent in Guyana. Not recorded yet in Suriname. In French Guiana, sight records only.

Habitat Lower Tropical Zone, to 600m in Ecuador, 500m in Colombia and 200m in Venezuela. Humid forests, less frequently in dry scrub. *Chaco*, gallery and *várzea* forests; young second growth, isolated stands of forest in savannas or river islands, but generally near water.

Voice Sings often during day, described as distinctive, a melodious, melancholy, ascending whistle *whoo, who-who-uh?* or sometimes a twice-ascending *whoo-ho, who-uh?* (H&B).

Note Sometimes called Banded Tinamou.

PALE-BROWED TINAMOU

Crypturellus transfasciatus

Pl. 2

Identification 27–29cm. Adult male has dusky brown crown and face-sides with a white eyebrow that broadens behind eye, throat white, neck pale grey frontally, rufescent olive at back to tip of tail, barred from lower back to tail, scapulars and wings, with duskier brown, tipped finely with cream on wing-coverts, tipped broadly on median coverts; breast pale grey to ochraceous, barred black on flanks, thighs and undertail-coverts. Adult female barred from nape to tail, median and greater coverts tipped white; ochraceous buffy below, from foreneck to

undertail-coverts, barred broadly with reddish-brown. Difficult to see, but white eyebrow a very good field mark.

Ssp. Monotypic (W & SW Ec: S Manabi to W Loja)

Habits Poorly known. Freezes to avoid detection and thus may be passed by closely. Nests at base of a large tree. Calls mostly during rainy season.

Status Near Threatened. In Ecuador, frequent to uncommon, threatened by deforestation.

Habitat Tropical Zone to 800m, locally to 1,600m in Loja (R&G). Deciduous lowland forests, light woods, scrub.

Voice A distinctive, loud, liquid *ooo-ing* that rings suddenly through the forest, and a loud ringing *ooo-eeé?* (R&G).

[SLATY-BREASTED TINAMOU

Crypturellus boucardi]

Erroneously listed for Colombia in *Checklist of Birds of Northern South America* (Rodner *et al.* 2000), but species occurs only in Middle America, from south-east Mexico to Costa Rica. It includes races *costaricensis* and *boucardi*, both occurring only in Central America. Colombian records of *C. boucardi* stem from race *columbianus* having been formerly considered as a race of *boucardi*, or because some authors considered it conspecific with *C. erythropus*. Here, *columbianus* is considered a race of *C. erythropus*, but it is very possibly a separate species.

CHOCÓ TINAMOU

Crypturellus kerriae

Pl. 2

Identification 25–27cm. Adult male has blackish front to head and contrasting white throat, becoming slate grey on neck to breast, upperparts deep umber barred slightly blackish on mantle, wings and lower back to tail; underparts rich ferruginous-salmon brown; eyes pale brown, bill dusky, legs and feet bright red. Adult female similar but barring above commences on back and is darker and more noticeable, grey below extends to vent, and breast is faintly barred.

Ssp. Monotypic (W Co: W Chocó in Baudó Mts)

Habits Almost unknown and almost invariably heard but not seen.

Status Rare and fragile due to habitat being seriously imperiled, presumed to have a very small, mostly Colombian range with small populations.

Habitat Lower Tropical Zone (300–800m in Panama). Very humid and dense lowland forests.

Voice Song a low, tremulous, very resonant, 1 s long whistle (H&B), in Panama song is a hollow, mournful *whoh, whoh-ah* (Ridgely & Gwynne).

RED-LEGGED TINAMOU

Crypturellus erythropus

Pl. 2

Identification 27–32cm. Medium-sized and quite variable, especially between races. Essentially, adult male is deep reddish-olive to plain olive or dull chestnut above, variably spotted black and buffy, with barring restricted to rump and tail, or sometimes on flanks and undertail-coverts, throat white, crown dark to blackish, neck brown; breast slate to pale

grey, underparts ochraceous to cinnamon; eyes brown, bill blackish above and paler below, legs and feet pink to orange or red. Females invariably more barred above, and usually more reddish and richly coloured.

Ssp. *C. e. columbianus* (NC Co: Caribbean lowlands) pure white chin and pale grey breast in both sexes, female has unmarked deep umber back, lower back to tail rufous with black barring, wings deep brown evenly barred black and cinnamon, underparts cinnamon-ochraceous, barred from flanks to undertail-coverts; male similar but almost entirely unbarred, except faint narrow barring on lower rump, wide-spaced black and cinnamon barring on greater wing-coverts and secondaries, and heavy black barring on undertail-coverts

C. e. curtsians (NW Co, WVe: Táchira) similar to *columbianus*, but brighter rufescent on neck, with slate grey breast, boldly marked secondaries and buff-tipped axillaries

C. e. erythropus (E Ve, Gu, Su, FG) male has fine black barring on rump to tail, wings olive with scattered black spots and pale buffy tips to wing-coverts, and pale tips to outer edges of secondaries, breast slate grey; female has mantle deep uniform rufous-umber, rest of upperparts evenly and narrowly barred black and rufous; lower neck and breast brown, barred dusky

C. e. idoneus (NE Co, WVe: Perijá) similar to but paler than *columbianus*

C. e. margaritae (Ve: Margarita I) similar to *erythropus* but smaller and greyer above

C. e. saltuarius (NC Co: Magdalena Valley) similar to Chocó Tinamou but much paler throughout, forecrown sooty black

C. e. spencei (NC Ve) a paler and more spotted version of *erythropus*

Habits Active but solitary forager that is sometimes heard busily moving over leaf-litter. Forages for fallen fruits and berries, seeds, insects and small vertebrates, mostly at dawn and dusk. Curious and not very shy. Apparently breeds in rainy season. Males may amble randomly within their territories when not breeding. Non-territorial females may roam long distances.

Status Although widespread, populations appear small, and are under pressure from hunting and habitat loss in many areas. Very sensitive to deforestation. Relative abundance uncertain in Colombia, uncommon to locally frequent in Venezuela, uncommon in Guyana, rare in S Suriname. Still uncertain in French Guiana, probably rare; requires investigation in the drier parts of the coastal plain.

Habitat Tropical Zone, to 1,700m. Thorny, open woodland, scrub, thickets and second growth; light deciduous forests.

Voice Sings at dusk, a hollow, tremulous whistle – *whooo-hoooa* – repeated every c.30 s (H&B, P. Schwartz recording). In Venezuela, song popularly interpreted as *soi-so-la* which serves as the local name.

Notes The taxa included here as ssp. of *C. erythropus* follow the taxonomic arrangement proposed by Blake (1977) and by S&M, also suggested by Carriker (1955) and by P. Schwarz & Eisenmann (*vide* H&B). Both H&B and S&M consider that

races need revision: three are almost certainly separate species *idoneus*, Santa Marta Tinamou; *columbianus*, Colombian Tinamou and *saltuarius*, Magdalena Tinamou (known from a single specimen, is particularly different, and is considered Critically Endangered). In SCJ&W they are listed as separate species. Race *idoneus* sometimes treated as subspecies of Yellow-legged Tinamou *C. noctivagus*, while race *columbianus* is sometimes treated as a ssp. of Slaty-breasted Tinamou *C. boucardi*.

GREY-LEGGED TINAMOU

Crypturellus duidae Pl. 3

Identification 28–31cm. Male has entire head and neck to breast (except white throat) bright rufous, upperparts dark brown, faintly barred dusky, and some white tips to wing-coverts; underparts bright ochraceous, washed rufous on flanks, barred slightly on flanks and thighs; eyes orange to yellow, bill black above, grey to yellowish below, legs and feet grey. Female far more distinctly and obviously barred from back to tail, with paler, broader bars on tertials and remiges.

Ssp. Monotypic (SE Co: S Meta, S Ve: extreme W Bolívar and Amazonas)

Habits Very poorly known.

Status Uncommon to rare in Colombia, uncommon to very locally frequent in Venezuela.

Habitat Lower Tropical Zone, to 500m in Colombia and 200m in Venezuela. Dense, very humid lowland rain forests and forest edges.

Voice Song a slow, monotone whistle that has a brief break near the beginning: *whu-uuuuuuuuuuuuuuh*, alternately *aah-aaaaaaaah* (Hilty).

VARIEGATED TINAMOU

Crypturellus variegatus Pl. 3

Identification 28–31cm. Adult has black crown, grey head-sides and white throat, neck rufous, darker at back, brighter near breast, entire upperparts heavily barred black on rufous, underparts whitish to ochraceous, barred on flanks, thighs, vent and undertail-coverts; eyes dark brown, bill dark brown above, pale brown below, legs and feet greenish or horn. Juvenile similarly patterned, but barring below paler, tipped white on vent and undertail-coverts, and foreneck and breast spotted with white and black.

Ssp. Monotypic (E Ec: Sucumbios to Morona-Santiago, SE Co: Vichada to W Caquetá and Vaupés, S Ve: Bolívar and Amazonas, Gu, Su, FG)

Habits Very shy. Feeds on insects, seeds and berries. Breeds in rainy season. For nest, uses a small, scratched-clean depression in ground.

Status Uncommon in Ecuador and Colombia, where populations have been severely reduced in many areas by deforestation and hunting. Frequent in southern Venezuela, in Guyana and in the interior of Suriname. Common in forests of the interior in French Guiana.

Habitat Lower Tropical Zone. All types of humid forests, but particularly *terra firme*, thickets and overgrown clearings.

Voice Has a very singular voice. Song a series commencing

with a long, tremulous, ascending whistle, then a pause, then 5 shorter, faster whistles, each slightly higher in tone *uuuuuuuuuh* *uuu, wuu, wuu, wuu, wuu, wuu* (H&B, P. Schwartz recording).

RUSTY TINAMOU

Crypturellus brevirostris Pl. 3

Identification 25–28cm. Quite distinctive with extensive pale throat, and rest of head, neck and underparts bright rufous; upperparts brown, scalloped black on back, becoming barred on lower back and wings, pale barring on flanks and regular bars on undertail-coverts; eyes dark brown, bill blackish above, paler below, legs and feet greyish-yellow. Juvenile similar but virtually unmarked, but has dark subterminal spots and fringes to lower back and wings, and scattered crescents on flanks.

Ssp. Monotypic (Co?, Gu?, FG)

Habits Very poorly known.

Status Poorly known. Uncertain in Colombia and Guyana. In French Guiana only one recent record (Criquelchini).

Habitat Lower Tropical Zone. Dense humid tropical forests, especially *várzea*.

Voice Described by M. Cohnhaft (1977) as being like *C. bartletti*.

Notes Sight record (1993) in Colombia by J. Newman *vide* SCJ&W. Perhaps conspecific with *C. bartletti*.

BARTLETT'S TINAMOU

Crypturellus bartletti Pl. 3

Identification 25–28cm. Crown and nape uniformly fuscous, throat whitish, foreneck and breast dull brown, upperparts olive-brown heavily barred black, underparts creamy ochre, slightly and faintly barred on flanks, regularly barred dark brown on undertail-coverts; eyes dark brown, bill dark above, pale below, legs and feet pale grey to pale yellowish-horn or greenish. Juvenile duller with blackish crown, sparsely, white- and black-spotted wing-coverts and breast, and indistinct dark flanks markings. Look for contrasting dirty brown upper breast and very pale belly, and obvious barring on back and wings.

Ssp. Monotypic (E Ec)

Habits Poorly known. Forages alone. Extremely shy.

Status Rare, but perhaps under-recorded in E Ecuador (possibly occurs in Colombia).

Habitat Lower Tropical Zone to 400m in Ecuador. Humid lowland *terra firme* forests; in dense vegetation or sometimes in wooded thickets.

Voice Beautiful song is a loud, penetrating series of pure-toned whistles, commencing with long notes separated by long pauses that speed up gradually to shorter, higher notes with shorter pauses (R&G).

Notes First sight records in Ecuador in 1990, first specimen 1991. Possibly conspecific with *C. brevirostris*.

BARRED TINAMOU

Crypturellus casiquiare Pl. 3

Identification 25.5–27cm. Bright rufous head and pure white throat contrast with slate grey neck and breast, which in turn contrasts with white belly, becoming pale ochre on flanks

with vestigial barring, and rufescent faintly barred undertail-coverts; upperparts deep black with rufous scalloping and fringes from mantle to tail tip; eyes brown, bill horn with dark tip, legs and feet green. Juvenile/immature duller and browner, less ochraceous, breast flecked rufous, wing-coverts tipped whitish.

Ssp. Monotypic (SE Co: extreme E Guanía and Vaupés, S Ve: extreme SW Amazonas)

Habits Poorly known. Look for grey breast and pale grey belly.

Status Very restricted range, no data on populations. Possibly frequent but quite local in Colombia and Venezuela.

Habitat Lower Tropical Zone to 300m in Colombia and Venezuela. Almost exclusively in white-sand soil forests of the upper rio Negro–Orinoco basin.

Voice The song is described as easily recognised: a long whistle, *wooooo*, then a long series (*c.*30) of shorter whistles that first rise and then fall in pitch and decelerate (H&B, P. Schwartz recording).

TATAUPA TINAMOU

Crypturellus tataupa Pl. 3

Identification 24.5–26.5cm. Quite distinct and unmistakable if seen well. Head, neck, breast and upper belly soft grey, throat white, flanks and thighs creamy buff, undertail-coverts black with whitish-buffy fringes to feathers; upperparts uniform cinnamon-chocolate; eyes brown, bill red, legs and feet pale purplish-red. Juvenile similar but has pale black barring on wings.

Ssp. *C. t. inops* (SE Ec: extreme S Zamora–Chinchipe)

Habits Forages on the ground for seeds, buds and berries, also ants, insects and small snails; less shy than others in family.

Status Uncommon, only recently found in Ecuador.

Habitat Tropical Zone, at 650–950m. Deciduous forests, scrub, edges, clearings and tracks through dense vegetation; occasionally wanders into open grassy areas. Wet, densely vegetated gulleys near forest edge, locally in grassy areas and scrub (Cabot 1992).

Voice Song unlike any other Ecuadorian tinamou, a short, descending series of gravelly notes: *drreeyp? drrey-dri-dri-dri-dri-dru* (R&G).

Note First sight records in Ecuador in 1991, first specimen, taken 1992, erroneously assigned to race *peruviana* in Rodner *et al.* (2000).

Nothoprocta tinamous are distinct both in appearance and habitat. They have decurved bills and somewhat lined or streaked patterns on head, more pronounced on the backs. They are birds of high-altitude, fairly open grassy terrain and are far more likely to flush and fly off when disturbed than other tinamous.

ANDEAN TINAMOU

Nothoprocta pentlandii Pl. 3

Identification 25.5–30cm. Top of head brown with blackish spots or bars, back of neck plain brown, dark line through eyes continues onto neck-sides, eyebrow, face-sides, throat and upper foreneck pale buff, breast grey spotted buff, entire

underparts buffy with slight black-spotted chestnut streaking on sides; back streaked whitish, alternating with chestnut that is scaled or spotted black. Rump to tail barred narrowly dark grey and tawny-buff, wing-coverts brown vermiculated and spotted black, greater coverts and all flight-feathers barred rich brown, black and white with fine vermiculations; eyes brown, bill narrow and decurved, dark above and yellowish below, legs and feet yellow. Juvenile has additional pale barring and vermiculations on breast.

Ssp. *N. p. ambigua* (S Ec)

Habits Very secretive, seldom leaves tall grass or scrub cover, but when flushed has distinctive shallow but rapid wingbeats. Feeds on seeds, juicy shoots and fruits; potatoes, alfalfa and barley buds from planted fields; insect larva. Several females lay eggs in 1 nest.

Status Uncommon and local in Ecuador.

Habitat Upper Tropical Zone to Páramo, 1,500–4,000m. Steep, inaccessible slopes and ravines. Semi-arid shrubby, thorny or coarse grass areas, páramos, edge of cloud forests, light woodlands of *Polylepis* or *Carica*, occasionally in planted fields.

Voice Territorial calls include a sharp *cheeleep*, and the song is a long accelerating and descending series of melodic calls, *pyuc-pyuc-pyuc..... yucyucyuc*. On western slopes, series shorter (F&K). High-pitched whistled call is an abrupt and shrill *pii-eng!*, usually given at long intervals and thus difficult to locate (R&G).

CURVE-BILLED TINAMOU

Nothoprocta curvirostris Pl. 3

Identification 26–30cm. Crown black with rufous fringes to feathers, continuing on back of neck, long white supercilium from base of bill to neck-sides, dark line through eyes also continues onto sides of neck, where fragmented by white spots, throat and foreneck whitish-buffy becoming rufous from upper breast back, fading slightly on vent and undertail-coverts, breast lightly barred at sides and spotted irregularly with black and white; upperparts mostly deep chestnut, streaked on back with white lines and rows of heavy, chestnut-edged black spots, wing-coverts brown vermiculated with subterminal black bars and buffy fringes, greater coverts and flight-feathers chestnut barred black, with some narrow white fringes to tertiaries and innermost secondaries, primaries black barred white; eyes brown, bill dark brown with yellow base, legs and feet dull orange. Juvenile similar but more rufescent above and more spotted on breast-sides and flanks.

Ssp. *N. c. curvirostris* (C Ec: Carchi and Pichincha to E Azuay)

Habits Poorly known. Found around patches of Ericaceae, Compositae and *Hypericum*. Apparently tolerant of human proximity, although human presence very low within its largely inaccessible habitat.

Status Uncommon and local in Ecuador.

Habitat Temperate Zone to Páramo, 3,000–3,900m in Ecuador. Puna and páramo; humid to semi-arid areas of bunch-grass, scrub and evergreen bushes.

Voice Call a series of 3 whistles, *pee-pee-pee*, repeated every 5 s (F&K).

ANHIMIDAE – Screamers

Screamers are large, superficially goose-like birds, related to ducks and flamingos, but anatomically unique. They have sharp spurs on the wing bends and perforated nostrils. Legs and toes are unusually large and long, enabling them to easily walk over floating vegetation, despite weights of several kilos. They make excellent eating and are hunted everywhere. Perch atop bushes and small trees, among tall marsh grasses, but if disturbed fly to top of tall tree, where they call, alerting all wildlife in the area, much to the chagrin of hunters. Calls audible over several kilometres.

Additional references used to prepare this family include Carboneras (1992b).

HORNED SCREAMER

Anhima cornuta

Pl. 4

Identification 84–92cm. Black, glossed with green, white scalloping on crown, nape and neck, some white linings to underwing-coverts, belly to undertail-coverts white. A slender ‘horn’ of firm skin projects from forehead; eyes yellow, bill black, legs and feet grey. Unmistakable. Differs from Northern in white belly and white underwing-coverts, easily visible in flight, and has black cowl with mottled neck.

Ssp. Monotypic, (throughout except ABC)

Habits Usually in pairs in grassy patches near water, sometimes more social. Very wary and flushes at long distance. Occasionally soars, appearing like a vulture, with neck extended and long tail spread.

Status Uncommon to rare in Ecuador, locally common in Colombia and Venezuela, extinct in Guyana and French Guiana. Declining due to habitat loss.

Habitat Tropical Zone to 300m. Remote marshy areas, vegetation-choked lagoons and riverbanks in forested areas, shallow marshes and ponds, but always with bushes and trees.

Voice Very vocal and very loud. An unmistakable and unforgettable, deep throaty *guu-uulp*, *güü*, usually when perched (R&G). Typically several throaty *u-who* notes, a few *gulp-who* calls and a more raucous honking *quik-quoo*, *quik-quoo*, *quik-quoo*, *yoik-yok*, *yoik-yok*, varied in sequence. Pairs duet, a rhythmic 4-noted *U-WHO-kluk-uak* (Hilty).

NORTHERN SCREAMER

Chauna chavaria

Pl. 4

Identification 84–94cm. Black to dark grey on body, head and neck white with a broad black band around neck, red eye-ring prominent, scruffy crest, eyes and bill black, legs and feet greenish-grey. From Horned by red face, white cowl, black neck and scruffy crest.

Ssp. Monotypic (N Co, NW Ve)

Habits Sedentary and sedate, usually singly or in pairs. Not shy but often flushes at some distance. Easily overlooked if resting in tall marsh grasses or in red mangrove.

Status Uncommon and very local in Colombia and Venezuela. Declining due to habitat loss.

Habitat Tropical Zone. Vegetation-choked lagoons in swampy forest, marshes, grassy ponds in open country, banks of slow-flowing rivers with bushes and tall trees nearby or if surrounded by forest.

Voice Often silent for long periods. Recalls Horned Screamer, but less powerful, a rising, high-pitched almost yelping scream. Calling bird usually answered by mate (Hilty).

ANATIDAE – Ducks and Geese

There is a certain gentle artlessness in ducks that makes even the rarest and most ‘exotic’ species seem familiar and domestic. Among the northern South American species, some are migrants and others residents; some flock in thousands and a few live in distant, solitary pairs. Many are exquisitely dressed in elegant plumage patterns, many have intriguing courtship displays, and yet, with perhaps the single exception of Torrent Duck, none seems to qualify for the appellation wild bird. But they are indeed wild and their conservation is a matter of serious concern. Aside from unrelenting persecution by hunters, they are affected by the destruction of rivers and riparian habitat from damming, pollution (including pesticide run-offs) and silting, and are even the innocent victims of their insatiable appetite for rice. One very interesting aspect of waterfowl life is moult, wherein all flight-feathers are shed simultaneously, rendering the birds literally flightless for some time, until the new ones are in place. Ducks prepare for the energetic demands of growing new feathers by feeding actively (often day and night) to accumulate fat, and by gathering in moulting grounds – wetlands that have been traditionally visited at moulting time, where they may find both an abundance of food and a measure of safety from predators. Rains and water levels are also fundamental. Even the most sedentary species follow seasonal itineraries, journeying, usually between a few not-too-distant wetlands, to take advantage of each when food availability peaks.

Additional references for this family include: Blake (1977), Madge & Burn (1988, referred to here as M&B), Carboneras (1992b), Johnsgard & Carbonell (1996) and Sibley (2000).

Whistling ducks are long-legged and long-necked, short-bodied with a fairly upright stance. Distinctive profile in flight, with legs projecting beyond the tip of the tail, broad wings with black undersides and shallow wingbeats. They walk well and comfortably. Highly gregarious, gathering in close flocks for feeding and roosting. They have shrill canary-like whistles given in flight.

FULVOUS WHISTLING DUCK

Dendrocygna bicolor

Pl. 6

Identification 45–53cm. Upright-standing, largely cinnamon with fulvous to brown back barred darkly, paler throat with short thin black streaks, black on back of neck and

elongated feathers of flanks are white, edged black; eyes dark, bill blackish, legs and feet grey. Cinnamon from head to belly, with black-and-white streaks on flanks diagnostic.

Ssp. Monotypic (all countries)

Habits Always in flocks that range from small to very large, often mixed with Black-bellied Whistling Duck. Forages mostly at night, dabbling and sometimes diving in open water for seeds, fruits, grass shoots, bulbs and other plant matter in the water.

Status Very local everywhere, always associated with suitable wetlands. Heavily hunted for sport and to prevent crop damage.

Habitat Tropical Zone, occasionally to Subtropical, but generally below 100m. Freshwater wetlands with trees and tall waterside vegetation in *llanos* and other flatlands. Particularly likes rice paddies.

Voice Call repeated continually in flight; a high, reedy *kur-dür* (Hilty) or a shrill whistle, *ki-weeah* (R&G).

WHITE-FACED WHISTLING DUCK

Dendrocygna viduata

Pl. 6

Identification 38–48cm. Adult male has white face and throat, rest of head to halfway down neck black, breast deep ruddy chestnut, back brown streaked black, wings ruddy and grey, flanks finely barred to vermiculated black and white, belly to undertail-coverts black; eyes dark, bill black, legs and feet vinaceous pink. Adult female has white of face dirty and not clean-cut, white throat more extensive, leaving small black band to join black at back of neck, lower foreneck and breast ferruginous, upperparts drab grey lightly spotted and streaked darker, wings like male, entire underparts finely (more so than male) vermiculated black and white; bill dark to blackish, legs and feet dark grey. Juvenile has grey face, breast weaker fulvous. From Black-bellied by head pattern, dark back and black bill.

Ssp. Monotypic (all countries)

Habits Always in small to large groups, often with Black-bellied, forages by day or at night, dabbling or diving for plant matter and some aquatic invertebrates. Flocks stand in tight groups on humid banks, becoming upright when alert. Local movements and breeding season depend on rains, which in turn affect water levels and condition of wetlands.

Status Global population large and widespread in South America and Africa, but very local everywhere, always associated with suitable wetlands. Hunted for sport and to prevent crop damage.

Habitat Tropical and Subtropical Zones, occasionally to Temperate. Freshwater wetlands with or without aquatic vegetation, in *llanos* and other flat, open areas.

Voice A sweet *güi-ri-ri* whistle in flight, with stress on first syllable, e.g. *WEE-te-de* (Hilty).

BLACK-BELLIED WHISTLING DUCK

Dendrocygna autumnalis

Pl. 6

Identification 43–53cm. Adult male has grey face, ferruginous crown, grey on back of neck, lower throat white,

separated from dull rufescent upper breast by an indistinct greyish bar, lower breast grey, belly and sides black, admixed white on undertail-coverts; entire back bright chestnut, wings grey with a whitish band running lengthways; eyes dark, bill coral red, legs and feet orange-pink. Female has much whiter face and a sandy crown and back of neck, from a soft greyish bar across foreneck to entire breast orange, fading on belly and lightly scalloped with grey, underparts dusky with some buffy on undertail-coverts, back orange-cinnamon, wings pale grey; soft parts like male but slightly paler. Juvenile has duller, greyish-white belly barred darker. From White-faced by chestnut back and coral red bill.

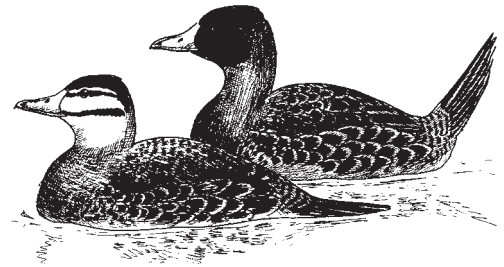
Ssp. *D. a. discolor* (all countries)

Habits Usually in loose flocks, except when breeding. Forages in shallow water, wading and dabbling for vegetable matter, or grazes dry ground near borders of ponds and streams. Flocks move seasonally over large areas to where wetland conditions are adequate.

Status Common, has benefited from forest clearance for pasture and subsequent creation of small drinking ponds.

Habitat Tropical Zone, occasionally to Temperate, but mostly below 200m in Ecuador, to 2,600m in Colombia, to 600m+ in Venezuela. In mangroves, *llanos* and savannas, pastures and agricultural areas, and wetlands with partially wooded borders.

Voice Call is a *güi-ri* whistle, uttered repeatedly by entire flock. Gives variations of *wee*, from *wee-ree* up to 5 notes, e.g. *wee-tee-Wée-te-re* (Hilty). High-pitched whistles, *wi-chi-tee* or *wit-chee*, *wit-chee-chee* (R&G).



Pair of Masked Ducks swimming (duck on left, drake right); note tail is normally laid on water (as in the duck), but may be raised in display or agonistic situations

MASKED DUCK *Nomonyx dominicus* Pl. 4

Identification 29–36cm. Adult male in breeding plumage has front of head black, nape and throat to breast rich ruddy, becoming more rufescent on back and flanks, which are spotted black, wings have large white speculum, tail short and pointed and may be held vertically at right angles to body. In non-breeding plumage, black face broken up by largely white postocular eyebrow, subocular crescent and irregularly from chin to lower ear-coverts. Eyes reddish-brown, bill pale blue-grey with black tip, legs and feet greyish-green. Female lacks any ruddy or chestnut, having a black crown, white eyebrow,

black line through eye, white line from base of lower mandible to ear-coverts, chin and throat whitish; upperparts dull brown, with black crescent-shaped spots; underparts from foreneck ochraceous with black crescent-shaped spots on neck- and breast-sides and flanks. Females and eclipse males from Andean Duck by double white lines on face. From Andean Duck in flight by white wing panels.

Ssp. Monotypic (all countries)

Habits Very wary and secretive. Swims silently into cover or dives at first alarm. Found singly, in pairs or families. Forages by diving for seeds, bulbs and other vegetable matter, and small invertebrates. Tail only occasionally cocked upright.

Status Very local and uncommon, though often considered rarer than it really is due to secretive behaviour.

Habitat Lower Tropical Zone, sea level to 200m. Freshwater swamps and marshes with well-forested borders and abundant water plants. Also in mangrove swamps and rice fields.

Voice Pigeon-like *ouu-goo-goo-ouu* by displaying male (Hilty), also *coo-coo-coo*, *kirroo-kirroo* and an almost inaudible *oo-oo-oo* (Johnsgard).

Note Previously placed in genus *Oxyura*.

ANDEAN DUCK *Oxyura ferruginea* Pl. 4

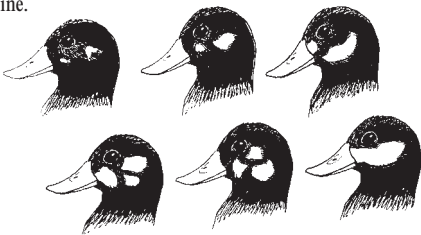
Identification 37–43.5cm. Adult male in breeding plumage has entire hood black, almost entire body deep chestnut-brown, becoming sooty on central belly to inner flanks, lower belly to undertail-coverts creamy white, tail dark to blackish, and sometimes held at right angles to body. Eyes dark brown, bill pale blue, legs and feet grey. Adult male in non-breeding plumage is duller and browner with head pattern rather like Masked Duck but with a single white line. Breeding female almost entirely mid brown with fine lateral barring on flanks, central belly to undertail-coverts creamy white. Non-breeding female has head similar to female Masked Duck, but with a single whitish line. Females and eclipse males from Masked Duck by single white line across face. From Masked Duck in flight by lack of white in wings.

Ssp. *O.f. andina* (Co: C & N Andes) variable white patch on cheek, extremes from entirely black to all white are known

O.f.ferruginea (S Co, Ec) as described; no white on head

Habits In small groups that do not join other waterbirds but spend most time on open water, where they forage by diving. Food is mostly aquatic invertebrates and seeds.

Status Uncommon and local; Colombian race *andina* is in decline.



Sample patterns from wide range of variation in head patterns of drake Andean Duck

Habitat Subtropical Zone to Páramo. Partial to montane wetlands with slightly alkaline waters, and also to sites with both deep, open water and large stands of reeds.

Voice Males utter *tic-tic-tic-raah* when displaying (R&G).

GREATER WHITE-FRONTED GOOSE

Anser albifrons

Pl. 6

Identification 65–86cm. A large greyish goose, barred narrowly with white on upperparts, dark heavy bars on belly, white vent and undertail-coverts: white plaque at base of yellowish bill, legs and feet orange. Juvenile lacks facial white plaque and black bars on belly; bill, legs and feet paler. From immature or blue-phase Snow Goose by pink bill and barred plumage.

Ssp. *A. a. elgasi* / *flavirostris* / *gambeli*? (Ar) subspecies unknown

Habits Normally in pairs or small flocks, but stragglers likely to be alone. Forages on dry ground, grazing or picking seeds, small fruits, cereals and grain.

Status Northern migrant, abundant in its breeding range, but recorded only rarely in northern South America, where only likely to occur during very cold boreal winters.

Habitat Lower Tropical Zone. Open areas next to wetlands, marshlands and coastal areas.

Voice Noisy. Characteristic flight call is *lyo-lyok*, given repeatedly (M&B).

SNOW GOOSE *Anser caerulescens* Pl. 6

Identification 66–84cm. Typical adult all white with black primaries, reddish-orange bill, legs and feet, and immature is duller white with a grey back and wings, still with black primaries, blackish bill and grey legs and feet. Blue phase is largely deep slate with a white head and clear white fringes to most wing-feathers.

Ssp. *A. c. caerulescens* / *atlanticus*? (Tr)

Habits In pairs or small groups, forages on dry ground for seeds, grass shoots, berries, grain and cereals.

Status Boreal migrant, abundant in breeding range but rare vagrant to Trinidad.

Habitat Lower Tropical Zone. Open country, always near water and often in rocky terrain or gravel beds, especially on the shore. Agricultural areas.

Voice Very vocal, calling continually in flight, sounds like a small dog barking *la-luk!* (M&B).

ORINOCO GOOSE *Neochen jubata* Pl. 6

Identification 61–66cm. Adult male has head, neck and breast to central belly off-white, streaked slightly buffy on nape and scalloped on breast, mantle grey scalloped white, band across upper mantle, scapulars, breast-sides and flanks orange, wings black with broad white speculum, large crescent of dark brown behind flanks, undertail-coverts white; eyes dark, bill black above, red below, legs and feet bright reddish-orange. Female similarly patterned but has drab wash to crown and back of neck, orange flanks less extensive and dark

post-flanks patch borders scalloping on belly-sides; bill dusky and pink, legs and feet paler orange. Unmistakable, with proportionately small head and thick neck.

Ssp. Monotypic (Ec Co, Ve, Gu, Su, FG)

Habits In pairs or family groups, or small groups when moulting. Forages by grazing in damp areas, taking variety of vegetable matter and smaller proportions of insects, snails, worms and other invertebrates. Sedentary.

Status Very rare and local in Ecuador. Very local elsewhere. Popular belief that it tastes bad has saved populations of some regions from hunting pressure (e.g. Venezuelan Llanos).

Habitat Lower Tropical Zone to c.500m, but recorded to 2,600m. Open areas, gallery forest or wet clearings, most often by large bodies of fresh water (rivers, lakes).

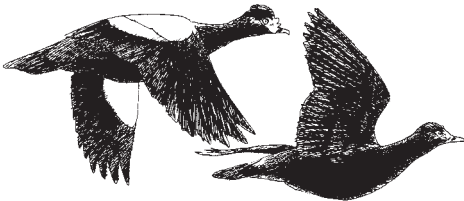
Voice Male's calls include a high whistle and guttural honks in breeding season, whilst female utters a loud cackle (H&B). The male gives a shrill-whistled *zree* and series of hollow reedy whistles, *preep, preep...* like whistling into a barrel. Female a low guttural honking *gur'rump, gur'rump, gur'rump* (Hilty). Both sexes utter a distinctive nasal honking, *unnhh?* (R&G).

MUSCOVY DUCK *Cairina moschata* Pl. 6

Identification 66–84cm. Unmistakable. A large black duck with a white wing patch, male much larger than female, and has pronounced tufted crown and nape, red caruncles on and around face, bill orange with a black band midway along. Female has pink-and-black bill and much smaller tuft on crown. Eyes sepia, legs and feet black. Both sexes have rich purple gloss to neck, and rest of the body may be shot with green and bronze iridescences. Juveniles lack iridescences and are duller with no facial caruncles. Many areas populated by birds that have hybridised, or are several generations on from hybrid breeding with descendents of the white Aylesbury Duck. These birds have variable amounts of white, and the facial caruncles of the male may have grotesque proportions. Even so, they are easily recognisable.

Ssp. Monotypic (all countries except ABC)

Habits Very wary of man, and retires at first suspicion of man's presence. Forages alone, in pairs or in small flocks, picking varied plant matter, as well as small vertebrates and invertebrates. Feeds both by grazing on dry ground or by dabbling in shallow waters.



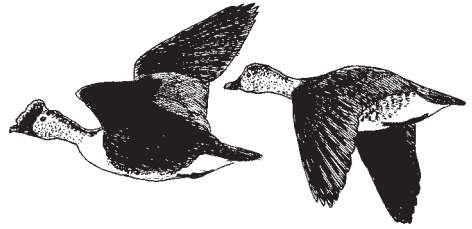
Pair of Muscovy Ducks in flight, drake at upper left

Status Very extensive range, but only locally common. Populations decreasing due to continual hunting pressure and to its propensity for hybridising with domestic ducks.

Habitat Tropical Zone. Mangroves and coastal lagoons,

swamps, slow-flowing rivers with gallery forests, wetlands in or adjacent to forest.

Voice Male hisses, female gives a soft *quack* (Hilty, R&G).



Pair of Comb Ducks in flight, drake at left

COMB DUCK *Sarkidiornis melanotos* Pl. 6

Identification 56–76cm. Rather goose-like, adult male has white head with black crown and small irregular black spots scattered over face and neck, clustering on nape, underparts almost entirely white but for blackish flanks; upperparts uniform black; eyes red, bill swollen at base and has a large flat comb erect from basal two-thirds of culmen, legs and feet greyish-blue. Female much smaller, lacks comb, but does have a prominent basal ridge to culmen and only slight dark brown shading to flanks. Juvenile sandy brown, dusky on back and below, the feathers of the underparts having broad sandy fringes affording a scaled appearance; eyes dark brown, bill, legs and feet grey.

Ssp. *S. m. sylvicola* (all countries)

Habits Wary. Somewhat nocturnal. In pairs or small groups. Forages by grazing on dry ground or by wading and dabbling in shallow water. May occur in flocks of whistling ducks. Journeys seasonally to different wetlands, in accordance with changes in water levels.

Status Rare and very local in Ecuador. Seldom in large numbers, with largest populations in Venezuela. Affected by pesticide use and hunting pressure.

Habitat Tropical Zone. All kinds of wetlands in open and semi-open areas with scattered trees, usually along rivers and open marshland.

Voice Largely silent, but gives wheezy whistles, grunts and hisses in breeding season, particularly in display (M&B).

Note Race *sylvicola* (which may qualify for Near Threatened status) is now often considered specifically distinct from nominate *melanotos* of Africa and Asia (e.g. Kear 2005).

BRAZILIAN TEAL

Amazonetta brasiliensis

Pl. 4

Identification 33–38cm. Adult female dark morph has top of head from forehead to nape blackish, with a prominent white spot at base of bill and also just before and over eyes, throat white, dark grey above with wings dark blue and green, and a large white speculum; breast orange-rufous with some irregular black spots on sides, gradually becoming greyer on undertail-coverts; eyes dark, bill black, legs and feet red. Male similar but lacks white spots on face, which is duskiest; bill bright red. Pale morph has face largely white and is brighter

rufescent below. Red bill and rufescent breast distinctive, whilst double white facial spot on female also distinctive. Bright green-and-blue patch on wing with white trailing edge to secondaries unique.

Ssp. *A. b. brasiliensis* (E Co, Ve: Llanos, Gu) dark and light phases occur equally

Habits Usually in small groups, often with other waterfowl, or in pairs during the breeding season, which is linked to arrival of rains.

Status Common. Adapts to human-induced habitat changes. Under strong hunting pressure in some parts.

Habitat Tropical Zone. Freshwater wetlands partially bordered by woods or within densely forested areas.

Voice Flight-call a fast-repeated *tuwee tuwee* whistle (H&B, P. Schwartz recording), or *pueep-pueep-pueep* with shrill quality. Female has low raspy or grunting *grak* or *unk* (Hilty).

AMERICAN WIGEON

Anas americana Pl. 5 & 7

Identification 45–52cm. Speckled and vermiculated above, with a white forehead and crown in male, and a distinctive black line at base of bill, large white speculum; underparts orange-buffy, mottled somewhat with grey, belly white, and undertail-coverts black (male) or scaled black and white (female).

Ssp. Monotypic (Co, Ve, ABC, T&T)

Habits In pairs or small family groups, but seldom alone, feeds on vegetable matter (aquatic plants as well as green shoots, fresh sedges and grasses), foraging in water (swimming) or on ground, including humid, grassy shores, meadows and ploughed fields that are beginning to sprout.

Status Boreal migrant, reaches northern Colombia, northern Venezuela, and Trinidad & Tobago intermittently (large flocks occasionally occur).

Habitat Tropical Zone. In northern South America, shallow wetlands on or near coast.

Voice Female has low quack *warr warr warr*, male a distinctive 2–3-syllable whistle, *wi-WIW-weew* or *Wiwew* (Sibley).

EURASIAN WIGEON *Anas penelope* Pl. 5

Identification 45–51cm. More or less entirely soft rufous, subtly patterned with grey and brown, bold white speculum and black flight-feathers. Female slightly less rufous with more dusky marks, slight streaking and vermiculations. Male in breeding plumage easily recognised by rich rufous head, straw-coloured forehead and forecrown, grey mantle and flanks. Eclipse male and female difficult to separate from American Wigeon in field, unless takes flight when grey underwing apparent; also head of Eurasian always warmer in coloration (male especially so), and American has black line at base of bill.

Ssp. Monotypic (Ve)

Habits Very much as previous species.

Status Rare vagrant to Caribbean. Single sight record of male in breeding plumage, in company of Blue-winged Teals in Falcón, Venezuela, March 2002 (Williams & Beadle 2003). Possible that

females and eclipse males have been mistaken for American Wigeon?

Habitat Shallow wetlands on or near coast.

Voice Female similar to American, but harsher; male a high-pitched, strong, descending and vibrant *hwEEEEEEr* (Sibley).

GREEN-WINGED TEAL

Anas carolinensis Pl. 5 & 7

Identification 34–43cm. Male and female in non-breeding plumage very much alike, essentially speckled black or dusky on an ochraceous buffy ground; they are readily identified by the white, green and white speculum. Male in breeding plumage quite different, with deep ruddy head and bold, golden-edged green band from eyes to neck-sides, and vermiculated grey upper- and underparts. Female and eclipse males difficult to identify from other generally similar, nondescript female-type teals.

Ssp. Monotypic (migrant from Nearctic: Co, Ve, Ar, To)

Habits Winters usually in pairs or small groups. Dabbles, upends and dips head to pick seeds of water plants, sedges and grasses in shallow water.

Status Boreal migrant: northernmost breeding populations winter to southernmost parts of winter range. Very few scattered records, from Colombia, Venezuela, Aruba, Tobago and possibly Trinidad.

Habitat Tropical to Subtropical Zones. In northern South America, small brackish or saltwater wetlands, on or near coast.

Voice Female shrill and feeble, a high nasal, scratchy *SKEE we we we*. Courting male a ringing whistle, *reed* or *krick*, which becomes hoarser in non-breeding season (Sibley).

Note Formerly considered conspecific with Eurasian Teal *A. crecca* of Old World.

MÉRIDA SPECKLED TEAL

Anas altipetens Pl. 5 & 7

Identification 40–44cm. Generally brown above and paler brown below, entirely speckled with blackish (feather centres), smaller and denser on head, larger and more spaced on breast, paler and lighter on flanks and undertail-coverts; identifying mark is orange, green and orange speculum; eyes dark, bill, legs and feet bluish-grey. Sexes alike. Generally paler than Andean Teal and browner above, less heavily speckled and barred; green speculum lacks bronze or purple reflections.

Ssp. Monotypic (E Andes of Co, NW Ve)

Habits In pairs or groups, which usually increase in size during moulting period. Feeds on small land and water invertebrates, larvae, seeds and plant matter, foraging both in water and on ground. Nests near water, amidst bushes. Breeding season March–September. Sometimes shares small wetlands with other teals (e.g. Cinnamon, Blue-winged).

Status Fairly common but very local.

Habitat Temperate Zone to Páramo. Montane lakes and rivers; bogs and marshes, usually above 3,000m.

Note Separated from *A. flavirostris* as Andean Teal, together with *A. andium*, by Madge & Burn (1988), but *altipetens* has subsequently been afforded specific recognition (Livezey 1991), though retained in *A. flavirostris* by Carboneras.

ANDEAN TEAL *Anas andium* Pl. 5 & 7

Identification 38–43cm. Generally dull greyish-brown above and greyish below, entirely speckled with blackish spots (feather centres), smaller and denser on head, larger and more spaced on breast, paler and lighter on flanks and mixed with white, drab undertail-coverts; speculum differs from Mérida Teal by being more purplish, with reddish and bronze reflections; eyes dark, bill, legs and feet bluish-grey. Sexes alike.

Ssp. Monotypic (Andes of Ec, C & S Co)

Habits Usually in pairs, sometimes small groups. Feeds on seeds, algae, small aquatic insects and crustaceans, and parts of water plants, by dabbling, dipping head or upending in shallow water, and by filtering mud whilst walking at water's edge. Breeds in marshy areas or in shrubby cover at edge of mountain lakes or in páramos.

Status Uncommon in Ecuador, scarce in Colombia.

Habitat Subtropical Zone to Páramo, usually above 3,000m. Montane lakes, ponds and reservoirs, bogs on high slopes.

Voice Male's call a mellow whistle (H&B). A fast *kree-krik* and a low-pitched quacking (R&G)

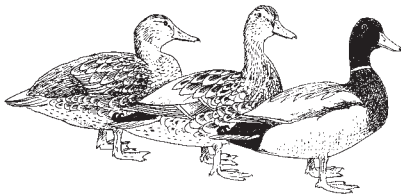
Note Separated from *A. flavirostris* as Andean Teal, together with *A. altipetens* by Madge & Burn (1988), but latter subsequently given specific recognition (Livezey 1991). Retained in *A. flavirostris* by Carboneras.

MALLARD *Anas platyrhynchos* Pl. 5 & 7

Identification 50–65cm. Large duck with obvious blue speculum that is diagnostic in all plumages. Female and eclipse male all dark brown with buffy fringes to all feathers, slightly darker line through eyes, and paler eyebrow and upper cheeks; eyes dark, bill dull orange with dark patch, legs and feet dull orange. Breeding male quite distinctive with bottle green head, narrow white neck-band, deep ruddy breast, mid grey above, pale grey below, broad royal blue speculum edged finely with white, 2 central black uppertail-coverts curled upwards, white tail, black undertail-coverts; bill yellow, legs and feet pale orange.

Ssp. *A. p. boschas / platyrhynchos?* (Ar, Bo, Cu)

Habits Male very retiring and secretive in winter plumage; females may gather in groups on open water but males stay hidden in cover. Takes wide variety of plant parts and also insects and larvae, small crustaceans, worms. Grazes on dry ground and dabbles in shallow water.



The drake Mallard in breeding plumage (right) is easy to identify, but soon after arriving in its wintering grounds it loses all its flight-feathers and moults into 'female-type' plumage (left); the wing- and tail-feathers are replaced before the rest of the body-feathers (centre)

Status Very infrequent winter visitor. Apparently well known, and many reports by hunters on mainland Venezuela, but none confirmed.

Habitat Tropical Zone. Fresh, brackish or saltwater wetlands of all types, with tranquil waters and abundant aquatic or edge shrubbery.

Voice Male generally silent when not breeding. Female utters series of loud rapid quacks on slightly descending scale.

NORTHERN PINTAIL *Anas acuta* Pl. 5

Identification 54–65cm. Adult male quite distinctive with brown front of head, black from rear crown to nape, and bold white line on neck-sides, joining white breast and underparts, vermiculated grey above and below, with long black-and-white scapulars and tertials, and a long narrow tail, the speculum is buff, green and white; eyes dark, bill, legs and feet blue-grey. Female cryptic in ochre and brown, with dark feather centres and pale fringes, a drab 'non-speculum', and a long pointed tail which is not attenuated like the male's.

Ssp. *A. a. acuta* (Boreal migrant: winters to Co, Ve, Ar, Bo, Tr, Gu, Su).

Habits Usually in flocks, from a few to a few dozen birds. Swift flyer. Feeds on vegetable matter (roots, tubers, seeds, leaves) and small invertebrates, by dabbling, tipping up or diving in water, or grazing on dry ground.

Status Boreal migrant, common to abundant in breeding range, but only an occasional winter visitor to Colombia and Venezuela, and more rarely to Guyana and Suriname (southern limit of winter range).

Habitat Tropical to Subtropical Zones. Wetlands in open areas, both fresh and brackish water, and bordered by dense vegetation.

Voice Male utters a mellow *proop-proop*, female a repeated descending series of quacks, weaker than those of Mallard. Female gives a low croak when flushed (M&B).

YELLOW-BILLED PINTAIL

Anas georgica

Pl. 5 & 7

Identification 49–57cm (61–70cm including tail of breeding male). Adult is wholly cryptic dark brown with paler fringes to all feathers, a long pointed tail, yellow bill with a black tip, and grey legs and feet; male has a dark umber-black speculum, bordered buffy. Female marginally paler below, with less bold markings on sides and flanks, and a dull brown speculum; immature has a shorter tail and dull brown speculum. Colour of bill prevents confusion with female Northern Pintail. Often with Andean Teal, which is smaller, shorter tailed and has dark bill (not yellow).

Ssp. *A. g. niceforoi* (SE Co) crown blackish, bill longer, culmen flatter

A. g. spinicauda (S Co, Ec) slightly larger and paler, rufescent brown crown

Habits Usually in pairs or small flocks. Feeds in water, dabbling, upending or diving to pick small invertebrates and vegetable matter, and also sometimes grazes on dry ground.

Status Fairly common to uncommon and very local resident in Colombia and Ecuador, but southern South American populations are austral migrants. Colombian race, *niceforoi* apparently extinct.

Habitat Tropical Zone to Páramo. In northern South America, only in freshwater wetlands of Andean slopes and valleys.

Voice Semi-musical *trrrr*, typical of all pintails (R&G).

Note The taxa treated here were previously considered as different species, but merged without explanation by Meyer de Schauensee (1966).

WHITE-CHEEKED PINTAIL

Anas bahamensis

Pl. 5 & 7

Identification 41–50cm. Dark brown crown to wings and tail, the feathers fringed narrowly with ochraceous sepia, sides of face and chin, and front of neck pure white, breast and underparts ochre with dark spots, bolder and more extensive on male than female; male has long attenuated tail, female's tail is not as long nor attenuated; both sexes have bold ochre, green and black speculum; eyes dark, bill bright orange-red with a grey tip, legs and feet grey. From other pintails and females of all other ducks by bright white face, and orange-red base to bill.

Ssp. *A. b. bahamensis* (throughout)

Habits Found alone, in pairs or small (rarely large) groups. Forages in water, upending to pick small aquatic invertebrates, plant matter and seeds. Breeding season varies among localities, in accordance with rains.

Status Fairly common, but distribution is local and spotty

Habitat Lower Tropical Zone, but recorded to 3,900m in Ecuador. Brackish or saltwater wetlands, rarely in fresh water.

Voice Largely silent, but male may give low whistles and female low, descending quacks (M&B).

BLUE-WINGED TEAL *Anas discors* Pl. 5 & 7

Identification 36–40cm. Adult male breeding has grey head with black crown to nape and black-edged white line that runs vertically from above eyes to fill space between eyes and bill, ending in a narrow white line either side of throat; back scaled and scalloped black and grey, lesser wing-coverts bright powder blue, median coverts white and speculum green; underparts from breast to vent warm rufous with black dots, undertail-coverts black. Eclipse male retains essential pattern but is paler on head, above and below, only wings retain same tricoloured pattern. Female streaked black and white, palest on face with pale eyebrow and blackish line through eyes, and wing tricoloured, but white bar has blackish spots on it. Eyes dark, bill dark grey, legs and feet yellow. Breeding male unmistakable. Non-breeding and female from Andean Teal by turquoise, white and green on wing; from Green-winged Teal by turquoise in wing, from female pintails by colour of bill.

Ssp. Monotypic (all countries)

Habits Usually found in large flocks. Forages by dabbling or immersing head to pick seeds and shoots of water grasses, algae and small aquatic invertebrates.

Status Boreal migrant, also local breeding resident. Common to abundant but populations suffer frequent swings.

Habitat Tropical to Subtropical Zones. Mostly saltwater or brackish wetlands, e.g. coastal swamps and lagoons, mangroves, saltmarshes. Occasionally freshwater wetlands.

Voice Male has a thin, whistled *tsee-tsee*, female a high-pitched *quack* (M&B).

CINNAMON TEAL

Anas cyanoptera

Pl. 5 & 7

Identification 35–48 cm. Adult male deep reddish-cinnamon from head to vent, dusky on crown; back dark brown with blackish centres to feathers, tertials and lesser wing-coverts sky blue, median coverts white, speculum green, flight-feathers black, tail and tail-coverts black, the coverts fringed dark brown; eyes bright red, bill blue-grey, legs and feet slightly greenish-yellow. Eclipse male resembles the female but has median wing-coverts all white. Female dark, cryptically brown and blackish, a typical pattern amongst many female ducks, lesser wing-coverts sky blue, median coverts basally white, tipped black, speculum green. Breeding male unmistakable. Female and eclipse male warmer, with cinnamon flush, than Blue-winged Teal, and generally lack whitish spot in front of eye. Adults have red eyes.

Ssp. *A. c. borroeroi* (Co: E Andes) larger, black spots on flanks and heavily spotted on belly

A. c. tropicus (NW Co) intermediate between others

A. c. septentrionalium (boreal migrant: Co, Ve) as described; unmarked cinnamon below

Habits Usually in small flocks, often mixed with other teal species. Feeds on seeds, algae and parts of aquatic plants, also small aquatic insects, small crustaceans and snails, by dabbling or sometimes dipping head and upending. Flies swift and straight, flocks keeping close together.

Status Boreal migrant *septentrionalium* rare (October–April). Resident races uncommon and local; absent from Ecuador, seriously declining in Colombia, and rare vagrant to Venezuela. Occasional winter visitor on Bonaire.

Habitat Tropical Zone to Páramo. Fresh or brackish wetlands in open country, marshy grasslands, lakes and ponds with abundant water vegetation.

Voice Male has thin, whistled *tsee-tsee*, female a high-pitched *quack* (M&B). Female *quack* like Blue-winged Teal (Sibley).

NORTHERN SHOVELER

Anas clypeata

Pl. 5 & 7

Identification 43–52cm. Adult male immediately recognised by large spatulate bill. Entire head dark green, breast white, back blackish with fine pale scaling, scapulars white, wing-coverts blue, speculum white, green and black, flight-feathers black, tail black with white outer feathers; flanks, belly and vent rich cinnamon, finely vermiculated, undertail-coverts black; eyes bright yellow, bill black, legs and feet orange. Female cryptic mix of brown and dark brown, wing-coverts blue, speculum white, black, green and black; eyes brown,

bill dusky orange. Breeding male unmistakable, eclipse male retains vestigial characters and still easy to identify. Massive bill is the clincher.

Ssp. Monotypic (Co, Ve, Ar, Bo, T&T)

Habits Usually in pairs or groups of a few to few dozen birds. Sits low in water with bill pointing downwards. Feeds by dabbling or by sieving mud in oozy water edges using highly specialised bill. Main food is tiny aquatic invertebrates and plants. Flight is swift and undeviating.

Status Boreal migrant. Fairly common at southern limits of winter range, on Caribbean coast and offshore islands of northern South America. In Colombia scarce but regular winter visitor.

Habitat Tropical to Subtropical Zones. Fresh and brackish marshes, in shallows.

Voice Female quack is a deep and hoarse *kwarsh*, also a short *gack gack ga ga ga*. Male silent in winter.

TORRENT DUCK *Merganetta armata* Pl. 4

Identification 41–42cm. Adult male has head and neck mainly white, with black from forehead running in broad line over crown and nape to back, and another thinner black line from eye, around ear-coverts to halfway down neck-sides, and joins to rear line behind crown; mantle and uppertail-coverts dark grey, rest of upperparts brown, streaked black; underparts white, with breast to rear flanks streaked black; eyes red, bill bright red with black line at base and on culmen, legs and feet red. Female has similar upperparts, but greyer and less brownish, and lacks line from eyes to neck-sides, and is uniform, unstreaked cinnamon from chin to undertail-coverts. Juvenile recalls female above, white below, broadly barred grey on sides of lower neck to rear flanks, flushed lightly cinnamon on breast-sides; eyes, bill, legs and feet pale brown. No other duck occurs in same habitat.

Ssp. *M. a. colombiana* (Ve, Co, N Ec) as described

M. a. leucogenis (C & S Ec) slightly larger; male distinctly darker above and much more heavily streaked black below, black line from eyes reaches breast; female darker grey above, much ruddier below with some grey and black barring on breast-sides and rear flanks

Habits Usually found in pairs that hold a segment of river as their territory, and sun themselves on rocks or ledges in the middle of streams. In some rivers, densities may reach 1 pair per km of river. Forages by dabbling in pools for larvae and water insects (especially stoneflies), often under rock overhangs, or by diving in torrents. Incredibly nimble in negotiating rapids, even against flow.

Status Widespread. Very local and frequent to uncommon, declining due to damming, silting or pollution, destroying river habitats in many Andean areas.

Habitat Subtropical Zone to Páramo. Tumbling rocky montane streams with pools and stretches of rapids and falls.

Voice A high-pitched *wheek wheek*, in flight and display (H&B). *Weet weet* of male drops at end, clearly audible above the torrent, given perched or in flight. Female has throaty, less carrying *queech* (M&B).

SOUTHERN POCHARD

Netta erythrophthalma Pl. 4 & 7

Identification 46–48cm. Male dark umber-brown with a purple gloss, head-sides washed purplish-chestnut, white wing speculum, breast-sides and flanks washed chestnut; eyes red, long bill grey, legs and feet dark grey. Female browner with white spot at base of bill and broad whitish crescent completely embracing ear-coverts, which are purplish-chestnut like male, some paler brown fringes below, pale undertail-coverts; eyes dark red. Quite distinctive.

Ssp. *N. e. erythrophthalma* (Ec, Co, Ve, Tr, Su)

Habits Alone or in very small (family?) groups, sometimes in company of Jacanas, Common Moorhens and other waterbirds. Forages day or night, by diving, sometimes dabbling or upending, picking seeds and other vegetable matter, and some aquatic invertebrates.

Status Uncommon and very local, with northern South American populations in continuous decline in recent years (apparently still in fair numbers in Venezuela).

Habitat Tropical Zone to Páramo. Freshwater wetlands with open water, submerged plants and border stands of aquatic grasses and shrubs.

Voice Normally silent, male sometimes utters a whirring *perrr-perrr-perrr* in flight; female has a low, hissing *quarrk* (M&B).

RING-NECKED DUCK

Aythya collaris Pl. 4 & 7

Identification 42–43.5cm. Adult male in breeding plumage is entirely black above, including breast and undertail-coverts, and takes its name from brown neck-band that is virtually impossible to see in the field; speculum grey, bordered distally white, and underparts white, finely filigreed (looks grey at distance); eyes white to pale yellow, bill uniquely banded: narrow white base, then grey and white with a black tip, legs and feet grey. Non-breeding male has large white spot at base of bill and brown body-sides. Female almost entirely brown, paler around base of bill and eyes, and on flanks; back, wings and tail dark brown with fine vermiculations, speculum greyish-beige; eyes dark. Immature similar but slightly more buffy. Ring on neck is very poor field mark, but white lines on bill obvious and separate it from Lesser Scaup.

Ssp. Monotypic (Co, Ve, Bo, T&T)

Habits Usually in small groups, forages by diving to sieve the bottom sediment for seeds and other vegetable matters, and aquatic invertebrates. Also by dabbling. Flocks fly in beautiful, very regular, V formation.

Status Northern migrant that rarely reaches northern South America (only a few records).

Habitat Tropical to Subtropical Zones. Fresh or, less frequently, brackish water wetlands in open areas. Partial to larger wetlands with open water as well as extensive reed beds or stands of aquatic plants.

Voice Female has a purring or rough growl *kerp...kerp*. Male silent in winter (Sibley).

LESSER SCAUP *Aythya affinis* Pl. 4 & 7

Identification 41.5–43cm. Adult breeding male has all-black head, neck and breast, back finely vermiculated black and white, flight-feathers black with pale grey speculum; eyes pale yellow, bill dark grey to black at tip, legs and feet grey. Non-breeding male has body-sides brown, irregularly vermiculated white. Female superficially much as female Ring-necked Duck. From Ring-necked Duck by all-dark bill and white in wing in flight, amongst other features.

Ssp. Monotypic (all countries)

Habits Usually in small flocks. Dives to sieve bottom sediment for seeds and other vegetable matter, as well as aquatic invertebrates.

Status Common. Nearctic migrant, winters regularly in northern Venezuela and Trinidad & Tobago, occasionally in Suriname and western Ecuador, sporadically in Colombia, where rare.

Habitat Tropical to Subtropical Zones. Freshwater wetlands in open and semi-open country. In wintering areas, apparently partial to larger wetlands and fairly deep water.

Voice Female has rough, grating *garf...garf...*, male silent in winter (Sibley).

CRACIDAE – Chachalacas, Guans and Curassows

Cracids are among those bird families whose names conjure sylvan images of misty forests dominated by moss, lianas and great, buttress-rooted trees, dimly lit spaces where drops of water glint from every leaf. At one end, we find chachalacas, who thrive in 'man-infested' habitats, and at the other, Piping Guans, so very wary of humans they are seldom found outside remote, pristine forests. Cracids include some of the rarest and most difficult to see of all the species in our region. They are quite arboreal and sedentary, although seasonal availability of fruit and water force altitudinal movements in some montane species, whilst lowland ones migrate along the courses of rivers or concentrate in wetter areas. Food is almost exclusively vegetable matter – mostly fruit but also leaves and shoots. Voracious frugivores, they play an important role in seed dispersal within forest ecosystems. Although most are considered diurnal, they are active for long periods in the dark. They stir a couple of hours before daybreak, then from mid-morning roost for most of day. From prior to sundown, they are active for another few hours into the night. Whilst day-roosting, high on the branches of tall trees, they preen and sunbathe. There is very little sexual dimorphism in the family as a whole, although sexes of some of the larger curassows are markedly different. When breeding, they are territorial and males quite vocal. Cracids show some very unique courtship displays: curassows perform sophisticated rituals; chachalacas strut, call antiphonally and tenderly preen and feed each other, but most intriguing are, without doubt, the guans. Their courtship performance is a concert of wing-whirring or drumming, created by modified outer primaries that have 2–3 terminal inches emarginated.

Additional references for this family include Vaurie (1968), Delacour & Amadon (1973), Blake (1977) and del Hoyo (1994).

The chachalacas of the genus *Ortalis* form a homogeneous genus that takes its common name from an onomatopoeic rendering of their calls, given particularly vociferously at and after dawn. They are comparatively small and slender, that is, small heads on slender necks with blue-grey skin around the eyes and bare red skin on the throat, but no wattles or lappets. They have long tails with pale or rufous tips to the outer feathers that can be helpful in identification. They are birds of brush and thickets, foraging both on the ground and in the canopies of flowering and fruiting trees. Urban birds will come to raid dog-feeding bowls and bird feeders alike, though invariably are seen more often when in trees, calling in duet, challenging neighbours and defining territories.

GREY-HEADED CHACHALACA*Ortalis cinereiceps*

Pl. 9

Identification 46–58cm. Brown above, with grey head and upper neck, chestnut primaries noticeable when wings folded; dark tail with whitish tips to all but central pair of feathers, pale buffy on sides and flanks. From western race, *ruficrissa*, of Rufous-vented Chachalaca by bright chestnut primaries, conspicuous in flight, but they are allopatric.

Ssp. Monotypic (Co)

Habits Forages at all levels, taking fruit directly from trees, and occasionally insects. Usually in groups of 6–12 or more. Habitually drinks early mornings and evenings.

Status Common or fairly common in Colombia.

Habitat Tropical Zone, locally to 1,700m. Light and humid primary and secondary forests, thickets, stands of *Cecropia*, cleared land gone to waste with fast-growing shrubs and trees.

Voice In twilight, they sing loud, antiphonal choruses of the *cha-cha-laca* phrase common to the genus; calls include soft notes, cackling or clucking.

CHESTNUT-WINGED CHACHALACA*Ortalis garrula*

Pl. 9

Identification 53–60cm. Brown above, with rufous head and upper neck, chestnut primaries noticeable when wings folded; dark tail with whitish tips to all but central pair of feathers, pale whitish on sides, thighs and flanks. Distinctive rufous head and bright chestnut primaries. Separated from very similar but larger Rufous-headed Chachalaca by considerable gap in ranges, whilst similar Rufous-vented Chachalaca lacks bright chestnut primaries conspicuous in flight on Chestnut-winged.

Ssp. Monotypic (Co)

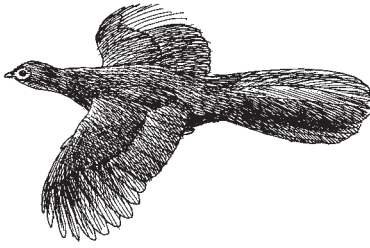
Habits Forages in variably sized groups. Diet mostly fruits and berries, seeds, fresh shoots.

Status Common Colombian endemic.

Habitat Tropical Zone. Dry to humid thickets, deciduous forests and mature second growth, woods along rivers, mangroves.

Voice Mainly a loud, reverberating *cha-cha-lac*, given in

chorus with strong rhythm, in twilight. Also squeals and other short calls. A squealing *whoocell* and *OEEE-chu'uck* in chorus (H&B).



Rufous-vented Chachalaca in flight, showing typical rounded wings and tail, and gliding posture

RUFIOUS-VENTED CHACHALACA

Ortalis ruficauda Pl. 9

Identification 55–61cm. Olive-brown above, with greyish head and upper neck; dark tail with greenish and bluish gloss, pale greyish tips to all but central pair of feathers, breast olive-brown, pale olivaceous buffy on sides and thighs. Note, from flanks to vent most birds are rufous, becoming chestnut on undertail-coverts, but varies with locality and some have ochraceous or plain buffy undertail-coverts.

- Ssp.** *O. r. baliola* (NW Ve) larger than *ruficrissa* and more rufescent, tips of tail pale cinnamon
O. r. ruficrissa (NW Co to NW Ve) as described, distinguished by whitish tips to tail
O. r. ruficauda (N Co, N & NE Ve, To) like *ruficauda* but tail tips deep rufous

Forages in groups of a few to 50+, but in Caracas (where common) it forages in pairs that regularly define their foraging territories most vociferously. Diet: fruits of many plant species, including *Copernicia* palms, *Cecropia*, *Ficus* and others, together with some invertebrates.

Status Common in Colombia, very common in Venezuela.

Habitat Tropical and Subtropical Zones, to c.900m in Colombia and 1,600m in Venezuela. Both heavy and open forests, brushland and *llanos* with scattered trees; gallery forests, second growth, and areas near water; parks and gardens.

Voice Both sexes sing loud antiphonal choruses of *gua-characa* phrases, especially at dawn. Pairs and family groups exchange soft whistles and clucks.

Note Race *baliola* synonymised with *ruficrissa*, but description in Blake (1977) says it has white tips to tail – suggesting some confusion. Since our species have pale cinnamon tips, we retain *baliola* pending further research.

Chachalacas have a characteristic way of bursting from a canopy with a momentary whirr of wings, then plane or glide across a gap to another tree; on hillsides, where they can gain extra height, they might cover a considerable distance in this way, following each other at intervals of a few seconds after each bird has landed and safely disappeared into the next canopy

RUFIOUS-HEADED CHACHALACA

Ortalis erythroptera Pl. 9

Identification 56–66cm. Brown above, with rufous head and upper neck, chestnut primaries noticeable when wings folded; dark tail with rufous tips to all but central pair of feathers, belly to undertail-coverts creamy. Similar to Chestnut-winged Chachalaca but larger and creamy rather than white below, and has diagnostic rufous tips to tail (white on Chestnut-winged Chachalaca).

Ssp. Monotypic (W Ec, SW Co: Nariño)

Habits Generally quiet and elusive when foraging, and often goes unseen, but can be raucous, especially when groups are communicating. Forages at all levels, usually in small groups. Breeds in rainy season.

Status Uncommon to rare in Ecuador. Threatened by hunting and deforestation.

Habitat Tropical and Subtropical Zones, mostly below 1,000m, but locally to 1,800m. From dry deciduous to humid cloud forests; thickets, savannas, brushland and non-arid coastal areas.

Voice Loud calls may be given throughout day, and often at night. Low phrases include *cha-cha-kaw*, loud includes *kra-kra-ka*. Guan-like honking and yelping calls in alarm (R&G).

SPECKLED CHACHALACA

Ortalis guttata Pl. 9

Identification 45–60cm. Brown above, darker on head, neck and tail, which has outer feathers rufous; breast is spotted white, underparts mid grey-brown, undertail-coverts rufous; legs and feet coral pink. Widespread and only chachalaca in range. Dark head and white speckles on throat are further distinctive features. Similar but larger Colombian Chachalaca has white scallops, not speckles, and is much paler below.

Ssp. *O. g. guttata* (E Ec, S Co)

Habits Forages in small flocks at mid heights and in canopy; often on *Cecropia*. Little known, but quite tolerant of human presence.

Status Fairly frequent in Colombia, common to rare in Ecuador.

Habitat Tropical and Subtropical Zones, usually below 1,100m in Ecuador, but to 2,500m in Colombia. Thickets, grassy slopes, palm groves, low forest, second growth.

Voice Very vocal; rhythmic loud choruses of *cha-cha-laca* phrases in twilight. Various clear soft whistles and clucks. Alarm an ascending squeal (R&G).

Note Included within Variable Chachalaca *O. motmot* by H&B.

COLOMBIAN CHACHALACA

Ortalis columbianus Pl. 9

Identification c.50cm. Brown above, greyish on head and darker on tail which has outer feathers rufous; entire throat, neck and breast have white fringes to feathers, affording scaled appearance. Buffy below, with reddish-pink legs and feet.

Scaled appearance to neck and breast feathers separates it from more widespread Speckled, which has white spots on throat.

Ssp. Monotypic (Co)

Habits Forages in pairs or small groups from mid levels to canopy. Prefers *Cecropia* fruits.

Status Colombian endemic, very local. Formerly fairly common but now threatened by hunting. Only small populations remain at a few localities, in pockets of humid forest or scrub.

Habitat Upper Tropical Zone. Borders of humid forests and mature second growth; semi-wooded, humid scrubby areas.

Voice Chorus is typical *chac-a-lac* and variants. Calls *quit* and softer *whit* (M. Álvarez-Rebolledo & S. Córdoba-Córdoba recordings).

Note Included in Variable Chachalaca *O. motmot* by H&B, and in Speckled *O. guttata* by del Hoyo.

LITTLE CHACHALACA

Ortalis motmot

Pl. 9

Identification 43–54cm. Tawny brown above, bright rufous on head, rump and uppertail-coverts, and outer 3 pairs of tail-feathers rufous; legs and feet vinous-red. The smallest chachalaca and well separated geographically from other ‘rufous-headed’ chachalacas.

Ssp. *O. m. motmot* (S Ve, Gu, Su, FG)

Habits Forages in pairs or small groups, sometimes on ground, mainly on berries and small fruits. Dust bathes occasionally, and sunbathes in open patches on ground.

Status Locally frequent in Venezuela, common in Guyana and French Guiana, frequent to common in Suriname.

Habitat Tropical Zone, locally to 1,700m. Where undergrowth is dense in second growth near settlements, patches of forest or clearings amid more extensive woodland, savanna borders, also along rivers and around rocky outcrops (Suriname and French Guiana).

Voice Dawn chorus a loud, coarse and rhythmic *WATCH-a-läk*, over and over, recalling Rufous-vented Chachalaca (though less vocal), but shriller and less raucous (Hilty). Pairs sing antiphonally and may be joined in chorus by all pairs in area.

Guans of the genus *Penelope* are medium to fairly large forest birds. They are generally rich, dark brown, with white fringes (but not tips) to most body feathers, forming unusual rows of inverted Y-like streaks, which vary in extent according to species. They usually have some white grizzling on the face and may have prominent bright crimson face wattles or lappets; the occipital skin is usually extensive, and blue-grey. Primarily arboreal, they perform wing-rattling displays, and glide between trees with a distinct whirr caused by the strongly curved and very stiff narrow outermost primaries.

BAND-TAILED GUAN

Penelope argyrotis

Pl. 10

Identification 50–61cm. Entirely dark rufescent brown with short stubby crest; outer tail-feathers dusky and generally

contrast with more rufescent central feathers. Tail tip varies from near white (*albicauda*) to rufous (*olivaceiceps*), but this is only visible from below; face heavily grizzled, eye-ring pale bluish-grey, wattle red. Fine white streaking from throat to lower breast, and also on wing-coverts. Legs and feet red to pink. From smaller and darker Andean Guan by frosty head pattern, pale tip (band) to tail, well-developed red dewlap and white-streaked breast.

Ssp. *P. a. albicauda* (Co, Ve: Perijá) whitish tips to outer tail-feathers, white streaks on body extend to flanks

P. a. argyrotis (N Co, NW Ve) tips to tail pale rufescent, shorter crest, fringes on neck and breast are shorter and broader, and appear whiter

P. a. colombiana (N Co) crown feathers narrow, fringed white and somewhat pointed, with less white grizzling above eyes and brownish malar

P. a. mesaeus (N Co, W Ve: Táchira) larger than other races, darker brown head, neck and breast, white streaks reach flanks, narrow rufescent edges to tail

P. a. olivaceiceps (N Ve) rufous tip to tail, looks exactly like *mesaeus* in the field

Habits Forages in small groups (3–5), usually at mid and upper levels, but drops to ground for fallen fruit. Prefers pulpy fruits, especially of laurels and *Cecropia*, and several groups may gather at fruit-laden trees. Breeds late dry season. Wing-rattling display is like ‘canvas ripping’ (P. Schwartz).

Status Locally common in Venezuela, locally frequent to uncommon in Colombia.

Habitat Upper Tropical and Subtropical Zones. Prefers very wet virgin forest, occasionally in mature second growth and coffee plantations.

Voice Only calls during territory establishment: a low *kuak*, mostly at dawn. Alarm *gi-gi-gigigi-gik* or *gu-rr-urr-urrrrr*, loud and rolling (Schäfer *vide* H&B).

BEARDED GUAN *Penelope barbata* Pl. 10

Identification c.55cm. Bronzy brown above, darker on head and neck, more dusky below, with distinct grizzling on face, white streaks on neck, breast and sides, tail tip rufous; chin and upper throat fully feathered, tarsus partially feathered; bare wattle and legs coral red. Rufous of tail most noticeable in flight and offers certain identification feature, though it is not always obvious.

Ssp. Monotypic (S Ec)

Habits Forages in pairs or small groups of up to c.8, often on ground. Diet: fruits, berries and mostly seeds, which often pass intact in droppings. Whirring-wing display at dawn.

Status Rare in most localities of its small, fragmented distribution, in Andes of southern Ecuador, in Azuay, Loja and Zamora-Chinchipec, mainly on the west slope and very locally on outlying ridges. The most important population is protected in Podocarpus National Park.

Habitat Upper Subtropical and Temperate Zones, usually at 1,900–2,700m. Humid and dry montane cloud forests. Occasionally in small relict forest patches.

Voice Various whistles and honks, often in fast series and higher pitched than other *Penelope* (R&G).

Note Sometimes included in Band-tailed Guan.

BAUDÓ (ORTON'S) GUAN

Penelope ortoni Pl. 10

Identification 58–63cm. Dark olive-brown above, darkest on head and neck, dark brown below; white streaks on throat to belly. Eyes red, eye-ring slaty, prominent hanging wattle bright red; legs and feet red. Readily confused with much larger, sympatric Crested Guan, but when disturbed Baudó Guan tends to crouch and utter low calls, whilst Crested flees with loud honking (O. Jahn in R&G). Tends to perch quietly in trees. Crested Guan is more clearly streaked on breast, Baudó more scalloped. Andean Guan usually at higher elevations, is darker and more rufescent on belly and vent, and has far less noticeable dewlap.

Ssp. Monotypic (W Ec, SW Co)

Habits Poorly known. Considered rather tame in some areas, but perches quietly in upper near canopy of trees, thus easily overlooked.

Status Recorded at only a few localities and threatened throughout small, fragmented range.

Habitat Upper Tropical Zone, to 1,500m. Humid forests on montane slopes.

Voice Soft, rising whistle lasting *c.* 3 s, presumed alarm call (O. Jahn in R&G).

ANDEAN GUAN *Penelope montagnii* Pl. 10

Identification 51–61cm. A small, compact, high-altitude guan with small throat wattles rather than a complete dewlap. Rufous-brown above, more rufous on rump and uppertail-coverts; head grizzling and neck to breast streaking vary with race. White on body feathers are more fringes than solid edges and thus appear greyer; they also almost join, producing more scaled look.

Ssp. *P. m. atrogularis* (SW Co, W Ec) upper throat and chin blackish, streaking on neck and breast finely drawn
P. m. brooki (SE Co, E Ec) white streaking on head most noticeable, duller and darker than others, tip of bill yellow

P. m. montagnii (NW Ve, NE Co) brighter rufescent brown below, the white lines join at the ends of the feathers giving a scaling effect to neck and breast

Habits From Bearded Guan by uniform dark tail. Forages in groups of up to 10, sometimes singly, at mid and upper levels of fruiting trees. Moves altitudinally according to fruiting seasons of trees. Tolerates partially disturbed areas and is observed near settlements. Establishes territory in late dry season, with males making single-rattle wing-whirring displays.

Status Uncommon in Ecuador, locally frequent to uncommon in Colombia.

Habitat Temperate Zone, to 3,650m with a record at 3,900m. Sometimes reaches Subtropical Zone. Dense, epiphyte-rich humid forests.

Voice Calls at dawn, mainly during territory establishment, and honks quite loudly (R. S. Ridgely recording).

MARAIL GUAN *Penelope marail* Pl. 10

Identification 63–68cm. Dark glossy olive-green above, dark rufescent brown below, slight white lining on head, but streaks clearer on neck to mantle and belly and flanks. Rather bushy crest, dewlap deep red, short legs and feet pink. Smaller, darker and shorter legged than similar Spix's Guan.

Ssp. *P. m. jacupeba* (SC & SE Ve: upper Caura) paler, more greyish below
P. m. marail (E Ve, Gu, Su, FG) darker, more rufescent posteriorly

Habits Forages singly or in small groups, mostly in trees but sometimes on ground. Diet is almost exclusively fruit, but has strong preferences including *Euterpe*, *Guatteria*, *Cecropia*, *Eugenia* and *Minquartia*.

Status Frequent to locally common in heavy, undisturbed forest in Suriname and French Guiana (up to 5 prs per sq. km) but declining due to hunting pressure; uncommon in Guyana and Venezuela.

Habitat Tropical Zone, to 600m. Heavy, humid and pristine lowland forests, near water. Occasionally in second growth.

Voice Dawn and dusk, and perhaps at night: a low, muffled rough chachalaca-like *racha, racha, racha...*, usually mixed with other harsh and high notes. Lacks honking of Spix's Guan (Hilty).

Note Confusion in subspecies limits: *jacupeba* is from Brazil, *marail* from Guianas, Venezuelan birds generally considered to be *marail* (e.g. Vaurie 1964, Delacour & Amadon 1973, Hilty).

CRESTED GUAN

Penelope purpurascens Pl. 10

Identification 72–91cm. Largest guan: like a curassow but less heavily built, and has longer neck and tail. Dark glossy olive-brown above, darkest on head and neck, chestnut rump and bronzy tail; white streaking from throat to mantle and sides of breast. Large red wattle, legs and feet pink. Dark, well-wattled guan that might be mistaken for smaller Baudó Guan. Crested is noticeably rufous posteriorly. Also noisy, unlike almost silent Baudó.

Ssp. *P. p. aequatorialis* (SE Ec, NW Co, NW Ve) uniform dark bronzy tail
P. p. brunescens (N Co, E Ve) dull chestnut tail, bronzy outer edges

Habits Forages singly, in pairs or small groups (up to 8), usually in upper storey and seldom near ground. Wary and retreats quickly, doubtless due to continued hunting. 'Double-outburst' wing-rattling displays at dawn. Seasonal movements in montane regions.

Status Rare in Ecuador, uncommon and local in Colombia and Venezuela.

Habitat Tropical and Lower Subtropical Zones, to 1,500m in Ecuador, to 1,000m in Colombia with a record to 1,950m, and to 1,100m in Venezuela. Humid forests, borders, most often in hilly areas below 1,000m.

Voice A low guttural *kwee-oooh*, a loud, penetrating *whuuleeur*, also a repetitive *konh-konh-konh-konh...* (R&G). Males call mainly in dry season, when establishing territory; a loud honking, nasal and guttural *quonk, quonk, quonk rrrrrrrrrrr* (Hilty).

CAUCA GUAN *Penelope perspicax* Pl. 10

Identification c.76cm. Large reddish guan, unmistakable in limited range. Rufescent brown to chestnut, dusky tone to head, neck and breast, which are well lined with white streaks that are more scale-like than usual.

Ssp. Monotypic (SW Co)

Habits Forages at all levels but mainly in mid-storey and understorey branches, in groups of up to 16. Little known.

Status Endangered. Colombian endemic, possibly on verge of extinction.

Habitat Upper Tropical and Subtropical Zones, at 1,300–2,000m. Humid primary forest and mature second growth.

Voice Alarm-call *Quan...Quan*, given in rapid series, short downslurred whistle in contact, whilst the song is a loud, repeated sequence of *chiriwichi, chiriwichi...chiriwichi* notes, sometimes in chorus, and most frequently in February–June (del Hoyo & Motis 2004).

SPIX'S GUAN *Penelope jacquacu* Pl. 10

Identification 70–80cm. Olive-brown with greenish gloss on wings and tail, white streaks on neck and breast, all of which are very variable according to race.

Ssp. *P.j. granti* (E Ve, Gu) larger, generally darker all over, and more blue-green above, rump reddish-brown; some white streaking on foreneck and breast

P.j. jacquacu (E Co, E Ec) distinctly bronze-olive above, rump dull brown, bright rufescent below; well striated with white lines from throat to belly, thighs and flanks, though weaker below, also on mantle and wing-coverts

P.j. orienticola (SE Ve) intermediate, malar stripe variegated greyish-white

Habits Forages singly, in pairs or small family groups, from mid to highest levels, rarely on ground. Diet small fruits, mostly soft, ripe palm fruits. Breeds from late dry season. Nest of leaves high above ground. Displays at dawn with 'double outbursts' of wing-rattling (P. Schwartz recording). Fairly tolerant of human presence, although those near settlements extremely shy.

Status Rare in Ecuador. Frequent in Colombia and Venezuela, except in deforested areas. Frequent in Guyana. Status uncertain in Suriname.

Habitat Tropical Zone. Mostly lowland humid *terra firme* and gallery forests, also *várzea*, but occasionally cloud forests. Borders and clearings.

Voice Calls only in breeding season, at twilight, a loud riotous crowing or howling *kerr-ow, kerr-ow, kerrow, urrreck, urrreck, kerrow...* (Hilty).

Piping Guans of the genus *Pipile* are forest birds with large bodies, long necks with small heads, long loose crests, long tails and comparatively short legs. They are black, glossy brown, green or blue. They have a rattling flight display made even more audible by their stiff, narrow outer primaries.

TRINIDAD PIPING GUAN *Pipile pipile* Pl. 9

Identification c.69cm. The only cracid on Trinidad, thus unmistakable. Large with long dark crest that has a few white lines in it, virtually black throughout with a purplish-brown gloss, and perhaps some faint, narrow white streaks on breast; outer wing-coverts each have a heavy white spot, more reduced on inner wing, and producing a series of rows or bars of white spots. Bill black, cere and orbital skin blue, bare throat and wattle dark blue, legs and feet red.

Ssp. Monotypic (Tr)

Habits Forages mostly in evenings until 1–2 hours after midnight, but most active in morning at mid levels. Group size depends on local population, but distinct tendency to forage in large groups, making it vulnerable to hunting. Takes broad variety of fruits, young leaves and insects. Drinks at streams and from water in bracts of forest epiphytes. Breeds February–June, with inter-locality variations. Displays mostly at dawn, with double wing-clap followed by double wing-whirr.

Status Endangered. Rare Trinidad endemic, endangered by loss of forest habitat. Does not tolerate human presence.

Habitat Tropical Zone, 400–900m. Undisturbed primary forest with open ground and closed canopy, and rich in epiphytes and vines; rarely in adjacent mature second growth and coffee plantations.

Voice Calls only in breeding season, a series of clear, high, ascending whistles or piping.

Note Sometimes called Common Piping Guan.

BLUE-THROATED PIPING GUAN*Pipile cumanensis*

Pl. 9

Identification 60–69cm. Large with long white crest tinged ochre, virtually black throughout with a blue gloss, and narrow white streaks on breast, bold white streaks on mantle and lesser wing-coverts; outer median and greater wing-coverts each have a heavy white streak, less obvious on inner wing, producing a series of rows of white marks. Bill black, cere and orbital skin white, bare throat and wattle dark blue, legs and feet red.

Ssp. *P.c. cumanensis* (E Ec, C & E Co, S Ve, Gu, Su, FG)

Habits Forages in groups of up to 15, mainly at mid and highest levels, seldom on ground. Prefers palm fruits, flowers of Pui trees and snails. Visits salt licks. Breeds in rainy season; nesting in dense canopy. Moves seasonally along courses of rivers.

Status Uncommon in Ecuador, rare to locally frequent in Venezuela and Colombia, locally frequent in Guyana and Suriname, rare and local in French Guiana.

Habitat Mostly Tropical Zone, but may reach Subtropical Zone seasonally (to 500m in Colombia and 1,000m in Venezuela). Humid *terra firme* and *várzea*; galleries and *cerrado*; coastal lowlands. Partial to riparian forests (up to 100m from watercourses).

Voice Call a long series of feeble, slurred whistles, *fuít, fuít*. Also claps and whirrs wings loudly.

Note Sometimes treated as a race of Trinidad Piping Guan.

Aburria is a monotypic genus, closely related to *Pipile* (and perhaps better subsumed within latter, as suggested by recent genetic evidence), but mainly distinguished by its unusually bright wattle, lack of bare facial skin, crest or dewlap. It does have a noisy rattling-wing display.

WATTLED GUAN *Aburria aburri* Pl. 9

Identification 72–78cm. Large, entirely green-black guan with plain, rounded and feathered head, and a unique, long slender yellow-and-red throat wattle; brown eyes and a bright blue bill.

Ssp. Monotypic (C Ec, C Co, NW Ve)

Habits Very inconspicuous. Usually in pairs or family groups of 3, foraging in mid and upper strata. Breeds from late dry season. Possibly undertakes seasonal altitudinal movements. Wing noises in display similar to Trinidad Piping Guan.

Status Locally rare in Ecuador. Frequent at a few localities but threatened by deforestation in Colombia. In Venezuela only found at a few localities and status uncertain.

Habitat Upper Tropical and Subtropical Zones, at 600–2,500m in Colombia, to 1,800m in Venezuela. Steep terrain. Wet montane forests and mature second growth bordering primary forests. Forest borders.

Voice Song a loud *ba-reeeeer-ah* that rises like a siren and is repeated incessantly (Weske *vide* H&B), transcribed as *bree-ee-ee-ee-ah*, and delivered at intervals throughout the night (R&G). A long, rising buzz, *baaaarrrreeeeeeeeeeer* (the r's trilled), dry, sustained, and snapping over at end, repeated incessantly at dawn and dusk; also irregularly throughout day during breeding season (Hilty).

SICKLE-WINGED GUAN *Chamaepetes goudotii* Pl. 10

Identification 50–65cm. Dark brown above and rufous from breast to undertail-coverts; bright blue facial skin with red eyes and pink legs and feet. Rather secretive and seldom seen, thus in a poor sighting could be mistaken for a rufous-bellied *Penelope*, but bright blue facial skin diagnostic, as all *Penelope* have red dewlaps.

- Ssp.** *C. g. fagani* (SW Co, W Ec) small, dark bronzy green above, scalloped on throat
C. g. goudotii (Co: C, W Andes) paler and brighter rufous below than *sanctamarthae*
C. g. sanctamarthae (Co: Santa Marta) paler, more brownish-olive above
C. g. tschudii (SE Co, E Ec) larger than others, more brownish above, brighter and more ferruginous below than *fagani*

Habits Forages in pairs or groups of 3–5, in mid to upper levels of fruiting trees, at dawn and dusk. Diet small fruits, seeds and leaves. Some altitudinal movements outside breeding season. May displace Andean Guan. Displays with repeated flights between same 2 branches, whilst making single wing-whirr, normally pre-dawn.

Status Uncommon in Ecuador. In Colombia, fairly common at some localities, but threatened in most of range.

Habitat Subtropical and Lower Temperate Zones, at 900–2,600m in Ecuador, and 1,100–2,500m in Colombia, but recorded to 3,000m in Santa Marta. Steep hillsides and inaccessible areas. Tall, wet or humid forest, occasionally mature second growth and coffee plantations, forest borders.

Voice Usually very quiet. Call when foraging a soft *wheet-ta*, but when alarmed, a loud repeated *kée-uck*.

Nothocrax is a monotypic genus that differs from *Crax* by its cryptic plumage and nocturnal behaviour.

NOCTURNAL CURASSOW *Nothocrax urumutum* Pl. 10

Identification 50–57cm. Small curassow, rufescent brown on back, wings and tail, finely filigreed with narrow wavy lines, chestnut on head, neck and underparts; long narrow crest from forehead to nape is blackish; eyes chestnut, facial skin whitish above eyes becoming blue below, bill coral pink, legs and feet flesh. Degree of rufescence and crest make this small bird unmistakable, but it is usually known only by its nocturnal vocalisations.

Ssp. Monotypic (E Ec, SE Co, S Ve)

Habits Forages singly, in pairs and small groups of 3–4. Feeds below fruiting trees, at dawn and dusk, but mainly nocturnally. Reportedly roosts in holes in ground during day (R&G) or on low branches above streams.

Status Not considered threatened due to remote habitat, but rare in Ecuador and situation uncertain (possibly frequent) in Venezuela and Colombia. Very rarely seen.

Habitat Tropical Zone, to 400m in Ecuador, 500m in Colombia but only known to 200m in Venezuela. Dense, humid *terra firme*, usually near rivers, also permanently or seasonally flooded forests. Generally favours low-lying, partially flooded areas.

Voice Calls from high perch, mostly a couple of hours after dark and before daybreak. According to Wetmore, a booming, hollow *hoo, hoo-hoo, hoo-hoo-hoo*, followed by a long pause, then a hoot. According to Sick, it is a 2-part, descending *hm-hm-hm, hm-hm-hm-uh*, ending in a long groan (D&A). A deep series of booming notes, far-carrying and ventriloquial, *oo-oo-oó, oo-oo-óóh?* followed after a short pause by a sharp, higher pitched *uh!* (R&G).

Mitu curassows are very similar to *Crax*, and they are sometimes considered congeneric. The main difference is the shape of the bill, which is laterally compressed in *Mitu*, and the crests which are more modest.

LESSER RAZOR-BILLED CURASSOW *Mitu tomentosum* Pl. 11

Identification 75–85cm. Mainly black, glossed heavily with blue above, vent to undertail-coverts and tips of tail bright chestnut, bill vermilion-red, very pale at tip, legs and feet

vermilion-red. From Razor-billed Curassow by chestnut distal tail-band.

Ssp. Monotypic (E Ec, SE & E Co, S & SE Ve, Gu)

Habits Not shy. Forages mostly on ground but also in trees. Diet fruits and seeds, occasionally small vertebrates or insects. Breeds from early rainy season.

Status Uncommon and local in Guyana. Frequent locally in Colombia and Venezuela. Subject to significant hunting pressure.

Habitat Tropical Zone. Humid forests, especially along rivers and gallery forests, and in areas with dense undergrowth.

Voice Calls most of year, mainly at dawn and dusk and on moonlit nights, a booming *umm* – *um-m-um*, with a 3 s pause in middle (D&A).

Note Sometimes called Crestless Curassow.

SALVIN'S CURASSOW *Mitu salvini* Pl. 11

Identification 75–89cm. Mainly black with a short recurved crest, blue gloss on mantle, and white vent to undertail-coverts, and tips to tail. Bill vermilion, paler at tip, legs and feet dark grey. Virtually the only curassow in eastern Ecuador. From male Wattled Curassow by broad white tip to tail.

Ssp. Monotypic (E Ec, SE Co)

Habits Forages on ground, singly, in pairs or small family groups, mainly on broad variety of fallen fruit, seeds and leaves, with occasional scavenging. Pairs defend loosely defined territory.

Status Rare in Ecuador. Scarce in Colombia, possibly at low density. Under severe hunting pressure near settlements.

Habitat Lower Tropical Zone. Primary, humid, lowland forests; in *terra firme* away from seasonally flooded areas.

Voice Calls for long periods, crouching on perch. A booming, low-pitched *cronk cronk cronk*, lacking tuba quality of other curassows (D&A). Mostly given at night, described as *oo-ooonh*, *wooónh-unh*. . . *ooóúp-óó-óóóú!* Both sexes give various short, high-pitched squealing calls when nervous or alarmed (R&G).

RAZOR-BILLED CURASSOW

Mitu tuberosum Pl. 11

Identification 83–89cm. Mainly black with bluish gloss above, vent to undertail-coverts deep chestnut, tips of tail white. Crest comparatively long, and bill has expanded culmen that is waxy vermilion-red, legs and feet vermilion. From Lesser Razor-billed by distal white band on tail.

Ssp. Monotypic (SE Co)

Habits Forages singly, in pairs or groups of 3–5. Picks most of its food from ground. Diet includes fruit (main food), seeds, leaves (particularly fern fronds), occasional insects and small vertebrates (frogs, tadpoles). Follows troops of *Saimiri* and *Cebus* monkeys, taking fruit they drop. Visits salt licks.

Status Fairly common but local in Colombia, albeit under intense pressure from hunting.

Habitat Lower Tropical Zone, to 300m. Humid lowland *terra*

firme or gallery forests, occasionally *várzea*. Swampy areas and along streams.

Voice Male gives booming *hm-hm*. . . *hm*, *hm-hm*. . . *hm*, with last note very strong and pause 2–3 times longer than first notes (Sick *vide* D&A).

HELMETED CURASSOW

Pauxi pauxi Pl. 11

Identification 85–92cm. Combination of coral red bill and grey or pink helmet distinctive. Nearly all black with rich greenish gloss, white vent to undertail-coverts and broad white tips to tail. Eyes chestnut, bill red, legs and feet pink. There is a large bony 'helmet' that is either stone-grey or rather pinkish. Female dimorphic, usually like male, but barred morph has black head, neck and white-tipped tail, from mantle to uppertail-coverts, wings, breast, sides, flanks, and thighs barred chestnut and black, darker above, and white fringes to wing-coverts.

Ssp. *P. p. gilliardi* (Co & Ve: Perijá) smaller and less upright helmet that tilts back

P. p. pauxi (NC & W Ve, E Co) as described

Habits Forages alone, in pairs or small groups, at dawn and dusk. Diet mostly fallen fruit, seeds, leaves and buds, grasses. Moves altitudinally according to food availability. Breeds immediately ahead of rainy season.

Status Endangered. Though occurs in several national parks, threatened due to habitat loss and poaching. Formerly common in northern mountains of Venezuela, but now rare due to intensive hunting.

Habitat Subtropical and Temperate Zones. Very dense, wet, cool montane forests. Humid and steep slopes and gorges with dense undergrowth, dwarf palms and terrestrial aroids (*Philodendron* and other broadleaf plants). Seldom at forest edge.

Voice Males give series of rapid, droning booms, described by H&B as like an old tree groaning. An exceptionally low-pitched humming, typically *uum*. . . *uUH* a *uum*. . . *uum*. . . *uUH*. . . *um-uUH*. . . *uum*. . ., resonating over long distances through forest and difficult to locate (Hilty).

Note Sometimes called Northern Helmeted Curassow.

Crax curassows are distinctive, large, heavily built, black birds with fascinating curly crests, decorated bills and deep booming voices that echo through the night.

GREAT CURASSOW *Crax rubra* Pl. 11

Identification Male 87–92cm, female 78–84cm. Male all black glossed green, and white vent to undertail-coverts; crest long and incredibly curved, each feather forming almost an S-shape; bill grey, the base and swollen, rounded cere or 'knob' waxy yellow. Female has entire head, chin and throat barred black and white, whilst the crest has a broad white band becoming distally black; rich rufous lower neck and breast to uppertail-coverts but grades through cinnamon on belly, sides, flanks and thighs, and vent to undertail-coverts creamy yellow; tail barred chestnut, black and white. Male from male Wattled

or Black Curassows by greenish (not blue) gloss, and colour and shape of wattle. Female is unmistakable.

Ssp. *C. r. rubra* (W Co, W Ec)

Habits Forages singly, in pairs or small groups. Diet fallen fruit, but sometimes takes it direct from low branches or shrubs. Also leaves, invertebrates or small vertebrates taken by gleaning foliage and litter. Quite confiding where not hunted.

Status Very rare in Ecuador, possibly extinct at some localities. In Colombia, populations stable only in areas far from settlements, where forest is pristine.

Habitat Tropical and sometimes Lower Subtropical Zone. Heavy humid forests, usually in lowlands. Visits partially cleared areas and plantations.

Voice Male calls include a long, low, booming *oom-m-m* (H&B), so low-pitched you almost feel rather than hear it (R&G). Some whistles (E. Eisenmann).

BLUE-BILLED CURASSOW

Crax alberti

Pl. 12

Identification 82–93cm. Male almost entirely black glossed blue, with white vent to undertail-coverts, the crest is forward-curving; eyes chestnut, bill pale grey with base and round wattle ('knob') at either side bright pale blue, legs and feet flesh-coloured. Female dimorphic. Usually black on head with a partially hidden white band around crest, black breast and entire upperparts, barred with narrow white lines from mantle to tail. Barred morph has black to belly, sides and thighs, and is wholly barred white from foreneck to thighs and mid mantle to tail. From all other curassows by bright blue bill. In either morph, from all other females by white scallop-barring on back.

Ssp. Monotypic (NW Co)

Habits Poorly known. Forages on ground and apparently breeds at end of dry season.

Status Endangered. Very rare Colombian endemic, threatened due to deforestation and severe hunting pressure. Extinct over most of former range.

Habitat Tropical Zone to 600m, but occasionally to 1,200m. Humid lowland forest, foothills and lower montane slopes.

Voice Males give a low boom like others of genus (D&A).

YELLOW-KNOBBED CURASSOW

Crax daubentoni

Pl. 12

Identification 84–93cm. Male from male Great Curassow by blue (not green) gloss, and they are well separated geographically. Forages in family groups or small flocks, from ground to treetops. Breeds in rainy season. Males establish territories and small harems.

Ssp. Monotypic (N Co, N Ve)

Habits Principally forages on ground, sometimes in more open areas, e.g. on tracks, early morning and evening. May gather into small bands of up to 20 in dry season, at other times birds scattered in pairs. Breeds in early wet season (April–June).

Status Often hunted but fairly common in Venezuela, uncommon and local in Colombia. Disappears when land is cropped.

Habitat Tropical Zone. Humid forest surrounded by drier deciduous woodland, or in gallery forests. Llanos, foothills and broken country, often near streams and especially in ravines and valleys.

Voice A clear lengthy, arching whistle, rising and falling until no longer audible, *weeeeeeeeooooooooo*. Also given as *wheeeeeeee-uuuuuuuuu* lasting c.4 s (Hilty).

BLACK CURASSOW *Crax alector* Pl. 12

Identification 85–95cm. All black with forward-curved crest, bluish and purple glosses, and pure white vent to undertail-coverts. Facial skin blue-grey, bill horn and cere and base to mandibles yellow or red (or intermediate), legs and feet pale grey. Female has irregular white barring in crown. From male Yellow-knobbed by smaller cere and grey (not greenish) legs. Cline from east to west in cere colour makes demarcation of races difficult.

Ssp. *C. a. alector* (E Ve, Gu, Su, FG) yellow cere

C. a. erythrogatha (E Co, S Ve) red cere

Habits Feeds on ground and forages alone or in pairs that occasionally stroll along dirt tracks or across clearings. Quite arboreal, takes figs and other fruits (in French Guiana 50% of diet from *Eugenia*), and roosts and sings from branches in subcanopy. Calm and trusting in areas where not persecuted. Breeds in rainy season. Displays by clapping wings and calling.

Status In undisturbed forest, densities relatively low, less than 1 per ha. Locally frequent in Colombia (formerly quite common). In Venezuela, Guyana, Suriname and French Guiana, frequent only where there is no hunting and habitat fairly intact.

Habitat Tropical Zone, locally to 1,700m. Humid *terra firme* and gallery forests. Thickets along rivers and tangled forest borders; sometimes in clearings, roadsides, old plantations. Hillsides with drier ground.

Voice A grave boom, *umm-um ----- umm ---- um-um*, at dusk and from midnight to dawn. 'A low sepulchral humming' or booming (Hilty).

WATTLED CURASSOW

Crax globulosa

Pl. 12

Identification 82–89cm. Male all black with a forward-curved crest and rich bluish gloss, except white vent to undertail-coverts. Female has vent to undertail-coverts chestnut. Bill black with red cere and base to mandible, the male has an enlarged knob on cere and wattles on sides of mandible. If seen briefly, male could be mistaken for Salvin's but lacks white in tail. Female from either Razor-billed by all-black tail, and crest.

Ssp. Monotypic (E Ec, SE Co)

Habits Poorly known. Mostly arboreal, occasionally feeds on ground. Breeds in rainy season.

Status Vulnerable. Extremely rare. Rapidly declining in Colombia, and possibly still occurs in extreme eastern

Ecuador. Threatened throughout range by hunting, trade and destruction of riparian habitat.

Habitat Tropical Zone, to 300m. Humid forests and *várzea*. Always near water.

Voice A clear, long, arching whistle in series, like Yellow-knobbed Curassow (D&A), a long, leisurely whistle (del Hoyo) thought to be an alarm call (R&G). Calls from branches in subcanopy or at mid levels.

ODONTOPHORIDAE – New World quails

Quails are shy and elusive ground-dwellers, more likely to run than fly, and well designed for secrecy and terrestrial locomotion – robust bodies, short powerful legs and cryptic colouring. They are most frequently seen in family groups (coveys). When alarmed, they hide and crouch in the underbrush. If they do move off, they are more likely to slip away than flush, but when the covey is flushed, it ‘explodes’, with birds flying in all directions in a steep take-off, and dropping down again after a short distance. Their voices are far-carrying, and are what best reveals their presence. Calls of the bobwhites consist mostly of whistles, whilst wood quails have merry rolling or guttural calls. Quails call mostly at dawn and dusk, with duetting and choruses reported for some species. Many species roost in trees at night. Regarding food, quails are generalists and opportunists. Wood quails search for roots and tubers, foraging in rows and clearing long paths through the leaf-litter. In the dry season, the observer should listen for rustling leaves and flying litter, which will indicate a line of birds clearing a path. Family groups often move in single file. Most species are monogamous and breed during the wet season. Nests are usually a shallow depression lined with leaves and concealed in thick vegetation; some wood quails, however, build a domed nest with a long entrance tunnel. Quails have very high reproductive rate and very low life expectancy, seldom longer than one year.

Additional references for this family include Johnsgard (1998), Carroll (1994) and Madge & McGowan (2002, hereafter M&M).

CRESTED BOBWHITE

Colinus cristatus

Pl. 7

Identification 18–23cm. Small, rounded quail distinguished by long, laid-back but outstanding crest, which is usually creamy and contrasts with head. Generally dark brown above with some white fringing to tertials and other feathers, and dark to blackish spots and streaks, paler below usually with large pale spots fringed black. Subspecies vary considerably and individual variation (some races appear to overlap), along with age- and sex-related differences make separation difficult. See plate for examples. Birds in eastern Andes generally much darker. Crested Bobwhite is only savanna quail in region. From all other wood quails by small size (only Tawny-faced is smaller), white speckles on flanks, and crest. Marbled Wood Quail is crested but much larger and has prominent red skin around eyes.

- Ssp.** *C. c. badius* (Co: W Andes) like *leucotis* but much darker above, the male has throat paler but breast darker
- C. c. barnesi* (WC Ve) very similar to *sonnini* but darker above, black instead of dark brown and crest is darker (sooty brown with buffy tips)
- C. c. bogotensis* (NC Co: E Andes) like *leucotis* but darker on throat and less white on rear crown and nape; ear-coverts less white than on *leucotis* but not as dark as on *sonnini*
- C. c. continentis* (NW Ve) black and cream face, chestnut belly, mid brown back
- C. c. cristatus* (NE Co: E Andes, Curaçao and Aruba) male has rufous throat with pale malar and ear-coverts but dark on face-sides, and noticeably longer crest
- C. c. decoratus* (Co: Caribbean coast) similar to *leucotis* but more richly coloured throughout, eyebrow and malar of male heavily variegated with black; throat and breast rich chestnut
- C. c. horvathi* (NW Ve: Mérida) white crest, male has less rufescent dorsal parts and rather pale underparts with darker shaft-streaks on flanks; female more boldly streaked above
- C. c. leucotis* (C Co) white forehead and crest, broad rufous eyebrow from just before eye to nape-sides – divided from crest by a black-and-white line; malar and chin white, throat chestnut, lower part of face from eyes to throat rufous with some black dots
- C. c. littoralis* (NE Co: Santa Marta) like *decoratus* but male paler, with throat less chestnut, being tawny to amber brown; female paler and less spotted below
- C. c. mocquerysi* (NE Ve) russet breast and belly, few white spots; very close to *sonnini* but crest paler and longer, chin and throat also pale; male has breast bright vinaceous to chestnut, and abdomen less rufous; female whiter below
- C. c. parvicristatus* (C Co, SC Ve) large; short dark crest, dark ear-coverts and upperparts, heavy black markings
- C. c. sonnini* (NC & SE Ve, Gu, Su, FG) twin/divided crest dull sepia, face pale buffy or greyish-brown, pale throat spotted dark

Habits Generally very shy and wary of man, but can become very confiding. Sedentary. Coveys of c. 12+ birds.

Status Frequent to common (populations have benefited from deforestation). In French Guiana very rare and local on coastal plain, and small relict population in the south.

Habitat Tropical Zone, normally below 1,500m, but odd records to 3,200m. Fairly dry to arid lowland grasslands, and locally to Subtropical Zone. Thickets, woodland edges, savannas, roadsides and embankments; pastures, rice and sugarcane plantations. Coveys rest quietly during heat of day tending to sit on ground in shade of bushes or low trees, but may perch among lower branches.

Voice Coveys maintain contact with chirping and cheeping notes; advertising call *pwit pwit pweet* and a wheezy *wheecheer* repeated up to 6 times. (M&M). Sings *bob-white*, second note upward-inflected. Call on Curaçao (*cristatus*) *coo-kwee*, often

uttered repeatedly for long periods (Voous). Alarm note *tik! tik! tik! tik! tik!*

Note Race *continentis* is perhaps specifically distinct (M&M).

MARbled WOOD QUAIL

Odontophorus gujanensis Pl. 8

Identification 23–29cm. Virtually entirely brown with short thick laid-back crest, large orbital red eye-ring, buffy patch immediately behind eye-ring, chestnut chin, whitish throat finely barred black, barred with black over rest of body, with black spots on wings and some white dashes, buffy ends to inner flanks; eyes dark, bill black, legs and feet dark greenish-grey. Bright orange-red bare skin around eyes is distinctive.

Ssp. *O. g. buckleyi* (E Co, E Ec) greyish on sides of head and throat, more heavily barred below

O. g. gujanensis (SE Ve, Gu, Su, FG) as described, most uniformly coloured and barred

O. g. marmoratus (N Co, NW Ve) lacks buffy patch on head, has throat streaked white, more clearly barred, with short white bars fringed black on flanks

O. g. medius (S Ve) uniform grey head, brighter below

Habits Sedentary. Feeds on berries and insects, seeds and fruits. Coveys average 8 individuals. Often betrays presence by vocalisations at dawn and dusk.

Status Locally common, uncommon in Venezuela, frequent in Suriname and French Guiana.

Habitat Tropical and Subtropical Zones. Lowlands. Forest floor of humid forests and mature second growth. Favours ravines and areas with dense tangled undergrowth (R&G).

Voice Duetting pairs call antiphonally: *corocorovado, corocorovado, corocorovado*... Male calls *corocoro* and female *vado* (H&B). A rapidly repeated duet described as *cocoro-kó, cocoro-kó, cocoro-kó*... (R&G). Also a confusingly hollow, repeated *koo-kokoro, koo-kokoro, koo-kokoro* and an advertising call transcribed as *burst-the-bubble, burst-the-bubble* (M&M). Hilty describes two songs from Venezuela: *koo-kee-poo, koo-kee-poo, koo-kee-poo* ... (south of Orinoco) and *buba-wink-kle, buba-wink-kle buba-wink-kle*... from north-west Barinas.

RUFous-FRONTed WOOD QUAIL

Odontophorus erythrops Pl. 8

Identification 23–28cm. Brown above from forehead, over crown and back of neck to tail, finely barred and vermiculated dusky and black with some small white accents; sides of head, narrowly down sides of neck, and breast to flanks rich deep cinnamon, chin and broad wedge across throat black; orbital skin grey, eyes dark, bill black, legs and feet greenish-grey. Tacarcuna Wood Quail has extensive white lores and eyebrow. Separated from Rufous-breasted by Central Andes.

Ssp. *O. e. erythrops* (SW Ec) as described; all-black throat

O. e. parambae (W Co, W Ec) white crescent on throat

Habits Wary, but can become confiding. Usually betrays presence by vocalisations. Little known, but presumed to be sedentary. Coveys average 7–8 individuals.

Status Uncommon to fairly common, depending on locality.

Habitat Tropical Zone. Inside humid lowland forests and secondary woodland.

Voice Choruses or duets given repeatedly and enthusiastically in early morning, a fast *chowita, chowita, chowita*... (H&B) or a loud, resonant *koo-klaw, koo-klaw, koo-klaw* uttered in duets or by more birds (M&M, R&G).

BLACK-FRONTed WOOD QUAIL

Odontophorus atrifrons Pl. 8

Identification 24–30cm. Entire head black with bushy, laid-back rufous crest from mid crown to back of head, lower neck and breast greyish, browner on back, brown on wings and rump to tail, all finely vermiculated, wings with long white teardrop spots within each terminal black spot on all feathers; underparts rufous with some irregular black vermiculations, mostly on flanks, undertail-coverts barred. Only wood quail in region with all-black face.

Ssp. *O. a. atrifrons* (Co: Santa Marta) as described

O. a. navai (Co & Ve: Perijá) rufous crest smaller, only on nape, underparts entirely greyish, finely vermiculated with black-bordered white streaks on breast and sides to flanks

O. a. variegatus (Co: E Andes) more strongly patterned and browner above; and streaks below reach belly

Habits Shy and furtive, difficult to observe. Little known, but presumably sedentary. Coveys of up to 10 individuals.

Status Uncommon and local.

Habitat Tropical to Lower Temperate Zones, 1,200–3,100m. Floor of montane forests.

Voice Calls repeatedly in early morning, in Santa Marta a whistled *bob-white*. Also, a rhythmical rattling, typical of genus (H&B). Reunited coveys gabble after disturbance (M&M).

CHESTNUT WOOD QUAIL

Odontophorus hyperythrus Pl. 8

Identification 25–28.5cm. Male almost entirely rufous with a long, broad postocular, pale blue to white, which embraces outer edge of ear-coverts, upperparts brown, finely barred black from mantle to tail, wing-feathers have small white teardrop spots and larger black terminal spots. Female has rufous on head only, lacks white spots above, and below is soft buffy grey, more buffy and barred on undertail-coverts. Conspicuous trailing white eyebrow and all-chestnut front are unique.

Ssp. Monotypic (Co)

Habits Little known, but presumably sedentary. Forages on forest floor but may roost in trees. Forages by scratching in leaf-litter and among roots. Very shy and elusive. Coveys may have up to c.9 individuals.

Status Rare and local. Regularly heard but difficult to see in Cueva de los Guacharos National Park.

Habitat Subtropical to Temperate Zone. Montane forests.

Voice Merry early-morning choruses of rapid *orrit-killyit, orrit-kilyit, orrit-kilyit* (H&B), presumed to be duet. Also call *peetit peetit* in alarm (M&M).

DARK-BACKED WOOD QUAIL*Odontophorus melanotus* Pl. 8

Identification 24–27cm. Dark crown and head-sides, rear neck and back, all finely vermiculated with black, white spots at tips of greater wing-coverts, tertiaries and secondaries; chin and malar to lower breast orange-rufous, rest of underparts rufous, heavily washed brown and vermiculated; orbital skin, eyes, bill, legs and feet all dark. Rufous-breasted Wood Quail has black on face and obvious postocular line, whilst Chestnut Wood Quail has entire head rufous.

Ssp. Monotypic (Ec, Co)

Habits Little known, but presumably sedentary.

Status Local Colombian endemic, common in La Planada.

Habitat Upper Tropical to Lower Subtropical Zone, 1,200–1,500m. Very humid montane forests.

Voice Distinctive harsh and throaty, rapidly repeated *keeroro-keeroro-keeroro...*, fast in duet, slower when given by an individual. Also soft, low whistles (M&M, R&G).

RUFIOUS-BREASTED WOOD QUAIL*Odontophorus speciosus* Pl. 8

Identification 25–26.5cm. Dark brown from forehead to tail, finely vermiculated with black, all wing-feathers have terminal black-and-white spots, lower face and throat black, merging into rufescent ear-coverts and long eyebrow that reaches around ear-coverts is pale blue-grey with small black dots; male rich uniform rufous-chestnut from lower throat to vent and flanks, with sepia undertail-coverts barred lightly; female has lower throat and upper breast rufous, rest of underparts grey, with light buffy barring on undertail-coverts; orbital skin grey, eyes brown, bill black, legs and feet greenish. Black face and pale trailing eyebrow distinctive in range; from sympatric Starred Wood Quail by black on face and eyebrow.

Ssp. *O. s. soederstroemii* (Ec)

Habits Prefers dense tangled undergrowth, and is shy and retiring. Small coveys may run and freeze if disturbed.

Status Rare in Ecuador (M&M), though fairly common locally in Podocarpus National Park.

Habitat Humid tropical and subtropical forests, 800–2,000m.

Behaviour Little known, but presumably sedentary.

Voice Rapidly repeated *keeroroko-keeroroko-keeroroko* similar to Dark-backed, but higher pitched (M&M), and transcribed as *keeoróko-keeoróko-keeoróko* (R&G). Also some soft, low whistling.

TACARCUNA WOOD QUAIL*Odontophorus dileucos* Pl. 8

Identification 22–25 cm. Black crown, white head-sides including loreal area around base of bill and chin forms star-like pattern when seen head-on, black cheeks and ear-coverts, continuing across throat to join white lower throat and neck-sides, edged at breast with black, breast and entire underparts brownish-grey, vermiculated blackish and spotted white; nape rufous, upperparts darker brownish-grey, with black-and-

white spots and streaks on wings; eyes sepia, bill black, legs and feet greenish-grey. Rather variable with some very dark morphs. Similar to Gorgeted Wood Quail, but well separated geographically. White star of face and throat, with large black cheek patch and narrow black collar distinctive.

Ssp. Monotypic (Co)

Habits Little known, but presumably sedentary.

Status Apparently quite common within very restricted range.

Habitat Upper Tropical Zone, 1,050–1,450m. Restricted to montane forests of Colombia–Panama border.

Voice Unknown, apparently typical *whirr* and chattering notes when flushed (M&M).

Note Subspecies previously named *smithsonianus* proved to be a dark morph (M&M).

GORGETED WOOD QUAIL*Odontophorus strophium* Pl. 8

Identification 25.5–27cm. Dark brown crown, back of neck, upperparts and distal underparts all warm rufescent brown, breast reddish-chestnut with bold white streaks; face white with black line through eye, throat largely black with broad white crescent on lower half, and below a broader crescent of black; upperparts dotted and streaked black and white; eyes bright brown, bill black, legs and feet greenish-grey. Female similarly patterned, but grey below, lacks white spots on wings and has small black streaks on white of face and eyebrow. Similar to Tacarcuna Wood Quail but black and white on face more evenly concentric, and they are separated by the Andes.

Ssp. Monotypic (Co)

Habits Sedentary. Forms small coveys of 3 or so birds.

Status Critically Endangered. Very rare and threatened by habitat loss. Endemic to west slope of East Colombian Andes and restricted to two areas: at three sites in Santander (where recently recorded in good numbers) and in Cundinamarca (where last reported in 1923).

Habitat Subtropical Zone, at 1,750–2,050m. Montane forests, especially where *Quercus humboldtii* is predominant; also mature second growth.

Voice Typical loud rollicking song of the genus (M&M), but differs from others in that 3-note refrain falls in pitch, *ti-t-too*, with song phrases lasting c.30 s (Donegan *et al.* 2005).

VENEZUELAN WOOD QUAIL*Odontophorus columbianus* Pl. 8

Identification 28–30cm. Male has grey crown, rather short, bushy laid-back crest, back of neck to upperparts ruddy brown, darker towards tail, some slight black barring on back, spots and bars on wings, and small white streaks on back and scapulars; chin, malar and throat white with black streaks, clearest in centre, the whole surrounded by a broad black band; underparts ruddy rufous with black-edged white arrowhead streaks on breast and sides, distal underparts brown, as rump and tail; eyes chestnut, bill black with brown base, legs and feet dark greenish-grey. Female lacks any white streaks on back and

is washed dark grey below, lacking any streaks. Only quail with white throat in its range.

Ssp. Monotypic (Ve)

Habits Sedentary. Forages and nests on ground, but roosts on branches and palm fronds. Scatters forest floor litter to expose soil and then scratches to find fleshy roots. Also eats seeds, fallen fruits, insects and worms. Breeds in rainy season, building roofed nests at base of palm trees.

Status Near Threatened. Fairly common but very local in 2 national parks of Coastal Cordillera, but future uncertain in national parks of Venezuelan Andes due to illegal logging.

Habitat Tropical to Subtropical Zone, 800–2,400m. Wet montane and cloud forests.

Voice Sings repeatedly at dawn, a loud, rollicking antiphonal duet, *chúrdole-chúr-it*, *chúrdole-chúr-it*, *chúrdole-chúr-it*... One bird utters *chúrdole* and the other responds *chúr-it*, the performance having a rhythmic, resonant quality (Hilty).

STARRED WOOD QUAIL

Odontophorus stellatus Pl. 8

Identification 24–26cm. Adult male has grey head with short buffy crest, upperparts sepia with fine brown barring, black streaks on scapulars and tertials, and black-edged white terminal spots on all wing-coverts; underparts cinnamon with rows of small white streaks radiating from centre of lower throat, some fine brown barring on flanks and undertail-coverts; orbital skin pink, eyes dark, bill black, legs and feet grey. Female similar but crown dusky rather than buffy. From Tawny-faced Quail by greyish-olive face and pink eye-ring.

Ssp. Monotypic (Ec)

Habits Shy and difficult to observe, and presence usually only revealed by voice. Very vocal, calling repeatedly at dusk. Keeps within dense forest undergrowth and hides in dense cover when disturbed. Little known but presumed sedentary.

Status Widespread in Amazonia, but rare and little known in Ecuador, perhaps occurs extreme south-east Colombia.

Habitat Tropical Zone, below 400m. Lowland humid forests, including *terra firme* and floodplain forest.

Voice Resonant advertising call repeated for long periods, a low, bubbly, musical *kor-korralo*, *kor-korralo*, *kor-korralo*, with a tremor at end of last syllable. Rather similar to Marbled Wood Quail, but slower (M&M). In Peru, sings *koo-kororo*, *koo-kororo*, *koo-kororo* (R&G).

TAWNY-FACED QUAIL

Rhynchortyx cinctus Pl. 7

Identification 17–20cm. Small and rounded with small-looking head and proportionately longer legs than wood quail; no crest. Male has bright tawny-orange cheeks and eyebrow, and black line through eyes, chin and throat white, breast grey, belly and flanks to undertail-coverts tawny-orange, paler towards undertail-coverts, which are finely barred black, upperparts grey spotted with black, feathers of wings broadly fringed orange; eyes dark, bill black, legs and feet grey. Female has head, breast and back bright rufous with

white line through eyes, white throat, wings spotted black with white lines and fringes broadly rufescent; underparts creamy white with black scallops on lower breast, sides, flanks and undertail-coverts.

Ssp. *R. c. australis* (E Ec, E & NE Co)

Habits Little known but presumed sedentary. Very shy. Takes seeds, worms and insects. Found usually in pairs, but also in coveys of up to 8. When disturbed prefers to run, then freeze.

Status Locally common in Colombia, rare elsewhere.

Habitat Tropical Zone to 1,400m. Lowland humid forests, preferring foothills and adjacent flat ground.

Voice Tinamou-like whistles. Advertising call a sad-sounding, dove-like *cooo* or *toot* lasting a full second. A hollow-sounding, tinamou-like song, *kwoh*, *kwoh*, *kwoh-hah* may be preceded by some pure tinamou-like whistles (R&G). If alarmed, utters rapid chirrup-like Crested Bobwhite.

PODICIPEDIDAE – Grebes

Exclusively aquatic and partial to clean, freshwater lakes and wetlands with abundant floating and shore vegetation, they are extremely sensitive to pollution. Main food is fish, supplemented by crustaceans and insects, but for reasons not yet clearly understood, they ingest large quantities of feathers, and even feed these to their chicks. The feathers accumulate in the stomach and are eventually egested in pellets. Grebes in general are not particularly social, and many species are solitary, but when breeding even some of these nest colonially. Ungainly on land, they leave water only to visit the wet, cumbersome floating platforms of reeds and grasses that most species construct as nests. Much time is spent grooming the feathers with oil from the uropygial gland at the base of the tail, or sunbathing in a characteristic posture, feathers fluffed, wings slightly raised and back facing the sun. Grebes have several curious habits. They have a unique method of preening the pale belly feathers, exposing them by rolling over in the water. In emergency they use singular diving techniques: sinking (expelling all the air from the body so that the bird disappears instantly, like a stone) or diving by ‘folding in the middle’, which also requires squeezing out all of the air. Also curious are their courtship displays, which are specific and remarkably elaborate, and often include ‘running’ on the water (raising the body by paddling at top speed). Chicks are cared for by both parents for a considerable period, and adults are often seen carrying the young on their backs.

Additional references used in the preparation of this family include Llimona & del Hoyo (1992, referred to as L&DH here).

LEAST GREBE

Tachybaptus dominicus Pl. 13

Identification 25cm. The smallest grebe. Breeding adult dark, sooty brown above, pale buffy around tail, barred indistinctly on sides and flanks. Eyes golden-yellow. Non-breeding adult has pale whitish throat and white body-sides. Juvenile similar to non-breeding adult but has very distinctive

white stripes on head and body-sides streaked, not barred; eyes pale. From Pied-billed by slender bill and small head, from Colombian and Silvery by overall dark coloration.

Ssp. *T. d. brachyrhynchus* (throughout, except W Ec) as described

T. d. eisenmanni (W Ec) slightly smaller

Habits Furtive. Dives to forage and rarely flies, but less reluctant to do so than other species. Prefers to breed in small, temporary pools, dispersing when these dry out.

Status Common to rare, depending on locality, in Ecuador. Locally common in Colombia and Venezuela. In Netherlands Antilles, irregular and absent in dry season. Uncommon in Trinidad & Tobago. Frequent in Guyana, rare in Suriname uncommon and local in French Guiana.

Habitat Tropical to Temperate Zones. Inland lakes and wetlands with much floating vegetation or overgrown shores.

Voice A seldom-uttered, melodious hoot; also loud trills: *dye-dye-ye-ye-e-e...*, or a low *kirrrr-r-r...* (F&K).

Note Races *brachyrhynchus* and *speciosus* often considered synonymous (Ll&dH), based on work of Storer, and due to invalid type locality.

PIED-BILLED GREBE

Podilymbus podiceps

Pl. 13

Identification 33cm. A stocky, dusky grebe. Breeding adult is greyish-brown above with black chin and forehead, white tail area, mid greyish-brown on sides and flanks, indistinctly barred; brownish iris with white eye-ring. Bill pale grey with a strong dark band mid-way. Non-breeding adult has white chin and throat, has paler sides and flanks, and bill is pale horn with a faint band. Juvenile like non-breeding adult but differs in having chin and throat irregularly streaked brown, and bill has a vestigial band.

Ssp. *P. p. antarcticus* (throughout region)

Habits Solitary, territorial and quite shy, it escapes by diving and hiding in vegetation. Foraging dives are short. Breeds all year, building platform nests anchored to aquatic vegetation.

Status Locally common to uncommon in Ecuador. Locally common to frequent in Colombia and Venezuela. In Netherlands Antilles irregular and absent in dry season. Uncommon in Trinidad & Tobago. Scarce in Guyana, uncommon in Suriname and French Guiana.

Habitat Tropical to Temperate Zones. Calm or stagnant waters, reservoirs, wetlands and lakes with abundant vegetation and reeds.

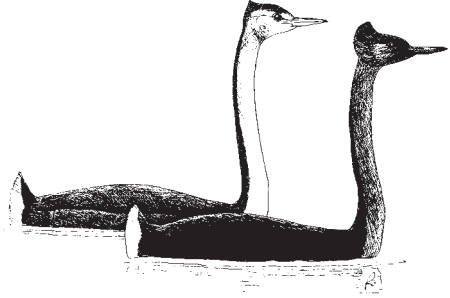
Voice Mostly silent, but when breeding suddenly wails, grunts or chatters vibrantly, *eeow-eeow-eeow-keeeow*, followed by sequence of *cow* notes. In breeding season, a loud *cuk-cuk-cuk-cuk*, *cou-cou-cou* (M. L. Goodwin recording).

Notes Tropical populations sedentary, but northern populations migratory. Northern *podiceps* winters to Panama and may occasionally reach northern S. America. Race *antillarum* may occasionally reach Netherlands Antilles, but no records. Both races smaller than *antarcticus*, and paler and greyer.

GREAT GREBE *Podiceps major*

Identification 70–78cm. A distinctive, large slender, long-necked grebe with a long bill and slight crest. Dark blackish-grey upperparts and head, with a grey face, brick red neck and breast, white belly and cinnamon undertail, and black bill. Non-breeder paler on face and neck and often has white on lower neck and breast, with a pale bill. At a distance, more likely to be confused with Neotropic Cormorant than any other grebe due to similar size, but grebe has a distinct profile of very straight neck and head and bill held horizontally. In flight shows white secondaries.

Ssp. *P. m. major* (SW Ec)



Great Grebe non-breeding (behind) and breeding plumages (front)

Habits Dives elegantly and swiftly, springing slightly upwards to do so. Diet principally fish.

Status Vagrant to south-west Ecuador. Sight record, Salinas, March 2005 (B. Haase). Likely to occur only in austral winter.

Habitat Tropical Zone. Large areas of open water without emergent vegetation. In non-breeding season occurs on the sea, inshore and on reservoirs, larger rivers and wetlands.

Voice Silent except when breeding (Jaramillo *et al.* 2003).

Note Sometimes in genus *Podicephorus* (e.g. Fjeldså 2005).

COLOMBIAN GREBE

Podiceps andinus

Pl. 13

Identification 33cm. Breeding adult rich dark brown above, with bright yellow-orange tufts sweeping back and up on sides of crest, and deep reddish-orange behind and below eyes to neck-sides, lower throat and breast, becoming rich rufous-orange on body-sides and cream on flanks, heavily washed and irregularly barred orange and brown, more finely dark and white. Non-breeding adult has crest and tufts less developed, and chin, cheeks and throat white. Eyes red and bill dark.

Ssp. Monotypic (C Co)

Habits Reportedly social and sedentary, foraged by gleaning foliage and escaped danger by moving to open water.

Status Extinct. Colombian endemic, formerly abundant at lakes on Bogotá–Ubaté plateau. Last known population, in 1970s, at Lago Tota, near Bogotá, where last reliable report 1978; two thorough searches in early 1980s failed to find any.

Habitat Temperate Zone. Fairly open lakes with reedbeds and expanses of weedy shallows.

Voice Apparently a soft whistle (F&K).

Notes Formerly considered a subspecies of widespread Black-necked Grebe *P. nigricollis*. Sometimes placed in genus *Dytes*.

SILVERY GREBE *Podiceps occipitalis* Pl. 13

Identification 27cm. Breeding adult mid grey above, with silvery grey-buff tufts on ear-coverts, grey crown and black hindneck. Chin to breast and flanks white with grey streaks on sides. Eyes red, bill dark. Non-breeding adult lacks tufts on head and grey is duller. Juvenile like non-breeding adult but back of head and nape slightly paler and duller grey.

Ssp. *P. o. juninensis* (Ec, Co: CAndes)

Habits Not shy, usually in open and often sunbathes with back feathers fluffed up. Diet insects, shrimps and other small aquatic fauna; dives only briefly. Nests in colonies in open, on water weeds. Elaborate displays in breeding season.

Status Very local. Uncommon to rare in Ecuador, uncommon in Colombia.

Habitat Subtropical to Páramo, 2,100m to 4,100m. Open lakes with slightly alkaline waters, shallow reedbeds.

Voice Sudden soft whistles, *dooi-th* or *vit*; also *dzi-dzee* between each dive during bouts of frenetic diving (F&K).

SPHENISCIDAE – Penguins

Penguins are supreme waterbirds, as even their eyes are adapted for underwater vision. They 'fly' through the water, using their feet and tails as rudders. The wings are reduced to stiff paddles, but are supported by large pectoral muscles that drive the birds through the water at high speed. Densely covered with 3 layers of feathers, evolved to maintain body heat in cold waters. When not breeding they live at sea, often for many months, keeping together in large rafts, for they are highly sociable, and doubtless this strategy offers considerable protection from predators. They overheat easily in tropical waters and Galápagos Penguin, the northernmost species, has larger wings and bare facial skin to enable heat loss. None occur normally in waters off northern South America, and most records are of dead or dying birds on beaches, leaving some doubt as to whether they actually arrived naturally.

Additional references used in the preparation of this family include Martínez (1992).

[HUMBOLDT PENGUIN

Spheniscus humboldti] PI. 13

Identification 65cm. Adult has reddish face and base of lower mandible, broad white facial line and a single black breast-band. Juvenile dark brown, paler on chin, lower face and throat, and lacks any white lines. From similar Magellanic Penguin by larger deeper bill, more extensive reddish area on face, and single black breast-band. From smaller Galápagos Penguin by reddish facial skin and single black breast-band.

Ssp. Monotypic (Ec, Co)

Habits Usually in small groups, foraging for fish and squid.

Status Accidental in Ecuador and Colombia (Morales 1988).

R&G note that only confirmed records in Ecuador are of dead or dying birds on beaches, perhaps dumped overboard by fishermen, and provenance in territorial waters thus uncertain. Breeds north to Lambayeque, Peru, and up to 20 p.a. recorded off Tumbes just south of Ecuador border (Paredes *et al.* 2003), thus natural occurrence in Ecuadorian waters possible.

Habitat Marine, coastal waters.

[MAGELLANIC PENGUIN

Spheniscus magellanicus] PI. 13

Identification 70cm. Smaller, more slender bill than Humboldt with pink limited to face at base of upper mandible and around eye, broader white band encircling face but not meeting white underparts, and 2 black bands on upper breast.

Ssp. Monotypic (Co)

Habits Often in small, loose groups in waters just offshore in non-breeding season.

Status Accidental in Colombia (Franke & Naranjo 1994), well north of normal range and natural vagrancy considered unlikely. Some disperse when not breeding (April–September). Feeds on pelagic schooling fish. Population declining.

Habitat Mostly pelagic in tropical seas.

[GALÁPAGOS PENGUIN

Spheniscus mendiculus] PI. 13

Identification 48–53cm. Smallest penguin, with a double black band on upper breast, the lower band often ragged or spotted at its lower edge. Juvenile dark brown with white front, and lacks any bars. From Humboldt which has single black band, by lack of reddish facial skin and small dirty horn-coloured bill.

Ssp. Monotypic (Co)

Habits Forages underwater for small schooling fish.

Status Galápagos endemic. Unconfirmed sighting in Colombia, if valid, could have been human-assisted; natural vagrancy considered highly unlikely. Extremely susceptible to El Niño.

Habitat Marine. Mainly in cool upwelling waters near breeding islands, and only likely to be seen far out to sea.

DIOMEDEIDAE – Albatrosses

Albatrosses are the largest and heaviest seabirds, with wingspans of up to 3.5m and weighing up to 12kg. Their bills are long and involve a complicated structure of bone plates. They have a very keen sense of smell, and share with the other members of the Order Procellariiformes (Procellariidae and Hydrobatidae) tube-shaped nostrils (hence the name 'tubenoses' often attached to members of these families), but the albatrosses' tubes are unique amongst Procellariiformes in that they are separate – a small tube on each side of the bill. Their flight-feathers are dark, which makes them more resistant to wear, and always moulted at sea. To travel thousands of miles, they must keep aloft with virtually zero energy expenditure. Take-off is a clumsy, difficult affair both from water and land, and can only

be achieved by flying into the wind – from water, they ‘run’ a few metres pushing hard with the feet; from land, they use downhill ‘runways’ that are a feature of every breeding colony. They take up to 10 years to reach maturity and have very slow breeding rates – nesting in colonies on grassy slopes, in scrapes on the ground or mounds of mud and vegetation, they lay only a single egg and many species breed only every other year. They are long-lived with some surviving to 60 years.

As to taxonomy, no one has ever doubted the monophyly of the Diomedidae. The linear sequence of genera used here follows the SACC, which in turn approximately follows Kennedy & Page (2002). Nowadays, the family is considered to comprise up to 23 species and 4 genera, but *Phoebastria* and *Thalassarche* were formerly subsumed within the genus *Diomedea*. This was changed by Nunn *et al.* (1996) and supported by Penhallurick & Wink (2004). Carboneras (1992c) recognises 2 genera and 14 species, whereas Dickinson (2003) recognises 4 genera and 13 species.

We have attempted to include all of the species that have been recorded or are possible in offshore and coastal waters of northern S. America, but some records do appear unlikely.

Additional references used in the preparation of this family include Harrison (1983, 1987) and Carboneras (1992).

WAVED ALBATROSS

Phoebastria irrorata

Pl. 14

Identification 85–93cm, W 230–240cm. Huge. Breast and head creamy white, tinged yellow-buff on crown and nape, rest of body chestnut-brown finely vermiculated black, upperwing and tail browner, central underwing whitish. Juvenile has a whiter head.

Ssp. Monotypic (Pacific: Ec, Co)

Habits Feeds mainly at night, resting on water to take squid, fish and crustaceans, also scavenges in association with cetaceans and undertakes kleptoparasitic attacks on boobies.

Status Uncommon offshore from south-west Ecuador, vagrant to Colombia. A small colony, c.10 pairs, breeds on Isla de Plata, Manabí, Ecuador. Main breeding colony on Española, Galápagos. Population (c.35,000 birds) is apparently increasing, with nesting areas well protected. At sea ranges to Humboldt Current off Peru.

Habitat Pelagic, though regular off northern Peru.

Voice Shrieks and croaks from feeding groups.

Note Formerly placed in genus *Diomedea* (Nunn *et al.* 1996).

[BLACK-FOOTED ALBATROSS

Phoebastria nigripes]

Pl. 14

Identification 68–74cm, W 190–210cm. Large, but fairly small by albatross standards. Mostly dusky to dark brown; white band at base of bill and white spot behind eyes, white on long uppertail-coverts and all undertail-coverts. Juvenile darker with less white.

Ssp. Monotypic (N Pacific)

Habits Often follows ships, feeding on kitchen waste and garbage thrown overboard. Feeds by swooping and scooping,

diving or sitting on water. Takes crustaceans, especially krill, but squid, fish and carrion.

Status Rare vagrant off coast of northern S America; only a single unconfirmed record for Ecuador.

Habitat Pelagic.

Voice Not known.

Note Formerly *Diomedea nigripes*.

YELLOW-NOSED ALBATROSS

Thalassarche chlororhynchos

Pl. 14

Identification 71–82cm, W 180–200cm. Large. Pale grey head with white forehead, and black bill with yellow ridge to culmen becoming orange at tip; upperparts blackish-grey, contrasting with white rump and underparts. Underwing white with black primaries and narrow black leading and trailing edges. Immature has white head and all-black bill.

Ssp. *T. c. chlororhynchos* (Atlantic: FG) as described

Note race *carteri* also has grey on head, mostly on ear-coverts, but this wears rapidly, leaving head effectively all white.

Habits Feeds by seizing fish at surface or in shallow dives just below surface. When attending trawlers, snatches food and flies off to consume it away from the boat.

Status Endangered. Vagrant to French Guiana. The Atlantic nominate population (50,000–100,000 birds) is declining rapidly due to mortality from longline fisheries.

Habitat Pelagic, but frequents warmer, more northern, waters than other Atlantic albatrosses.

Voice Generally silent at sea.

Notes Formerly placed in genus *Diomedea* (Nunn *et al.* 1996). Considered to comprise 2 species (Robertson & Nunn 1998) making Atlantic Yellow-nosed Albatross *T. chlororhynchos* monotypic, which finding was confirmed by the genetic studies of Penhallurick & Wink (2004).

BLACK-BROWED ALBATROSS

Thalassarche melanophrys

Pl. 14

Identification 83–93cm, W 210–250cm. Huge. White with contrasting dark grey-black upperwings, back and tail. Underwing white with broad, uneven black leading edge. Distinguished from other albatrosses by all-white head with smudgy dark eyebrow and yellow bill tipped orange. Immature similar but has dusky partial collar, dusky bill and dark underwings. Immature from very similar Grey-headed *T. chrysostoma* (unknown in region) by black tip and ridge to bill.

Ssp. *T. m. melanophrys* (Pacific: Ec)

Habits Feeds by plunging, diving or sitting on water. Takes mostly crustaceans, especially krill, but also squid, fish and carrion. Often feeds in mixed groups with other seabirds or follows cetaceans.

Status Vagrant to waters off southern Ecuador following El Niño events. Global population large (c.530,000 pairs) but declining due to mortality from longline and trawl fishing.

Habitat Pelagic, but more often found inshore than other

albatrosses. Nests on subantarctic islands in Pacific and Atlantic. Ranges mostly below Tropic of Capricorn, but multiple records from northern latitudes.

Voice Shrieks and croaks from feeding groups; whistles, grunts and cries, and rapid bill-clapping in displays.

Note Formerly placed in *Diomedea* (Nunn *et al.* 1996).

PROCELLARIIDAE – Petrels, Prions and Shearwaters

As much as their cousins the albatrosses, petrels and shearwaters are truly marine birds. Most species are pelagic, but the larger petrels and fulmars, which feed mainly on carrion, prefer continental-shelf waters, wandering only occasionally into high seas. Procellariids occur in all oceans, with the greatest numbers and diversity of species in the Southern Ocean. They are quite compact and of medium to small size, with long narrow wings and dull plumage. Females look exactly like males but are usually slightly smaller and of lighter weight. Like all Procellariiformes, the nostrils are tube-shaped, but instead of two small tubes on the bill-sides, as in albatrosses, the Procellariidae have the two joined as a single tube that runs along the culmen, and which in many species has a single external nasal hole. They have an extraordinarily keen sense of smell. In general, petrels have stouter, longer bills than prions, whilst shearwater bills are the longest and thinnest of the family. In general also, they are magnificent flyers, but flight patterns and favoured manoeuvres vary amongst the various genera, as do preferred strategies of foraging. Flight frequently involves flapping, especially in light winds, but mainly consists of gliding and soaring. In this they differ from albatrosses, which almost never flap, and storm-petrels which flap most frequently of all. Many species are quite gregarious at sea and often occur in flocks of a few to several hundred individuals.

Procellariids are quite difficult to identify, but it helps to subdivide the family into four 'groups' of similar morphological or behavioural characteristics (but no taxonomic value). The first includes the fulmars and all of the larger petrels as well as some smaller species (the genera *Macronectes*, *Fulmarus*, *Thalassoica*, *Daption* and *Pagodroma*). These are the only members of the family that can walk well on land, or need to, for they are mostly scavengers. The next group includes the genera *Pterodroma* and *Bulweria*, which are popularly called gadfly petrels. They fly very fast and low over the water, sometimes rising suddenly and then descending immediately in a flight pattern called 'towering'. The third group comprises *Pachyptila* (prions) and *Halobaena* (Blue Petrel), which are bluish-grey above and mostly white below, and have a dark M-shaped mark on the upperwing. Their flight pattern is extremely restless and erratic, with much twisting from side to side and weaving at great speed. The last group is the shearwaters (*Procellaria*, *Calonectris* and *Puffinus*), spectacular plungers who drop from several metres above the surface to dive in pursuit of prey. Shearwaters also feed by sitting on the water and surface-seizing, and frequently feed at night on the squids and zooplankton that rise to the surface

when it is dark. The shearwaters, prions and most gadfly petrels nest in burrows that the birds dig into soft soil or peat, or under boulders, or in abandoned rabbit warrens or deep natural holes on cliffs, lava fields and steep slopes. To visit the burrows, the birds exercise extreme care, coming and going only at night, and avoiding even moonlit nights, for with legs that are poorly adapted to walking, and easily accessible nests, they are virtually defenceless against predators.

Despite their diversity, monophyly of the Procellariidae has never been questioned. The linear sequence of genera used here follows the SACC, which in turn approximately follows Kennedy & Page (2002). Carboneras (1992) recognises 12 genera and 70 species, whereas Dickinson (2003) treats 14 genera and 74 species. One species change is *Puffinus subalaris*: although Murphy noted in 1927 the morphological distinctiveness of this Galápagos taxon, it was traditionally treated as a subspecies of *P. lherminieri* (as in this book). However, genetic data published by Austin *et al.* (2004) strongly indicate that *subalaris* is a separate species, and furthermore that it is only distantly related to *P. lherminieri*, being rather closer to *P. nativitatis*. Thus, the SACC recently approved a proposal to recognise *subalaris* specifically.

We have tried to include all species that have been recorded or are possible in offshore and coastal waters of northern South America, but some records do seem unlikely.

Additional references used in the preparation of this family include Harrison (1983, 1987) and Carboneras (1992).

[SOUTHERN GIANT PETREL *Macronectes giganteus*]

PI. 14

Identification 85–100cm, W185–200cm. Fairly large, brownish, with the feathers darker at the tips; pale to whitish head, dark eyes (usually), pale horn-coloured bill with pale grey-greenish tip. Juvenile much browner and more uniformly so, gradually gets lighter and whiter-headed with each moult. Rare white morph is flecked all over with dark brown. Compared to albatrosses they have shorter, less rounded wings, heavy bills with prominent nasal tube along culmen, and a stocky, hump-backed appearance.

Ssp. Monotypic (Antarctic; moves up both Pacific and Atlantic coasts)

Habits Both a scavenger and predator. At sea, feeds principally by surface-seizing.

Status Possible rare vagrant to Ecuador or French Guiana.

Habitat Marine, usually cold Antarctic waters near ice shores but young birds and immatures follow cold-water currents to subtropical and tropical latitudes off coasts of South America.

SOUTHERN FULMAR *Fulmarus glacialis*

PI. 15

Identification 46–50cm, W114–120cm. Unmistakable pale petrel. White underparts, head and tail, pale grey mantle and wings, with black flight-feathers and white patch in primaries.

Ssp. Monotypic (Pacific: Ec)

Habits Glides with wings in stiff camber, very distinctive.

Feeds mostly at night on crustaceans, small fish and cephalopods. Often in flocks (sometimes with other seabirds), seizing prey from surface.

Status Accidental to Ecuador. Global population large (c.4 million) and apparently stable, although some taken as bycatch by commercial fishing boats.

Habitat Pelagic, usually cold Antarctic waters near icy shores, but young birds follow cold-water currents to subtropical latitudes off western South America.

CAPE PETREL *Daption capense* Pl. 15

Identification 38–40cm, W81–91cm. Unmistakable. Dark brown head and upper back, wings patterned black and white, lower back and rump white dotted black, tail white with black tip; underparts white with underwing edged dark.

Ssp. *D. c. capense?* (Pacific: Ec, Co)

Habits In strong winds, proceeds in bouncing glides very high above waves. Forages day or night, resting on water and pecking to feed. Occasionally dips while on wing and dives. Often accompanies whales. Disperses widely post-breeding.

Status Uncommon off Ecuador and vagrant off southern Colombia. Global population large (c.2 million). Some colonies impacted by rats and feral cats; some birds taken as bycatch by commercial fishing boats.

Habitat Pelagic. In austral winter, cold waters of Southern Ocean, in summer, closer to shore near breeding grounds. Often found at tropical latitudes off western South America.

Note Subspecies in our region is assumed to be nominate.

GALÁPAGOS PETREL *Pterodroma phaeopygia* Pl. 15

Identification 43cm, W91cm. A large long-winged and long-tailed gadfly petrel; flies with bouncing pattern, typical of genus, up with a few quick strokes, downwards in a glide with wings arched low and backswept. Uniformly dark above except white frontal band on face, all white below with distinctive black line running across wing, primary tips and edges of secondaries black, and has distinctive small black patch on axillaries.

Ssp. Monotypic (Pacific: Ec, Co)

Habits Diet: fish, squid and crustaceans, taken by resting on water or dipping while on wing.

Status Rare but regular off coasts of Ecuador and Colombia, where seemingly more common historically, and population has decreased markedly due to predation by introduced rats, cats, dogs and pigs, and by Galápagos Hawks *Buteo galapagoensis*, trampling of burrows by large mammals and accidental death through ensnarement on barbed wire fences. Although 10,000–30,000 pairs remain, it is considered Critically Endangered.

Habitat Highly pelagic. Breeds in burrows and cavities in humid highlands of the Galápagos.

Notes Previously considered conspecific with Hawaiian Petrel *P. sandwichensis*, which breeds only on Hawaii, under name Dark-rumped Petrel *P. phaeopygia*. The separation was initially suggested based on morphological and vocal

differences (Tomkins & Milne 1991), but was only widely adopted following DNA studies (Nunn *et al.* 2000). Three different breeding populations, on different islands in the Galápagos, breed at different times of year and show structural differences, especially in bill size (Carboneras).

BLACK-CAPPED PETREL

Pterodroma hasitata Pl. 15

Identification 40cm, W95cm. Medium-sized, long-winged gadfly petrel (the only species recorded on Atlantic coast of region). Dark cap emphasised by white hindneck (some dark adults have grey hindneck), upperwings grey with dark bar, rump white, tail black, underparts white, with dark primaries, trailing edge and black bar on underwing.

Ssp. Monotypic (Atlantic: Co, Ar, Bo, Cu)

Habits Nocturnal and crepuscular; feeds on fish, squid, and invertebrates associated with *Sargassum* weed reefs and upwellings.

Status Endangered. Vagrant, sight records from Aruba, Bonaire, Curaçao, Colombia and Venezuela. Population has decreased to c.2,000 birds, due to habitat destruction, predation by humans (for food) and by introduced mammals (rats, mongoose). Main feeding grounds in Atlantic are between eastern USA and north-east Brazil.

Habitat Highly pelagic. Breeds in cliff burrows within montane forest in highlands of Hispaniola and, perhaps, Cuba.

[KERMADEC PETREL

Pterodroma neglecta Pl. 15

Identification 38cm, W92cm. Fairly large, long-winged, polymorphic gadfly petrel. Dark morph looks all dusky but is greyish on basal half of primaries and face; yellow legs and feet contrast with dark underparts. Light morph has whitish head with grey nape to mantle and scapulars; white underparts from face to flanks and belly; vent to undertail dark, with contrasting yellow legs and feet; basal half of primaries white.

Ssp. Race not known (Pacific Ocean)

Habits Similar to Mottled Petrel.

Status Possible vagrant to offshore Ecuador.

Habitat Pelagic, occurring in both subtropical and tropical oceans.

Voice *kik-cow-ow-ow-ow*, or a *yuk-kiroo-yuk-yuk*.

[MOTTLED PETREL

Pterodroma inexpectata Pl. 15

Identification 34cm, W74cm. Medium-sized gadfly petrel. White to grey with dark primaries, and a clearly defined black leading edge to outer wing from ends of primaries to carpal, the line then running diagonally across wings to join patchily across the lower back and rump; tail dark; face paler with an indistinct dark patch on the cheeks; undersides more contrasting white and grey, with broad black band along underwing-coverts; trailing edges of wings black. Bill black, legs and feet yellow. Similar Antarctic Prion is more evenly

grey above, has tail grey with black tip, and lacks black bars below.

Ssp. Monotypic (Pacific Ocean)

Habits Flight erratic and weaving; zooms in high arcs, then rapid wingbeats between long glides, low over the waves.

Status Hypothetical and unconfirmed off Ecuador, possibly off Colombia also.

Habitat Pelagic, ranging well to the north in the Pacific, occurring as far as Alaska, but well out in the ocean.

Voice A high-pitched *te-te-te-te...* in rapid series.

DOVE (ANTARCTIC) PRION

Pachyptila desolata Pl. 15

Identification 27cm, W61cm. Small and elegant bird, bluish-grey above with a distinct shallow M-shaped black line that runs from wingtip to wingtip; darker on sides of head, with a variable white superciliary line; white below.

Ssp. Monotypic (Circumpolar, S Pacific: Ec?)

Habits Forages by day and may follow ships. Flight erratic and weaving, usually low and often close to the waves; appears to stand or almost sit on the water with wings raised, as it thrusts its head below the surface to feed on near-surface plankton.

Status Rare vagrant to waters off southern Ecuador.

Habitat Essentially a bird of Antarctic and subantarctic seas.

BULWER'S PETREL *Bulweria bulwerii* Pl. 16

Identification 26–28cm, W63–73cm. A distinctive small petrel with a wedge-shaped tail and unique flight action. Flies erratically, with buoyant twists, and wings held slightly forward and down. All dark brown with paler bar on wings and small dark bill.

Ssp. Monotypic (Atlantic: T&T)

Habits Feeds mostly at night, by resting on water to pick fish, squid and surface plankton.

Status Vagrant to Aruba, Bonaire, Curaçao, Trinidad and French Guiana. Recorded off Atlantic coast of northern South America during boreal winter.

Habitat Highly pelagic, except when breeding.

WHITE-CHINNED PETREL

Procellaria aequinoctialis Pl. 15

Identification 51–58cm, W134–147cm. A large, heavy dark petrel. All sooty brown with inconspicuous white chin and heavy pale bill with dark lines. Bulkier and browner than smaller Parkinson's and bill is all pale, lacking dark tip.

Ssp. Monotypic (Pacific: Ec)

Habits Diet mainly squid and crustaceans, picked from surface or by diving. Follows fishing boats. Strong, deliberate wingbeats and sometimes soars high above water.

Status Vagrant to Pacific off Ecuador. Global population very large (c.5 million) but decreasing and classified as Vulnerable due to introduced predators at some nesting

sites, human exploitation in others, and bycatch mortality in commercial fisheries.

Habitat Marine and pelagic, preferring waters over continental shelf or upwellings. Nests on South Atlantic islands. Follows Humboldt Current to tropical latitudes during austral winter.

PARKINSON'S (BLACK) PETREL

Procellaria parkinsoni Pl. 15

Identification 46cm, W115cm. A medium-sized black petrel. All sooty black, though undersides of primaries may appear silvery, greenish-horn bill with distinct dark tip. Larger and heavier White-chinned lacks dark tip to bill and is browner.

Ssp. Monotypic (Pacific: Ec, Co)

Habits Feeds mostly on squid, fish, crustaceans and invertebrates by picking or diving from surface or by plunging in flight. Mainly feeds in association with small cetaceans, and also around fishing boats.

Status Fairly common in Pacific off Ecuador (March–November). Several recent records off Colombia (February–June). Considered Vulnerable; decline due to predation by introduced rats, cats, dogs and pigs. Population (c.10,000) now stable following eradication of cats on main nesting island off New Zealand.

Habitat Highly pelagic, far from land except at nesting colonies.

CORY'S SHEARWATER

Calonectris diomedea Pl. 16

Identification 45–48cm, W100–125cm. Large shearwater with broad, rounded wings. Dusky head, sandy-coloured upperparts with variable white uppertail-coverts, white underparts, and white underwings with dark primaries and trailing edge. Yellow bill. Flight slow and relaxed, with long glides on downward-arched wings. Similar-sized Great is longer and narrower winged with distinct dark cap, black bill, brown belly and variable dark markings on underwings.

Ssp. *C. d. borealis* (Caribbean and Atlantic: Ve, Tr, Gu, Su, FG)

Habits Fishes for squid and fish, mostly at night, and by resting on water or plunging in flight.

Status Rare offshore, with records from Venezuela, Trinidad & Tobago, Guyana, Suriname, French Guiana. Occurs off Atlantic coast of South America during boreal winter. Extensively exploited for food or bait, preyed by introduced mammals and has further declined through habitat destruction in most breeding areas, although several colonies are now protected.

Habitat Highly pelagic except around breeding colonies.

Notes Formerly included in *Puffinus* but separation confirmed by DNA studies (Penhallurick & Wink 2004). Only the Trinidad record was certainly identified to subspecies (Collins 1969). Heidrich *et al.* (1996) proposed that race *borealis* is a separate species, and should retain the name Cory's Shearwater, whilst nominate takes the name Scopoli's Shearwater. Hazevoet (1995) proposed species status also for race *edwardsii*, which

would then be known as Cape Verde Shearwater. The latter race has been found in Brazil and could occur in northern South American waters. The nominate winters off South Africa and is seemingly less likely to occur.

WEDGE-TAILED SHEARWATER

Puffinus pacificus Pl. 16

Identification 38–46cm, W97–105cm. Medium-sized shearwater with wedge-shaped tail. Two colour morphs: one all dark brown, the other with white underparts and dark bars on underwing. Dark morph separated from Sooty by lack of silvery panel on underwing.

Ssp. Monotypic (Pacific: Co)

Habits Fishes by dipping or plunging in flight, sometimes by resting on water. Joins other seabirds and dolphins to prey on schools of fish. Follows fishing boats.

Status Vagrant in Pacific off Colombia. Global population large (2–3 million), but evidence of slight decline.

Habitat Pelagic, seldom near land except at nesting colonies.

PINK-FOOTED SHEARWATER

Puffinus creatopus Pl. 16

Identification 48cm, W109cm. Large, stocky broad-winged shearwater with slow, relaxed flight consisting of lazy strokes and low glides. Dark brown above with buffy fringes to all feathers, though at distance appears uniform mid brown, and has dusky head, flanks and undertail, white belly and breast, underwings whitish mottled brown, bill pinkish, feet pink. Size, flight action and white belly distinguish it from Sooty.

Ssp. Monotypic (Pacific: Ec, Co)

Habits Fishes by seizing prey while resting on water or by plunge-diving.

Status Considered Vulnerable due to small population (34,000–60,000) and predation by introduced rats, cats, coatis and dogs, harvesting by local people, and erosion of breeding sites through overgrazing. Migrates from breeding islands off Chile north along eastern Pacific coast in austral winter. Uncommon to rare off Ecuador and Colombia.

Habitat Pelagic, mainly in waters over continental shelf.

[BULLER'S SHEARWATER

Puffinus bulleri] Pl. 16

Identification 45–47cm, W96–99cm. Large striking grey, black and white shearwater with wedge-shaped tail. Upperparts grey with dark cap, tail and wingbar, underparts white, bill grey. Flight graceful and elegant, especially in strong winds: long, high-arching glides and easy strokes.

Ssp. Monotypic (Pacific: Ec)

Habits Feeds mostly at night, taking fish, jellyfish, salps and crustaceans at surface.

Status Considered Vulnerable due to small breeding range. Vagrant to Ecuador (single record of bird washed up on a beach in Guayas). Global population large (2.5 million).

Habitat Marine and pelagic, disperses to northern Pacific during austral winter.

GREAT SHEARWATER *Puffinus gravis* Pl. 16

Identification 43–51cm, W100–118cm. Large shearwater with thin stiff wings. Upperparts dark grey-brown with distinct darker cap emphasised by mostly white neck, thin black bill, narrow white band on uppertail-coverts, underparts white with brown belly, and distinct dark bars on underwings. From Cory's by wing shape, darker coloration, capped appearance and underwing bars. Flies with quick, stiff wingbeats with fairly straight wings.

Ssp. Monotypic (Co? Ve, Atlantic coasts)

Habits Follows trawlers in large noisy flocks to take offal (sounds like a fighting cat – Hilty). Mainly plunge-dives, also dives or picks on surface.

Status Uncommon on passage (doubtless more common than reports suggest). Transequatorial migrant, circling Atlantic, moving north along American coast to Canada and Greenland in Jul–Aug, then east and south along coasts of Britain, Iberia and Africa, to nesting islands in S Atlantic in late September, off northern South America in May–Jun. Recorded off entire coast of Venezuela and must have occurred at least off the eastern end of Colombia's Caribbean coast.

Habitat Cool pelagic waters.

SOOTY SHEARWATER

Puffinus griseus Pl. 16

Identification 40–51cm, W94–109cm. Mid-sized, slender narrow-winged shearwater. Uniform dark brown with distinctive silvery panels on underwing. Has distinctive flight action with deep slicing beats.

Ssp. Monotypic (Pacific, Caribbean and Atlantic: Ec, Co)

Habits Frequently feeds with congeners, as well as terns and penguins. Flocks, especially of juveniles, follow trawlers. Fishes by diving, plunging and picking from surface.

Status Fairly common, even seasonally abundant, in Pacific off Colombia and Ecuador, and vagrant to Caribbean coast of Colombia. Transequatorial migrant in both Pacific and Atlantic. Large global population (c.20 million) but considered Near Threatened based on declines at some colonies and in feeding areas.

Habitat Mostly cold offshore, but also pelagic, waters.

[FLESH-FOOTED SHEARWATER

Puffinus carneipes] Pl. 16

Identification 43cm, W103cm. Large, typically long-winged shearwater, almost entirely blackish-brown (may appear black) with thick straw-coloured, yellowish-pink or flesh-coloured bill (with black tip), legs and feet. Virtually identical to but slimmer than dark morph of Wedge-tailed Shearwater, which has darker bill, larger head and body. Very similar to dark morph of Pink-footed Shearwater, which is larger and has broader wings. Sooty Shearwater is similar above and has same outline but has pale to silvery wing linings.

Ssp. Monotypic (W Pacific)

Habits Flight slow and languid, with long glides close to the surface and occasional slow, effortless, stiff-winged wingbeats. Dives freely; several may gather at good feeding spot but usually solitary. Seldom follows ships.

Status Rare off the Pacific coast of western USA; unconfirmed vagrant off Ecuador.

Habitat Pelagic.

Voice High-pitched call *ku-ki-ar*.

MANX SHEARWATER

Puffinus puffinus Pl. 16

Identification 30–38cm, W76–89cm. The largest black-and-white shearwater in the region, proportions like larger shearwaters. Entire upperparts blackish, underparts including undertail white, dark auricular area with pale crescent behind. Differs from smaller browner Audubon's in white undertail, darker auriculars and more gliding flight action.

Ssp. Monotypic (Caribbean and Atlantic: Ar, Bo, Cu, T&T)

Habits Feeds alone or in small flocks, by plunging or diving, or by picking from surface while resting on water.

Status Vagrant to Aruba, Bonaire, Curaçao and Trinidad & Tobago. Migrates across equator, found off eastern South America during boreal winter.

Habitat Pelagic waters over continental shelf.

LITTLE SHEARWATER

Puffinus assimilis Pl. 16

Identification 25–30cm, W58–67cm. Smallest shearwater, with auk-like flight action. Black upperparts contrast with white underparts; eye shows clearly, being surrounded by white on face or is at border of black cap. Often flies along troughs between waves, alternating shallow, fluttering strokes and short straight glides. Two subspecies occur in the Atlantic, and either could occur off the Atlantic coast of the region.

Ssp. *P. a. boydi* (Atlantic: FG) dark undertail-coverts

P. a. baroli (Atlantic: FG) white undertail-coverts

Habits Feeds by day. 'Hangs' over water, wings raised above back and feet 'tiptoeing' surface, and then dives or plunges to catch fish and krill. Follows ships.

Status Vagrant off French Guiana, but subspecies unconfirmed. Some nesting sites threatened by introduced cats and rats, and human exploitation of eggs and chicks.

Habitat Marine and pelagic but most frequent near shores and in warm waters at tropical latitudes.

AUDUBON'S SHEARWATER

Puffinus lherminieri Pl. 16

Identification 27–33cm, W64–74cm. Small, short-winged long-tailed black-and-white shearwater. Entire upperparts dark brown, giving capped appearance, underparts white with dusky undertail and tail, bill black, feet pink. From shorter tailed Manx Shearwater by dark undertail, browner upperparts and faster, more flapping flight.

Ssp. *P. l. lherminieri* (Caribbean and Atlantic: Ec?, Ve, Co) as described

P. l. subalaris (Pacific: Ec, Co) underwing-coverts entirely white, lacking broad, dark leading edge of nominate.

Habits Feeds while resting on water, also by pattering, plunging or diving. May join other seabirds. Rarely follows fishing boats.

Status Fairly common in Caribbean off Colombia and Venezuela, where breeds on La Orchila, Los Hermanos and Los Roques groups. Uncommon off Ecuador and Colombia.

Habitat Pelagic, offshore waters.

Notes *P. l. loyemilleri* could also occur in Caribbean and Atlantic waters. SACC now considers *subalaris* as a full species, Galápagos Shearwater.

HYDROBATIDAE – Storm-petrels

Storm-petrels are the smallest of all Procellariiformes. They have long legs and hooked bills with a conspicuous, long, single nostril tube that helps give the birds a distinctive profile and a very keen sense of smell. The colour palette is quite limited – black, dusky, grey, brown, and pure white faces and underparts. The wings are comparatively shorter and broader than the Diomedidae and Procellariidae, and are, therefore, much better suited for powered flight, but share with those families the characteristic dark flight-feathers, which are more resistant to wear. Like all pelagic birds, moult is a very prolonged, gradual process. Within the family, two subfamilies are often recognised: the Oceanitinae (the genera *Oceanites*, *Garrodia*, *Pelagodroma*, *Fregatta* and *Nesofregatta*), which have shorter, more rounded wings, longer legs and, for the most part, square tails, and the Hydrobatinae (*Hydrobates* and *Oceanodroma*), which have longer, more pointed wings, shorter legs, and forked tails. Most of the breeding sites of Oceanitinae are at southern latitudes, whilst the majority of breeding sites of Hydrobatinae are at northern latitudes. The wing shape of the Hydrobatinae is apparently an adaptation to the relatively calmer conditions of northern seas. In general, storm-petrels fly like swallows – usually direct but sometimes erratic, low over the water, moving restlessly and with great agility, sometimes buoyantly. The Oceanitinae have the curious habit of gliding leisurely over the water with dangling legs, dipping the feet often, whilst the Hydrobatinae fly more energetically, with lots of planing and hovering, sharp banking and, in strong winds, frequent gliding. Storm-petrels rarely rest in the water, but will occasionally plunge from a short height to dive for prey. Most foraging occurs on the wing, by flying low with the long legs dangling, picking food items by barely entering the head into the water. The birds occasionally hover while scanning the water, or sometimes patter the water whilst cruising, which is thought to attract prey to the surface. In fast winds, they can 'walk' on the water, wings outstretched and feet pushing, or even 'stand' on it, the feet serving as anchors and the stiff bird propelled by the wind. Different species and subspecies of storm-petrels occur in areas with marked differences in temperature and salinity, with the greatest numbers found in

the cold waters of the Southern Ocean and in the upwellings off South Africa and western South America. They nest in self-excavated burrows in soft soil or peat, abandoned rabbit warrens, burrows of other seabirds or natural holes on cliffs, steep rocky or grassy slopes, caves, and even in ruins and walls. They are always gregarious at their colonies, and at sea often occur in small flocks, but solitary birds are also common. At colonies they are very noisy, making a wide variety of calls and sounds, but are silent at sea. Storm-petrels are remarkably long-lived for their size. Little is known about the populations of most species, but several are of conservation concern, especially where cats, mongoose or rats have been introduced to islands that harbour breeding colonies. Those on large islands or at mainland sites are exposed to a large number of predators, with skuas among the most ferocious. Another danger is sudden, severe storms, which may take a heavy toll on flocks caught in their midst.

We have endeavoured to include all of the species that have been recorded or are possible in offshore and coastal waters of northern South America.

Additional references used in the preparation of this family include Harrison (1983, 1987) and Carboneras (1992).

WHITE-BELLIED STORM-PETREL

Fregatta grallaria

Pl. 17

Identification 20cm, W46cm. Blackish-brown above with wing-coverts and back slightly lighter and more greyish; rump white; underwing-coverts and belly to vent white, contrasting well with all blackish head, and vent to tail. The feet do not protrude beyond the squared tail in flight. Very similar Black-bellied Storm-petrel is virtually identical but is distinguished by a thick black line down the centre of the belly and protruding feet. Similar Wilson's Storm-petrel has underwing-coverts grey, belly black, with white vent and undertail-coverts.

Ssp. *F. g. segethi* (S. Pacific: Ec, Co)

Habits Distinctive, wave-hugging flight with bill pointing down, wings stiffly-held, legs dangling and body swinging from side to side; occasionally 'walks on water' and will kick at water, or appear to trail one leg in the water. Accompanies ships, but flies alongside or over bow wave, not over wake.

Status Rare vagrant off Ecuador and Colombia.

Habitat Pelagic.

Voice Usually silent

BLACK-BELLIED STORM-PETREL

Fregatta tropica

Pl. 17

Identification 20cm, W46cm. Blackish-brown above with wing-coverts and back slightly lighter and more greyish; rump white; underwing-coverts and belly to vent white, contrasting well with all blackish head, and vent to tail. The feet protrude a little beyond the squared tail in flight. Very similar White-bellied Storm-Petrel is virtually identical but is distinguished by having entire belly to vent white.

Ssp. *F. t. tropica* (Circumpolar: Ec)

Habits Similar to White-bellied Storm-petrel.

Status Rare vagrant off Ecuador.

Habitat Circumpolar, dispersing and wandering north into tropical waters when not breeding, but movements very poorly known.

Voice Usually silent but repeated shrill whistles at breeding grounds.

WILSON'S STORM-PETREL

Oceanites oceanicus

Pl. 17

Identification 17–19cm, W38–40cm. Dark brown with prominent white crescent-shaped rump patch and pale carpal bar (upperwing-coverts); feet extend beyond tail in flight and have yellow webs which are occasionally visible in field. From similar White-vented by black belly, dark underwing and more direct, swallow-like flight. From Band-rumped and Leach's by square tail (Leach's has sharp carpal bend and white rump with dark median stripe). Wingbeats faster and glides less than Leach's. Moults April–June (but still renewing some retrices in August in French Guiana).

Ssp. *O. o. oceanicus* (all coasts) as described

O. o. exasperatus (Ec?) longer-winged and larger-tailed

Habits Follows ships, attends trawlers and feeds in association with cetaceans. When feeding, skips low over surface, with wings raised and patters feet.

Status Vagrant to Ecuador, Venezuela and Trinidad, but breeds in Guianas and common in French Guianan waters March–August. Abundant transequatorial migrant that moves north mainly through eastern Pacific and western Atlantic. Occurs in tropical waters approximately late April–late October. Sometimes in large flocks on migration.

Habitat On migration may be seen over the continental shelf or in more pelagic waters. During breeding season avoids deep oceanic waters, preferring the continental shelf. Widespread, range overlaps with several other storm-petrels, including White-vented, which also occurs in tropical waters off western South America.

WHITE-VENTED STORM-PETREL

Oceanites gracilis

Pl. 17

Identification 15–16 cm. Resembles Wilson's but slightly smaller and shorter-winged (has swifter, more erratic flight), pale underwing-coverts, narrower white crescent-shaped rump patch, narrower but paler carpal bar; diagnostic white on belly often hard to see in field. Feet extend beyond tail and have yellow webs.

Ssp. *O. g. gracilis* (Pacific coast: Ec, Co) as described

O. g. galapagoensis (Ec?, Co?) larger with more white on belly

Habits Non-feeding flight is light and zigzagging, usually close to surface. Feeds on wing, dipping periodically but mostly pattering feet just below surface, with wings raised high above back, as if tiptoeing on water. Follows ships, attends trawlers and feeds in association with cetaceans.

Status Rare and irregular off coasts of Ecuador and Colombia.

Habitat Pelagic but more often near land than other species, and is partial to cold waters and upwellings. Disperses through Humboldt Current.

Notes Although only nominate *gracilis* has been recorded with certainty in our region, it is likely that *galapagoensis*, which is resident around Galápagos and presumed to breed there, may also occur in Pacific coastal waters of Ecuador and Colombia. Also called Elliott's Storm-petrel.

WHITE-FACED STORM-PETREL

Pelagodroma marina Pl. 17

Identification 20–21cm, W41–43cm. Distinctive, with conspicuous white forehead and supercilium, white underparts and underwings, grey nuchal collar, grey rump and slightly forked black tail. Could only be confused with larger Hornby's which lacks supercilium and has deeply forked grey tail. In non-feeding flight, weaves and banks constantly in jerky and unpredictable pattern.

Ssp. *P. m. maoriana* (Ec)

Habits Nocturnal feeder. Main diet shrimps and other planktonic crustaceans, as well as small fish and squid. Feeds on wing, by pattering and dipping, but also by resting on water. Seldom approaches ships, but associates with cetaceans.

Status Rare vagrant (no recent records) off Ecuador.

Habitat Mostly pelagic.

LEAST STORM-PETREL

Oceanodroma microsoma Pl. 17

Identification 13–15cm, W32 cm. The smallest storm-petrel, all dark with narrow wings and wedge-shaped tail. Flight fast and direct with deep wingbeats.

Ssp. Monotypic (Pacific coast: Ec, Co)

Habits Feeds on wing, by pattering or resting on water. Main diet planktonic crustaceans (e.g. larvae of Spiny Lobster).

Status Vagrant (December–February).

Habitat Pelagic and prefers warm waters. Found off Colombia and Ecuador during boreal summer.

Note Formerly placed in monotypic genus *Halocyptena*.

WEDGE-RUMPED STORM-PETREL

Oceanodroma tethys Pl. 17

Identification 18–20cm. Extensive white rump and uppertail-coverts diagnostic; otherwise dark brown, and when worn shows distinctive carpal bar (March–July). Distinctive flight action, with wings often held forward and deep slow beats produce fast, steady nighthawk-like twisting and banking flight. Legs do not extend beyond slightly forked tail. Moults August–September.

Ssp. *O. t. kelsalli* (Pacific coast: Ec, Co) as described
O. t. tethys (Ec?, Co?) larger

Habits Feeds on wing, by pattering and dipping or by resting

on water, mostly at night. Breeds in crevices or under bushes in lava fields or rock piles, mostly May–June.

Status Regular migrant to offshore Pacific of Ecuador and Colombia (May–October).

Habitat Pelagic. In non-breeding period disperses over Humboldt Current.

Note Although only *kelsalli* has been recorded with certainty in our region, it is likely that nominate *tethys*, which breeds Galápagos, also occurs off Ecuador and Colombia.

BAND-RUMPED STORM-PETREL

Oceanodroma castro Pl. 17

Identification 19–21cm, W44–46cm. Dark brown with paler brown greater coverts forming a prominent, if not dramatic bar, and all-white rump. From Leach's by sharp, clean white rump, and Wilson's by slightly forked tail and shorter legs that do not extend beyond tail. Flies with quick wingbeats and long, slashing glides. Distinctive flight action: banks sideways with half-a-dozen wingbeats, then banks to the other side for half-a-dozen wingbeats, continuing in a sharply defined zigzag.

Ssp. Monotypic (Pacific coast: Ec, Co)

Habits Feeds mainly by day, on the wing, by pattering and dipping, mostly on planktonic crustaceans, and some small fish and squid.

Status Uncertain or vagrant, sight records in January–February off Ecuador. Many breeding sites. Population fairly large but few data.

Habitat Highly pelagic. Partial to warm waters.

Note Also known as Madeiran and Harcourt's Storm-petrel.

LEACH'S STORM-PETREL

Oceanodroma leucorhoa Pl. 17

Identification 19–22cm, W45–48cm. Similar to Wilson's but has forked tail, smudgy rump that does not wrap around onto underside of tail, rump divided by dark central line (hard to see in field), and longer wings with more pronounced carpal angle. From Wilson's by different bouncing and swerving flight action; does not patter surface. Dark-rumped birds in Pacific easily overlooked, as larger Black, but have only slightly forked tail and more fluttery flight. Distinctive flight consists of erratic horizontal turns and sudden vertical jumps.

Ssp. *O. l. chapmani* (Pacific coast) usually has pale rump
O. l. leucorhoa (Atlantic coast) variable rump from pale (north) to dark (south)

Habits On wing, skims, dips and snatches food (mainly small fish, squid and planktonic crustaceans), day or night. Follows cetaceans and, rarely, trawlers, but not other ships. Found in tropical waters during northern winter.

Status Common to uncommon in Atlantic waters off French Guiana (November–May), Suriname, Guyana, Trinidad & Tobago; rare or accidental in Caribbean with records from Venezuela and Curaçao. Predicted but unconfirmed for Pacific waters of Colombia and Ecuador. Widespread and abundant globally; though subject to continuous pressure from natural

(gulls, otters, minks, foxes) and introduced (cats, rats) predators at nesting colonies.

Habitat Pelagic, partial to upwellings and areas at convergence of oceanic currents. Often found in brackish waters of estuaries in French Guiana.

MARKHAM'S (SOOTY) STORM-PETREL *Oceanodroma markhami* Pl. 17

Identification 23cm. Large, all dark with paler carpal bar and greater coverts – palest at tips – forming fuzzy but distinct bar which describes a full crescent. Very difficult to separate from Black Storm-petrel, note shorter line of pale fringes to upperwing-coverts. Graceful butterfly-like flight with slow, shallow strokes and long glides.

Ssp. Monotypic (Pacific coast: Ec, Co)

Habits Diet unknown, apparently breeds in coastal deserts of western South America (only known site discovered in 1987) and disperses over Humboldt Current.

Status Uncommon austral migrant or vagrant to offshore Ecuador (only confirmed records for January). Confusion with very similar Black Storm-petrel makes precise status unclear.

Habitat Pelagic, cool waters.

RINGED (HORNBY'S) STORM-PETREL *Oceanodroma hornbyi* Pl. 17

Identification 21–23cm, W46cm. Distinctive, large and stocky with swept-back wings; dark cap and chest-band contrast with white underparts, forehead and collar. Brownish-grey upperparts, upperwings have broad paler carpal bar, grey rump and underwings, and longish, notched black tail. Legs do not extend beyond tail. Flight erratic with several deep strokes then a glide.

Ssp. Monotypic (Pacific coast: Ec, Co)

Habits Feeds on wing, pattering, dipping and snatching prey from surface.

Status Vagrant off Ecuador in August–January, with most records from Gulf of Guayaquil; once 130 together (R&G).

Habitat Pelagic. Most records from Humboldt Current.

BLACK STORM-PETREL *Oceanodroma melania* Pl. 17

Identification 23cm, W46–51cm. Large and all dark, with pale tips to greater coverts. From very similar Markham's by longer pale carpal bar reaching fore upperwing and flight, which is steady and elegant, with deep vertical strokes and very few glides.

Ssp. Monotypic (Pacific coast: Ec, Co)

Habits Main diet is planktonic crustaceans (larvae of Spiny Lobster), also small fish. Feeds on wing, picking from surface.

Status Fairly common visitor to offshore Ecuador and Colombia, mainly April–November but some present year-round.

Habitat Both pelagic and coastal, generally in warm waters and more regularly seen from shore than most other storm-petrels.

Voice Generally silent at sea.

ASHY STORM-PETREL *Oceanodroma homochroa* Pl. 17

Identification 18–21cm. Dark brown, with pale fringes to greater coverts and an indistinct but large pale bar on underwing-coverts, extending from axillaries to edge of wing. Very similar to larger Markham's; differs in indistinct pale underwing bar and is greyer overall. Tail less deeply forked. Flight steady and direct with shallow strokes; seldom glides.

Ssp. Monotypic (Pacific coast: Ec)

Habits Often feeds nocturnally, and is usually gregarious when so doing. Largely takes small cephalopods, fish and crustacea by surface-seizing or dipping whilst hovering. Mainly present at colonies February–April (Brooke 2004).

Status Uncertain and casual vagrant to Ecuador, with sight records in September and January. Total population small but stable in recent years, due to protection of breeding islands off California.

Habitat Marine and highly pelagic, but generally does not disperse far from breeding sites – only rarely reaches Pacific coast of northern South America.

PHAETHONTIDAE – Tropicbirds

Tropicbirds are fairly large, very elegant, long-tailed seabirds. They are usually white, although pinkish birds are often recorded, the colour coming from use of the waterproofing oil gland. Sexes are alike. At distance they look like heavy terns, but the tail always distinguishes them, even the short-tailed young have well-pointed tails. They have a steady graceful flight, with rather fast wingbeats like a pigeon, but alternate periods of flapping with glides. Adults seldom alight on the water, and they cock their tail when they do. Spectacular courtship displays are performed near and over the breeding colonies. Groups display and then pairs separate and perform synchronised acrobatic flights. They breed on rocky islands and coastal cliffs, nesting in crevices, amongst rocks or in scrapes, often under vegetation. Tropicbirds fly c.15 m above the surface, from which height they plunge to catch fish and squid; flying-fish may be taken in flight. They are adept at hovering, especially over shallow water, where they also take crustaceans. Their calls resemble the shrill whistle of a ship's bosun and have earned them the vernacular name of Bosunbirds.

RED-BILLED TROPICBIRD *Phaethon aethereus* Pl. 18

Identification 90–105cm, tail-streamers 46–56cm, W99–106cm. All white with black on outermost primaries, black line through eye and fine black barring on back, innermost wing-coverts, tertials, rump and uppertail-coverts. Central tail-feathers very long. Bill bright red. Juvenile similar but black eyelines join at nape; bill is yellow and tail much shorter. From smaller White-tailed Tropicbird by faint black scalloping on back, less extensive black on inner wing, and red bill. Juvenile separated from White-tailed by heavier barring on back and

wings, black tips to tail-feathers, and more extensive black line through eye joining on nape.

Ssp. *P. a. mesonauta* (Caribbean, E Pacific)

Habits Often in pairs.

Status The rarest tropicbird. Nests on Isla de Plata (Ecuador); on St Giles and Little Tobago (Tobago); on Malpelo I. (Colombia); and on the Los Hermanos and Los Roques (Venezuela). Recorded on Curaçao, but does not nest there. Vagrant to Trinidad. Probably bred historically on Grand Connétable I, off French Guiana (Daszkiewicz & Massary 2006).

Habitat Mostly pelagic in tropical seas, generally only seen near land at breeding colonies.

Voice Calls include loud, repetitive cries or shrieks during courtship flights at colonies, screeching during territorial fights and soft clicking toward chicks in nest.

WHITE-TAILED TROPICBIRD

Phaethon lepturus Pl. 18

Identification 70–82cm, tail-streamers 33–45cm, W90–95cm. All white with black on outermost primaries, heavy black line on wing, from carpal to end of tertials, short black line through eye and orange-yellow bill. Heavier black lines on inner wing, lack of scalloping on mantle, and yellow bill distinguish it from larger Red-billed. Juvenile similar to juvenile Red-billed Tropicbird but has less scalloping on back, white tail tips and shorter black line through eye.

Ssp. *P. l. catesbyi* (Caribbean: Co, To)

Habits Like most tropicbirds, usually encountered in pairs.

Status The commonest tropicbird globally. Numerous nesting sites throughout extensive range but none in northern South America. Recorded in Colombia and Tobago, whilst hypothetical in Venezuela, Aruba, Bonaire, Curaçao and Trinidad.

Habitat Pelagic and coastal waters in tropical and subtropical seas. Mainly in high seas but may feed near coast.

Voice Calls similar to those of Red-billed Tropicbird.

PELECANIDAE – Pelicans

With their extraordinary pouched bills, fat dumpy bodies and short, waddling legs, pelicans seem to be the living caricatures they are so often portrayed as. But these apparently ungainly, malformed birds are amongst the most elegant, skilful and acrobatic flyers. Our two 'brown' pelicans are exclusively seabirds. They prefer shark-infested waters, feeding on fish that have been herded into the shallower waters by the feeding sharks. They dive into the sea, often from a considerable height, crashing into the water breast-first, with a force that stuns the fish in the immediate vicinity, whilst the birds immediately sweep their open bills from side to side to scoop up what they can. The fish are soon swallowed into the gullet, where they are retained until the birds return to the nest to feed the waiting young. They fly high when commuting, in V formations or straight lines, synchronising wingbeats and short glides, and are unmistakable at a distance, once their jizz is recognised.

Pelicans are colonial breeders, nesting in trees. Young are very vocal, but the adults silent. Mortality is very high in the first year, with few fledglings surviving to adulthood, but those that make it are long-lived.

Additional references used in preparing this family include Gilliard (1958), Harrison (1983), Schreiber & Schreiber (1985), Elliott (1992b) and Johnsgard (1993).

BROWN PELICAN

Pelecanus occidentalis Pl. 20

Identification 105–110cm, Wc.200cm. Non-breeding adult has all-white head, flushed buffy on face, with some black at base of bill and on throat, entire upperparts grey, underparts sooty with fine white streaking on flanks; eyes pale with broad orange eye-ring, bill dusky horn with paler yellowish base and tip. Breeding has adult rear neck dark brown, the sides just meeting above breast, an ochraceous patch between neck and breast, the white flushed buffy; bill grey with pale orange tip and black spot near culmen tip. Adult feeding young has white lacking any buffy flush, dark eyes, and pale grey bill distally dusky with pale greenish-yellow tip. Juvenile has entire head, neck and upperparts brown, back and wing-feathers fringed slightly paler, underparts creamy white; eyes brown, bill dark grey with horn-coloured cutting edges, black spot near pale tip of culmen.

Ssp. *P. o. carolinensis* (occasional northern visitor)

P. o. murphyi (Pacific coasts) as described

P. o. occidentalis (Caribbean and Atlantic coasts) smaller than *carolinensis*, breeders slightly darker below

Habits Feeds mainly by plunge-diving, occasionally by picking from bottom whilst in shallow water. Main food is fish, especially anchovies and sardines, and also takes scraps discarded by fishermen, and even carrion. Often loses food to piratic seabirds, such as gulls and frigatebirds. Flocks fly stately in loose single-files, often barely above crests of waves. Breeds colonially, normally using same site for generations. Very sensitive to human disturbance at breeding colonies, but quite confident around humans elsewhere in coastal areas, especially ports, where it is frequently seen roosting on posts, boat masts or rigging.

Status Common on Atlantic, Caribbean and Pacific coasts. Rare in the muddy waters of coastal Suriname and French Guiana, mostly juveniles in winter months.

Habitat Prefers coastal waters (never open seas), frequenting ports, bays and estuaries. Breeds on inaccessible cliffs, on small remote, deserted islands and sometimes in mangroves, but very rarely seen inland.

PERUVIAN PELICAN *Pelecanus thagus* Pl. 20

Identification 134–152cm, Wc.228cm. Much larger than Brown Pelican. When not breeding, generally much whiter on head; during breeding, facial skin much more brightly coloured and has more pronounced straw-coloured crest.

Ssp. Monotypic (Pacific coast: Ec, Co)

Habits Joins other species of seabirds, especially boobies and cormorants in large feeding flocks

Status Common bird of the Humboldt Current.

Habitat Exclusively marine. Prefers coastal waters.

Note Usually treated as a subspecies of Brown Pelican.

SULIDAE – Boobies

Boobies are a family of coastal-oceanic birds comprising just 7 species, but are found throughout the tropical and subtropical waters of the world. They are all very similar, with long, pointed wings, stout but streamlined bodies, and long pointed bills with serrated cutting edges for grasping fish underwater. Being oceanic, they most frequently feed in offshore waters, their diet being almost exclusively fish. Boobies catch fish by diving from some height, hitting the water with sufficient force to stun fish in the immediate vicinity. They fly in formations, sometimes in a long line, alternating flapping with glides. They roost on the water at night, and only come ashore in the breeding season, when they form noisy, busy colonies on steep cliffs and offshore islets. The name booby is said to come from the ease with which sailors slaughtered them for provisions.

Additional references used to prepare this family include Gilliard (1958), Harrison (1983, 1987), Nelson (1985) and Carboneras (1992a).

BLUE-FOOTED BOOBY

Sula nebouxii

Pl. 19

Identification 76–84cm, W152cm. Brown upperwings, head lightly streaked brown and white, back brown with white fringes and large white patch on lower back, tail brown with white central tail-feathers, underparts white, bill grey and has diagnostic blue feet. Juvenile has all-brown head and upper breast, and grey feet. Similar Peruvian Booby is slightly smaller and more slender, more speckled above and lacks large white patch on back.

Ssp. *S. n. nebouxii* (Pacific coast: Ec, Co)

Habits Feeds by plunge-diving for small schooling fish and catches flying-fish on wing. Forages in large flocks, often with other seabirds, sometimes follows dolphins, occasionally in shallow breakwaters along beaches.

Status Global population small. Frequent to common on tropical Pacific coast, with breeding colonies on coastal islands of Ecuador and in Galápagos. Non-breeding resident off Colombia.

Habitat Marine, but inshore waters only. Nesting colonies on barren cliffs and rocky coasts; feeding grounds mostly areas of upwelling or cool waters near coasts.

Voice Silent at sea. At breeding colonies, greeting, territorial and contact calls: hissing, wistful whistles, grunts, growls, etc.

PERUVIAN BOOBY *Sula variegata* Pl. 19

Identification 72–76cm. All-white head contrasts with rest of upperparts, which are brown lightly fringed white, underparts white, bill and legs greyish. Juvenile has streaked

brown head and underparts. Similar to larger Blue-footed Booby, but separated by white head and dark blackish feet in adult, and by medium brownish streaking on head and underparts in juvenile.

Ssp. Monotypic (Pacific coast: Ec, Co)

Habits Forages in large flocks, usually with pelicans, cormorants and other seabirds. Rests on water and dives into schools of fish. Low-flying groups plunge on fish, all hitting water simultaneously.

Status Small flocks occur regularly along southern coast of Ecuador north to Santa Elena Peninsula, but large numbers appear during El Niño, fleeing disappearance of food in Humboldt Current off Peru, and may reach north-west Colombia. Population declining due to depletion of anchovy fisheries off Pacific coast of South America.

Habitat Endemic to Humboldt Current. Partial to cool upwellings. Breeds on coastal islands.

Voice Silent at sea. At breeding colonies, greeting, territorial and contact calls: hissing, whistles, grunts, growls, etc.

MASKED BOOBY *Sula dactylatra* Pl. 19

Identification 81–85cm, W152cm. Large, mostly white booby with blackish flight-feathers, greenish-yellow bill and dark face. Juvenile has brown head, back and upperwings contrasting with white mantle, and dark bar on underwing. Does not occur sympatrically with similar Nazca Booby in northern South America.

Ssp. *S. d. dactylatra* (Caribbean and Atlantic coasts)

Habits Forages alone or in small groups, in deeper waters, further from land than other boobies, diving or plunging on fish or squid. Often mobbed by frigatebirds.

Status Global population perhaps large but scattered; Caribbean population small and declining. In Colombia, probably regular offshore on Caribbean coast. Casual, non-breeding visitor to Aruba and Bonaire. In Venezuela a fairly common resident in offshore waters, breeding on several Caribbean islands. Scarce in Trinidad & Tobago, very rare in French Guiana.

Habitat Strictly marine and pelagic, preferring deep waters.

Voice Silent at sea. At breeding colonies, greeting, territorial and contact calls: hissing, trumpeting, whistles, grunts, growls, etc.

Note Nazca Booby was formerly considered a subspecies of Masked Booby.

NAZCA BOOBY *Sula granti* Pl. 19

Identification 90–92 cm, W152cm. Largest booby, mostly white with blackish flight-feathers, orange bill and dark face mask. Juvenile brown on head, upperwing and back with brown underwing bar. Does not occur sympatrically with similar Masked Booby in northern South America.

Ssp. Monotypic (Pacific coast: Ec, Co)

Habits Disperses widely and is mostly pelagic when not breeding.

Status In Ecuador, a common resident with an important nesting colony at Isla de Plata. In Colombia, apparently regular offshore, breeds on Malpelo I.

Habitat Strictly marine, fairly pelagic and prefers deep waters.

Voice Silent at sea. At breeding colonies, greeting, territorial and contact calls: hissing, whistles, grunts, growls, etc.

Note Formerly considered a subspecies of Masked Booby, but separated by Pitman & Jehl (1998), primarily as they do not interbreed, as well as differences in bill colour, size and proportions, and plumage differences at all ages.

RED-FOOTED BOOBY *Sula sula* Pl. 19

Identification 66–77cm, W91–101cm. Highly polymorphic, small booby with red feet. Varies from entirely brown to white with black primaries and secondaries. Most morphs have white tail, which is diagnostic. In Ecuador, most are brown morph, whilst on islands off Venezuela most are white morph. Black-tailed white morph separated from similar Masked and Nazca Boobies by smaller size and all-white head, lacking dark face. Juvenile all brown with yellowish feet.

Ssp. *S. s. sula* (Caribbean and Atlantic coasts) as described
S. s. websteri (Pacific coast) slightly smaller

Habits Forages in flocks, sometimes far from roosts and coasts, most often nocturnally, especially on moonlit nights. Feeds on flying-fish and other small fish, also squid. Frequently robbed by gulls and frigatebirds. Approaches ships and perches on masts and rigs.

Status Global population large and widespread in tropics. In Ecuador breeds on Isla de Plata in small numbers but apparently increasing. Possibly regular in offshore waters of Colombia. Frequent to common resident in Venezuela, where breeds on several Caribbean islands. Rare visitor to Trinidad, but breeding resident on Tobago. Frequent non-breeding visitor to Aruba, Curaçao and Bonaire.

Habitat Marine and pelagic waters when not breeding.

Voice Silent at sea. At breeding colonies, greeting, territorial and contact calls: hissing, whistles, grunts, growls, etc.

BROWN BOOBY *Sula leucogaster* Pl. 19

Identification 64–74cm, W132–150cm. All-brown head and upperparts contrasting with clean white underparts, and has pale yellowish bill and yellow feet. Male has dark slaty face, female a yellowish face. Juvenile uniform dull brown, slightly streaked on underparts; bill, legs and feet dusky. Most likely to be confused with juveniles of larger Masked and Nazca Boobies, which also have all-brown heads, but both have brighter bills and the former a white mantle.

Ssp. *S. l. etesiaca* (Pacific coast) has greyish forehead
S. l. leucogaster (Caribbean and Atlantic coasts) as described

Habits Feeds alone or in pairs, sometimes in small groups, near coasts. Main food is flying-fish, also other small fish and squid, caught by plunge-diving or by picking from surface. May mob other seabirds to steal food.

Status Global population large and widespread in tropics. In

Ecuador probably occasional in northern offshore waters. In Colombia the most common booby, where off Caribbean coast breeds on Gorgona and Tonel Is., and off Pacific coast, on Malpelo I. Frequent visitor to Aruba, Curaçao and Bonaire. Frequent to common resident in Venezuela, where breeds on several Caribbean islands. Common on Tobago but uncommon on Trinidad. Recorded in Guyana, where status uncertain. Rare in Suriname, uncommon (juveniles only) but year-round in French Guiana.

Habitat Marine, but always inhabits inshore waters. Several breeding sites in northern South America.

Voice Silent at sea. At breeding colonies, greeting, territorial and contact calls: hissing, whistles, grunts, growls, etc.

PHALACROCORACIDAE – Cormorants

Cormorants are generally slim but robust waterbirds that have evolved to feed on fish by underwater pursuit. They differ from penguins in using their webbed feet, not their wings, for propulsion. They grasp fish with their strong, hooked bills. Soft parts are brightly coloured when breeding. They are highly gregarious, resting, roosting and breeding communally and colonially, on cliffs or in trees; and they often associate with many other species, both on coasts and inland. Cormorants are poorly waterproofed and only enter the water to hunt or to escape danger. They can usually be seen loafing on rocks or trunks of fallen trees over water, often drying their outspread wings.

Additional references used to prepare this family include Orta (1992a) and Sibley (2000).

NEOTROPIC CORMORANT

Phalacrocorax brasilianus Pl. 20

Identification 58–73cm. The common, widespread cormorant of the region. From much larger Double-crested by white facial skin, dark lores, duller bill, longer tail, rather slender head and neck, and is generally slimmer.

Ssp. *P. b. brasilianus* (throughout)

Habits Usually in flocks commuting to and from roosts in mornings or evenings in irregular, wavy skeins. Diet small fish, frogs and aquatic invertebrates. Flocks gather over fish, and sometimes fish cooperatively, forming fans to herd schools. Dives directly from water surface in pursuit of prey or plunges from air (the only cormorant to do so).

Status Common in west, wanderer to eastern Ecuador, abundant in Colombia, Venezuela and Guyana. In French Guiana, uncommon and local on the coastal plain (mostly Kaw Marshes), very rare elsewhere due to hunting.

Habitat Tropical to Temperate Zones. Waterside areas, from marine (mainly coves, bays and other semi-sheltered coasts) to brackish (estuaries, coastal lagoons) or freshwater wetlands (wide slow-moving rivers, lakes, tarns, reservoirs, marshes). Most abundant in lowlands, but recorded to 5,000m. Swift to colonise reservoirs and temporary wetlands.

Voice Mostly silent, but may emit guttural grunt like a pig (Raffaele *et al.* 1998).

Note Previously named *P. olivacea*, but *brasilianus* is correct name (Browning 1989 and SACC).

DOUBLE-CRESTED CORMORANT

Phalacrocorax auritus PI. 20

Identification 79–91cm. Adult glossy black with naked, orange-yellow face and gular pouch, small, curled occipital crest, and short tail. Much variation in juvenile plumage, from nearly all-white belly to dark brownish-black. From much smaller Neotropic Cormorant by orange facial skin and pouch, larger bill, and shorter tail.

Ssp. *P. a. floridanus* (Caribbean coast offshore islands)

Habits Principally feeds on schooling fish. Generally coastal.

Status Casual and fairly rare visitor from North America to Aruba, Bonaire, Curaçao, usually in March–August. Hypothetical for mainland.

Habitat Coasts and sheltered coastal wetlands, also inland freshwater wetlands, rivers, lakes and reservoirs in North and Middle America.

Voice Only rarely croaks or grunts, bullfrog-like growling and clean-spoken *yaaa yaa ya* (Sibley), a variety of deep guttural grunts (Raffaele *et al.* 1998), but silent for most part.

GUANAY CORMORANT

Phalacrocorax bougainvillii PI. 20

Identification 71–76cm. Adult dark brown above, and brown on flanks and thighs. Below, throat white but neck and upper breast brown; rest of underparts white. Broad eye-ring bright red, eyes dark. Unmistakable, the only black-and-white cormorant in the region.

Ssp. Monotypic (Ec, Co)

Habits Highly pelagic, often seen far out to sea, where feeds in deep water. Dives in pursuit of fish, especially anchovies. Frequently in large groups, sometimes with pelicans and boobies. Colonial, with breeding success strictly dependent on anchovy supplies.

Status Rare and irregular on Colombian coast, but regular in small numbers to Ecuador, primarily at Santa Elena Peninsula. Appears in connection with El Niño events. Recorded in Ecuador mostly June–July, on post-breeding dispersal, and in Colombia April–May. Declining recently due to guano extraction and dramatic decline in east Pacific fisheries caused by severe El Niño phenomena and over-fishing.

Habitat Coastal. Feeds in cold waters of Humboldt Current.

Voice Mostly silent, grunts infrequently.

Note It has been suggested that this and several other species should be separated in the genus *Leucocarbo* (Siegel-Causey 1988).

ANHINGIDAE – Anhinga

Anhingas are closely related to cormorants but differ in several respects: they are longer bodied with especially long bills, heads and necks, and long tails that may be fanned. They catch prey underwater by darting the head forward, impaling the target on the sharp, pointed bill. Anhingas fly well and soar readily. They require less take-off distance and can inhabit more sheltered waters than cormorants, but in other respects they behave much as cormorants.

Additional references used to prepare this family included Orta (1992a) and Sibley (2000).

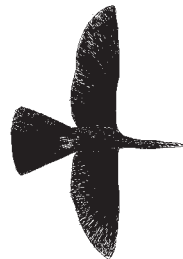
ANHINGA

Anhinga anhinga PI. 20

Identification 81–91cm. Adult male glossy black with lesser and median wing-coverts pale grey, fringed black, greater wing-coverts near white, tip of tail brown. In breeding condition, white filoplumes on head and neck. Female similar but has pale greyish-buffy head. Juvenile resembles female but has less white in wing. From Neotropical Cormorant by larger size and long snake-like head. Deep wingbeats and occasional glides combined with fanned tail very distinctive.

Ssp. *A. a. anhinga* (east tropical South America)

Habits Often seen in trees or bushes at water's edge, wings outstretched to dry. Usually singly or in pairs, but numbers may congregate at rich fishing spots. On surface, swims with only neck and head above water, looking rather snake-like with a long pointed bill – quite a shock when seen for the first time! Soars with outstretched neck and long tail, giving distinctive profile, though pale neck of female can be hard to see at long distance, giving a headless look.



Anhinga soaring; combination of long neck without any trailing legs and feet is diagnostic

Status Uncommon to rare in Ecuador, locally frequent in Colombia, widespread and common to frequent in Venezuela and Guyana. In French Guiana, although widespread, rare throughout the north with populations drastically diminished by hunting.

Habitat Shallow inland lagoons, reservoirs and marshes, also slow-moving rivers with open water. Occasional in brackish coastal wetlands. Normally to 300m, but sightings to 1,400m.

Voice Usually silent, but sometimes quite vocal when perched, uttering descending series of mechanical clicks, *krr kr krr kr kr krrr krr*, also low, nasal frog-like grunts (Sibley).

FREGATIDAE – Frigatebirds

Frigatebirds are invariably seen in the air, soaring and gliding effortlessly on distinctive bowed wings. They frequent coastal areas of tropical oceans with trade winds. Their requirement of thermals and winds means they favour coasts with high cliffs and mountains. They have the lowest wing loading (weight to wing area ratio) of all birds and prefer to soar, often staying aloft all day, and may even remain at sea all night, soaring high on steady winds. They are unable to walk or swim, and never rest on water; lacking a preen gland their feathers are not waterproofed and they quickly become waterlogged if they inadvertently do so. Usually return at night to a communal roost atop a favoured stand of mangroves or low trees on a remote beach. Frigatebirds forage by swooping onto small fish or carrion at water surface; they follow tuna and are adept at snatching flying fish escaping from underwater pursuit. Their kleptoparasitic foraging methods have given rise to the names, Frigate Bird and Man-O-War Bird, attributed by sailors in tribute to the ferocious manner with which they pursue other seabirds, even pelicans, pecking savagely if they do not quickly disgorge food, and then jinking and spinning to catch the falling food before it hits water. They also take eggs and chicks from seabird nests and feed on carrion and turtle hatchlings on beaches. Adult males have a red gular sac that may be inflated to extraordinary proportions, and which is used in display. They breed colonially, often in mixed colonies with boobies and other seabirds, on oceanic islands, constructing platform nests in bushes and mangroves or sometimes on the ground if no trees are available. Females may be up to 25% larger than males. Young distinguished by their pale head; it takes 2 years to reach adult plumage.

MAGNIFICENT FRIGATEBIRD

Fregata magnificens

Pl. 18

Identification 89–114cm, W217–244cm. Adult male all black with red gular sac and black feet. Subadult male has white crescent on belly and white lines on axillaries; feet dull red. Adult female lacks red gular sac but does have red feet, with white lower throat and breast-sides, and white lines on axillaries; subadult female has white lower throat and breast, longitudinal white crescent either side of belly, white lines on axillaries, and pink feet. Juveniles have buffy heads, which are variable and often quite white, becoming even whiter over next year or so, a white breast and belly, and pink feet. From Great Frigatebird by all dark wings (very occasionally with a brown panel), dark feet and eye-ring. Female has blue orbital skin (not red) and dark throat. Juvenile has whiter head and more white on underparts.

Ssp. Monotypic (Caribbean and Pacific coasts)

Habits Forages alone or in pairs (especially away from shore), or in congregations at abundant food source (schools of fish, seabird rookeries, fishing boats and fishermen's docks, etc.).

Status Fairly common on Caribbean coasts, but populations decreasing. Common on Pacific coasts. Several breeding colonies known throughout the region.

Habitat Marine, mostly in near-shore waters, rarely pelagic. Vagrant inland.

Voice Normally silent in flight, but when attacking other birds sometimes makes fast rattling noise. Nesting colonies very noisy, with birds continually uttering nasal cries, snorts, cackles and bleating.

GREAT FRIGATEBIRD *Fregata minor* Pl. 18

Identification 85–105cm, W205–230cm. Adult male all black with distinct diagonal brown bar across upperwing – not much help when almost invariably seen from below! –, red gular sac and red or brown feet. Subadult male has inverted whitish crescent across lower breast; older juvenile male like juvenile but has blackish markings on mid breast, forming rough bar; adult female has white chin to upper breast and sides of lower breast; subadult female similar with additional white patch on belly. Adult has red eye-ring and subadult red-pink eye-ring. Juvenile has completely buffy head with white throat to belly. Male from Magnificent Frigatebird by red legs, red orbital ring and brown panel on upperwing-coverts (only shown very rarely by Magnificent) and greyish scaling on axillaries. Female has red orbital skin (not blue), pale grey throat and all-black underwing. Juvenile has buffier head and throat.

Ssp. *F. m. ridgwayi* (E Pacific, Ar)

Habits Less piratic than Magnificent Frigatebird.

Status Fairly common in Pacific east to Galápagos, vagrant to western Ecuador and Aruba. Very sensitive to declines in food availability caused by El Niño events.

Habitat Mostly warm tropical waters near island roosts or breeding colonies.

Voice Similar to Magnificent Frigatebird.

ARDEIDAE –

Hérons, Egrets and Bitterns

Hérons and bitterns are waterside fishermen, and as such they move and time their lives with the floods or the tides or, like experienced anglers, seek spots along streams where the catch may be best. Some stand motionless and engrossed, waiting for prey to come within reach of their lightning strike, others run and jab, frantic and erratic, along the muddy edges or in the shallows. Prey is mainly fish, but they take also a fair share of frogs, crabs and other aquatic creatures, as well as insects and small terrestrial vertebrates. The majority of herons and egrets are colonial nesters, often in mixed colonies that may include ibises, cormorants and wood storks. On the trees used for roosting or nesting there is a pecking order, with the larger species helping themselves brazenly to the sturdier spots that will support their greater weight. The bitterns, tiger herons and some of the largest or forest-dwelling herons, however, nest alone. In general, the family is quite poor in its repertoire of vocalisations. Solitary nesters have some vocal displays, but colonial birds tend to be silent except during the breeding season, when the noise in the rookeries is a constant cacophony of croaks, honks, growls and other coarse sounds. A

morphological character peculiar to the family are the patches of special down feathers that continually grow and crumble into a dust that the birds use in preening. The long necks curve sharply into two segments, retracted during flight and built to spring like harpoons when fishing, making deadly weapons of the long bills. The long feet and legs give them an idiosyncratic way of walking – long and staid steps, at times casual, at times watchful and stalking. But their beautiful grace is best revealed in flight, when wingbeats that are buoyant and elastic take them across the sky in calm, deliberate and rhythmic movement. Few sights in the world of birds are as memorable as a flock of egrets passing in the distance before the backdrop of a setting sun.

Additional references for this family include Hancock & Kushlan (1984), Martínez-Vilalta & Motis (1992), Porter et al. (1992) Mullarney et al. (1999) and Sibley (2000)

RUFESCENT TIGER HERON

Tigrisoma lineatum

Pl. 23

Identification 66–76cm. Entire head and neck rufescent chestnut, barred black from throat-sides and entire lower neck barred, throat and foreneck white, buffy and dark brown, underparts rufous, barred black and white on flanks; eyes yellow, loreal skin and base of bill buffy, rest of bill dark brown to blackish, legs and feet pale brown, large scales on fore leg brown, on rear leg greenish. Juvenile almost entirely rufous except white throat and undertail-coverts, barred heavily and irregularly with black throughout.

Ssp. *T. l. lineatum* (all countries)

Habits Feeds alone or sometimes in pairs, standing motionless in shallows or at water's edge. Takes fish, insects, crustaceans, and has been recorded taking small snakes. Most active at dawn and dusk. Roosts and nests on high branches.

Status Scarce over most of range, fairly common in southern Llanos of Venezuela. Uncommon and wary in French Guiana.

Habitat Tropical Zone. Shallow wetlands near wooded areas or gallery forests, as well as marshes, flooded grasslands and slow-moving rivers. Small creeks in primary *terra firme* forest.

Voice Calls described as rapidly repeated *wok-wok-wok...* or *hoo-hoo, hoo-hoo, hoo-hoo...* that fades at end, and a long hoot which shoots higher at end (P. Schwartz, J. V. Remsen, H&B).

FASCIATED TIGER HERON

Tigrisoma fasciatum

Pl. 23

Identification 61–71cm. Entire upperparts dark brown scaled buff, ear-coverts washed slightly silvery, throat to breast white with some blackish and brown streaks on latter, rest of underparts cinnamon, thighs grey; eyes yellow, loreal skin and base of bill greenish-grey, rest of bill blackish, legs and feet yellowish. Juvenile reddish-rufous with white throat and centre of lower breast to undertail-coverts, heavily spotted and barred black from head to breast and on flanks and thighs, back and wings black with reddish-rufous spots and bars; eyes yellow, facial skin greenish-grey bill, blackish, legs and feet dark greenish-grey. Adult from Rufescent by slate-grey neck;

immature very similar to immature Rufescent Tiger Heron, but has shorter, thicker bill and much less barring on flanks.

Ssp. *T. f. salmomi* (Ec, Co, Ve, Gu, Su, FG)

Habits Little known. Solitary; very wary and flushes readily. Usually observed standing on boulders in turbulent water or on gravel bars (R&G). Possibly nocturnal.

Status Range still poorly known, records scarce and scattered. Considered rare and local, and only recently discovered in Suriname and French Guiana. Several recent sight records in rapids of some remote rivers in the interior of French Guiana (Mana river, Camopi river) and Suriname (Raleigh falls).

Habitat Tropical to Temperate Zones. On sandy, gravel or rocky banks along mountain brooks and fast-flowing streams within very humid premontane forests.

Voice An alarm *kwók!* (Straube et al. 1993).

BARE-THROATED TIGER HERON

Tigrisoma mexicanum

Pl. 23

Identification 71–81cm. Forehead to nape black, face-sides pale grey, back and sides of neck to breast-sides brown, finely and regularly barred black, rest of upperparts darker and duller brown, very finely and evenly barred black; central throat to undertail-coverts rufescent to cinnamon, streaked centrally with black and fringed slightly paler; eyes yellow to pale orange, facial skin, including eye-ring and gular skin, pale green, rest of bill blackish, legs and feet dark green. Juvenile more ochraceous below, with barring on neck reaching pale throat and continuing throughout underparts; darker above with increasingly large, buffy spots on wings forming rough bars.

Ssp. Monotypic (NW Co)

Habits Fishes quietly at dawn or dusk (perhaps nocturnal), usually alone but occasionally in small groups. Not shy.

Status Uncommon near Panama border in Colombia, which marks southernmost limit of its range.

Habitat Tropical Zone. Mangroves and densely wooded salt, brackish or freshwater marshes and swamps. Also, streams and rivers through forested areas.

Voice At twilight and night, calls repeatedly, loud barks or croaks similar to frogs (Wetmore, H&B).

AGAMI HERON *Agamia agami*

Pl. 23

Identification 60–76cm. Long thin neck and very long bill. Forehead to crown black, running across ear-coverts and dividing into two lines on deep chestnut neck, one down back of neck, other on sides of central foreneck, which is pale grey, sweeping back over lower neck to join at back, the lower pale grey foreneck – which consists of long slender plumes – divides into a black line that reaches the centre of the breast; upper mantle, body-sides and entire underparts chestnut; back dark green with long grey plumes, wings and tail dark grey, washed dark green; eyes brown, facial skin, including eye-ring and base of bill yellow, distal two-thirds of bill pale greyish-blue, and comparatively short legs and feet yellow. Juvenile from forehead, over rear neck, back and wings, to tail mid brown; and entire underparts from chin (which is whitish) to undertail-

coverts pale whitish-buff, streaked dark brown from middle of foreneck to belly and flanks. From smaller Tricoloured Heron by yellow facial skin and chestnut belly.

Ssp. Monotypic (all countries, except ABC)

Habits Feeds quietly and alone by shady watersides. Occasionally in shallow water at edge but never wades. Very shy and wary, and difficult to see.

Status Probably scarce and spottily distributed but so elusive that probably under-recorded. Biggest known nesting colony recently discovered in coastal French Guiana, with more than 2000 pairs (Kaw Marshes) (Tostain & Goguillon). Widespread in French Guiana including forest of the interior.

Habitat Tropical to Lower Subtropical Zones, but mostly in lowlands. Inhabits extensive humid or gallery forests, along shaded streams and by lakes or swamps with dense waterside vegetation, staying well within shadows.

Voice May give sporadic series of low *koo koo koo koo...* notes. Also rattles and short *kwok* calls (H&B). Small groups utter a guttural, clattering, almost frog-like *kur'r'r'r'r'r*, and a low, rasping *ka-da-dik* to each other.

BOAT-BILLED HERON

Cochlearius cochlearius Pl. 23

Identification 45–51cm. Forehead white, crown black (in form of short laid-back crest), face-sides, neck and breast white, back and wings to tail grey; breast-sides, flanks and thighs black, central belly to undertail-coverts chestnut; large black eyes, bill very broad and flattened, black with a grey tip and horn-coloured lower mandible, legs and feet greyish-yellow. Juvenile has forehead slate grey, upperparts cinnamon to clay colour, buffy below; bill all black. From similar Black-crowned Night Heron by whitish back and massive bill.

Ssp. *C. c. cochlearius* (Co, Ve, Gu, Su, FG) as described
C. c. panamensis (extreme NW Co) entire top of head black, neck and breast grey, rest of plumage much darker than *cochlearius*

Habits Forages alone, from dusk but mainly at night, by standing quietly in muddy or very shallow areas or gravel bars. Feeds by scooping.

Status Common but local.

Habitat Tropical Zone. All types of fresh or brackish wetlands and along rivers, always in areas with forested margins.

Voice Song is *on-onah-aan* and variations of this form principal vocalisation (Kushlan & Hancock 2005). Call a low, guttural *guik* or *uuk* (Hilty), and in flight a vaguely duck-like *kwa!* (R&G). Roosting birds give a low clucking and bill-clapping (R&G).

ZIGZAG HERON *Zebriulus undulatus* Pl. 24

Identification 28–33cm. Adult very dark above, slightly paler and browner below, forehead to laid-back crest black, upperparts filigreed with pale vermiculations, underparts from cheeks to undertail-coverts also filigreed dark brown, with some spots and scallops overlaid, and irregular narrow black barring. Juvenile lacks crest, has rufous forehead and

forecrown grading into black rear crown and nape, otherwise similar to male; from face-sides to undertail-coverts pale rufescent to buffy. Small, dark and inconspicuous; flicks tail. Significantly smaller than rather similar Striated Heron.

Ssp. Monotypic (E Ec, E Co, Ve, Gu, Su, FG)

Habits Very little known. Feeds by day, on fish and insects, perhaps from low overhanging branches or protruding roots, and forages in leaf muck on wet ground.

Status Local and generally very rare, with few records, probably much overlooked due to its way of life.

Habitat Lower Tropical Zone. Undergrowth beside shallow pools, creeks, sluggish streams and swampy areas inside tropical evergreen forests.

Voice Calls consist of a series of nasal, deep *wuannn*, *wuannn...* varyingly repeated 3 to 7–8 times, then a pause, then more repetitions (G. Rodriguez, pers. comm.). Calls at dusk and into night, a soft but far-carrying *hhoow-oo*, steadily repeated every 4–6 s.

PINNATED BITTERN

Botaurus pinnatus Pl. 23

Identification 64–76cm. Classic cryptic bittern, basically buff throughout with dark brown to blackish barring and streaking (both on wings); eyes orange-yellow, loreal skin and bill horn-yellow, legs and feet greenish-yellow. From immature tiger herons by streaked (not barred) wings and back. Females have brown tails.

Ssp. *B. p. pinnatus* (all countries)

Habits Mostly nocturnal and usually alone, but occasionally noted feeding in loose groups. Keeps within dense cover. Probably sedentary. If alarmed, will remain completely still with bill pointing vertically up.

Status Uncommon and local. Rarely seen due to secretive nature and nocturnal habits. Common in rice fields of NW French Guiana.

Habitat Tropical Zone. Shallow freshwater wetlands and flooded grasslands, with thickets of reeds, cat-tails and others. Visits rice fields and sugarcane.

Voice Call a booming *oonng-ka-choonk*, similar to American Bittern *B. lentiginosus* but higher and less resonant (Hilty), *poonk* or *poonkoo* (Stiles & Skutch).

Note Sometimes called South American Bittern.

LEAST BITTERN *Ixobrychus exilis* Pl. 24

Identification 28–36cm. Black crown continues narrowly on nape to back, scapulars and tertials to tail, with white line at edge of mantle; head-sides to undertail-coverts and most wing-coverts buffy, tinged rufous on ear-coverts, neck-sides, greater wing-coverts and outer webs of tertials, primaries black; eyes yellow, bill horn, legs and feet yellowish. Females have brown where males are black (i.e. back, cap). Juvenile much paler, cap is brown and lacks black line on back of neck, and has a brown back. Flushes with slow, laboured wingbeats, revealing black flight-feathers tipped rufous.

Ssp. *I. e. bogotensis* (C Co) much more rufous on sides of neck and breast, white undertail-coverts
I. e. erythromelas (rest of northern South America) as described

Habits Solitary. Feeds on fish, frogs and tadpoles, water insects, crustaceans, usually at dawn or dusk. Generally stays in deep cover. Birds from north of range migrate nocturnally.

Status Very local in Ecuador, fairly common in Colombia and Venezuela. Populations declining in several areas but has colonized some islands of Lesser Antilles in recent years. Juveniles disperse widely. Local populations may move seasonally, depending on rains and condition of wetlands. Locally common in coastal French Guiana.

Habitat Mostly Lower Tropical, but reaches Temperate Zone. Freshwater wetlands with dense vegetation (rushes, sedges, cat-tails, etc.) and overgrown borders. Occasionally in brackish or saltwater marshes and mangroves, and rice fields.

Voice Makes far-carrying, booming calls. An almost guttural, cooing *gruuu* or *cuuu*, rather like Zigzag Heron but lower (Hilty).

STRIPE-BACKED BITTERN

Ixobrychus involucris Pl. 24

Identification 28–33cm. Generally mid brown with cryptic streaks; dark crown, with pale buffy throat and foreneck and blackish streaks on breast-sides. Back streaked black, brown and pale buffy, wings streaked only slightly on feather centres, but all feathers fringed buffy, shoulder rather tawny; eyes yellowish, eye-ring and lores pale, bill horn, legs and feet pale greenish-yellow.

Ssp. Monotypic (all mainland countries)

Habits Little known. Feeds (probably nocturnally) on small aquatic fauna, keeping within dense cover. Flushes with slow, laboured wingbeats, revealing tawny shoulders and rufous flight-feathers.

Status Vagrant to Ecuador. Almost no data on populations. Generally scarce but locally common at some sites. Seldom seen due to secretive nature.

Habitat Lower Tropical Zone. Freshwater wetlands with dense stands of vegetation and overgrown borders; also rice fields.

Voice Makes far-carrying, booming calls, characteristic of genus. Also 4 low *huu* notes, lower pitched than in Least, and a slow, gargled *g'u'u'u'a'a*, both given night and day (Hilty).

Note Sometimes called Streaked Bittern.

BLACK-CROWNED NIGHT HERON

Nycticorax nycticorax Pl. 23

Identification 61–69cm. Non-breeding adult has forehead and narrow eyebrow white, crown to nape black with a few long white nuchal plumes, face-sides to neck and underparts white, back black, wings and tail grey, slightly buffy on tertials and flight-feathers; eyes red, loral skin greenish, bill black, legs and feet yellow to orange. Breeding adult has much longer nuchal plumes, red loral skin, and red legs and feet. From similar Boat-billed Heron by black back and far less impressive bill.

Ssp. *N. n. hoactli* (northern South America)

Habits Forages from dusk, but mainly at night, in loose flocks, quietly standing or wading in shallows. Days spent roosting in gallery or swamp forests.

Status Locally common and widespread, uncommon in coastal French Guiana.

Habitat Tropical to Temperate Zone, more common at lower elevations. All types of fresh, brackish or saltwater wetlands, always in areas with forested margins or dense waterside vegetation including irrigated agriculture.

Voice Calls a sharp *wuk!* *wok* or *kwok*, when surprised or in flight (R&G, Hilty).

YELLOW-CROWNED NIGHT HERON

Nyctanassa violacea Pl. 23

Identification 51–71cm. Adult unmistakable due to very bold head pattern, short neck and legs. Crown creamy buffy, with long plumes, rest of head black except white eye-ring and white line running from below eyes to ear-coverts, some black nuchal plumes, but most are white; neck and underparts grey, paler vent to undertail-coverts; upperparts entirely black with broad pale grey fringes to all feathers, including long plumes on back and rump; eyes orange, bill black, legs and feet pale orange with large black scales. Juvenile has brown head, neck and entire upperparts, spotted (on head) or streaked (neck and wing-coverts) white, or feathers fringed white with white terminal spots on greater coverts and flight-feathers; belly and undertail-coverts white, streaked brown; eyes yellow, bill black, legs and feet greenish-yellow. Immature difficult to separate from immature Black-crowned Night Heron, but darker with distinctly smaller white spots on wing-coverts.

Ssp. *N. v. calignis* (W Ec, W Co) much darker grey throughout; distinctive juvenile has very striped head
N. v. cayennensis (Co, Ve, Gu, Su, FG) as described

Habits Forages alone, during day or from dusk to night.

Status In Ecuador, local along coast, rare inland; in Venezuela, fairly common on coast, less common inland. Common in coastal Suriname and French Guiana.

Habitat Tropical Zone. Mostly on coasts, in mangroves, coastal marshes, tidal mudflats and rocky shores, but also beside rivers and all types of freshwater wetlands in open areas, occasionally even urban areas.

Voice Calls a piercing *kwok* in flight. *Quok* given singly or in laughter-like series (Hilty), a nasal *kwak* or *kwek* in flight, higher pitched than Black-crowned (R&G).

Note Sometimes placed in *Nycticorax*.

GREEN HERON *Butorides virescens* Pl. 23

Identification 38–43cm. Crown and head-sides to nape black, the feathers elongated and sometimes raised as a crest, face-sides and entire neck, save a narrow stripe of white, chestnut-brown, upperparts greenish-grey, the feathers lanceolate and paler grey on back and rump, somewhat greener and fringed buff on wings and tail, underparts brown; eyes orange, loral skin grey,

bill black, legs and feet yellow to orange. Juvenile like juvenile Striated Heron (which is slightly greyer on neck); from adult by paler bill and lack of rufous on sides of neck.

Ssp. *B. v. virescens* and *B. v. anthonyi* (boreal migrants from N America have occurred in all countries; *virescens* resident on Tobago) as described
B. v. maculata (ABC and offshore islands) only by smaller size

Habits Forages alone, by crouching motionless and then jabbing prey at blinding speed. May wade in deep water.

Status Rare. Races *virescens* and *anthonyi* are boreal migrants, with perhaps small numbers of non-breeding residents. Removed from Guyana list by BFR&S due to lack of evidence; *maculata* is a fairly common breeding resident on offshore islands.

Habitat Tropical to Lower Subtropical Zones. Salt, brackish or freshwater wetlands of all kinds, mostly in lowlands.

Voice Mostly silent, may utter a sharp *kwop* if alarmed.

Notes Formerly included within *B. striata*. Race *maculata* listed in error under *B. striata* in Rodner *et al.* (2000).

STRIATED HERON *Butorides striata* Pl. 23

Identification 35–48cm. Forehead to nape black, the feathers elongated and sometimes raised as a crest, throat white, neck grey, lower throat and central breast streaked black and chestnut, back grey streaked black, wings and tail grey; eyes, loral skin and bill yellow (latter with black tip), legs and feet yellow. Juvenile has less extensive black cap, is brown from nape to tail, and wing-feathers fringed whitish, each with terminal whitish spot; throat white, and face-sides to undertail-coverts whitish, sides of head and foreneck streaked brown; soft parts dull yellow. From Green Heron by grey neck (not maroon-chestnut); juveniles not readily separable in field but Striated has greyer neck-sides. Juvenile Black-crowned Night Heron more heavily streaked below, and more clearly spotted pale above.

Ssp. *B. s. striata* (all countries) as described
B. s. robinsoni (Ve: Margarita I.) indistinguishable in the field

Habits Forages alone, from dusk to night, by perching motionless on branches that touch water or standing just at edge but rarely in water. Very territorial. When nervous raises crest and twitches tail.

Status Common and widespread.

Habitat Tropical to Lower Subtropical Zones. Salt, brackish or freshwater wetlands of all kinds, mostly in lowlands and especially where shore vegetation is dense. Numerous in *várzea* and very fond of muddy waterways.

Voice Mostly silent, but may utter a sharp *keoup!* if alarmed or flushed (Hilty).

Note Was included with *virescens* within cosmopolitan *B. striata*; Green (Green-backed) Heron, separated by Blake (1977) and supported by Monroe & Browning (1992), and retained in *virescens* by Hancock & Elliott (1978) and Martínez-Vilalta & Motis. Some hybridising with Green Heron is known, but case for synonymising not conclusive.

CATTLE EGRET *Bubulcus ibis* Pl. 22

Identification 46–51cm. The smallest all-white heron, adult white with yellow eyes, yellow lores and yellow bill, legs and feet yellowish near thighs, becoming dark green and looking blackish at distance. When breeding, acquires buffy crown, lower back and rump, and lower breast, the feathers are lanceolate and soft parts brighter yellow; for a brief period prior to egg laying, all soft parts are red. Shorter neck and legs than other white egrets, seeming more compact; note all-black legs and feet, although breeding bird changes dramatically (see plate).

Ssp. *B. i. ibis* (all countries)

Habits Diurnal and least aquatic of all egrets, found in loose flocks of varying sizes, foraging for insects and small vertebrates, mostly by walking slowly behind grazing cattle or following plough. Flies daily to roosts. Colonial breeder, rarely in mixed colonies. May nest away from water, sometimes in urban areas.

Status Very common and widespread. Seasonal movements in connection with rains.

Habitat Tropical to Temperate Zones. Particularly associated with agricultural grasslands, e.g. rice paddies, pastures and meadows. Also by streams, freshwater ponds and marshes, and wet, open areas. Often in urban areas but never in forests or salt water.

Voice Mostly silent, but for a few, coarse and simple courtship and nesting calls. A subdued, nasal *brek* or *rick-rak*, occasionally a short soft moan (Sibley). A short *ark* and duck-like *og-ag-ag* (Porter *et al.*).

GREY HERON *Ardea cinerea* Pl. 21

Identification 90–98cm. White head, neck and underparts, black line from supraloral over eye, broadening and extending as 2 long black plumes from nape, front of throat has 2 rows of black streaks that become increasingly lanceolate and hang with lanceolate white plumes from lower breast, broad black line either side of belly, on inside of thighs; back and upperparts grey with extended lanceolate plumes on back, primaries black; eyes yellow, loral skin greenish, bill yellow. First-year is grey where adult is white, otherwise similar but has shorter plumes. From Cooi Heron by white head with black superciliary and plumes (Cooi has black crown); from Great Blue by clear, unstreaked, greyish-white underparts, with no trace of buffy or rufous.

Ssp. *A. c. cinerea* (Tr)

Habits Forages alone, serenely, although defends feeding territory.

Status Old World vagrant to Trinidad (specimen in 1959, originally banded in France, and sight record 2001) and Tobago (sight record 1999). (Accidentals also recorded on Barbados, Montserrat, and Pará, Brazil). Makes very extensive (even transoceanic) post-breeding movements.

Habitat Tropical Zone. Coastal wetlands.

Voice Usually calls at dusk when flying to roost, a harsh, loud croaking *kah-ahrk* which may have a singsong, echoing quality (Mullarney *et al.*).

GREAT BLUE HERON*Ardea herodias*

Pl. 21–22

Identification 91–137cm. Normal (dark or grey) morph has white head with broad postocular band that ends in a few long black plumes, neck warm vinaceous-buff to tawny, continuing on flanks and thighs, white central foreneck with lanceolate black and white plumes, heavy black line either side of belly, inside thighs, and central belly to undertail-coverts white; upperparts grey with long, paler grey plumes from back, primaries black. Juvenile has buffy head without plumes, paler buffy neck and underparts, more rufescent flanks, wing-coverts fringed buffy, and bill duller yellow. White morph is all white. Soft-part colours almost identical in both morphs; non-breeding adult has eyes yellow, loral skin yellowish-grey to dull green (blue in white morph), bill yellow, legs and feet dull yellow; breeding adult has eyes gradually reddening to bright red in courtship, then yellow once eggs laid, whilst loral skin becomes bright lime green, bill orange, and legs and feet pinkish to red during courtship. White phase has distinctly shorter nuchal plumes than grey morph. Juvenile white morph has buffy-grey legs and feet (juvenile Great Egret blackish).

Ssp. *A. h. occidentalis* (Co, Ve: offshore islands, Ar, Bo, Cu, T&T)

Habits Solitary, quiet and cautious.

Status Boreal migrant, scarce at the southern fringes of its wintering range, which reaches western coastal areas of northern South America.

Habitat Tropical and Subtropical Zones. Mangroves, fresh and saltmarshes, rivers and lakes. Recorded in small wetlands on western Andean slopes.

Voice Call a hoarse *guk uk*, *guk uk*, *guk uk uk* (H&B). Flight-call a very deep, hoarse trumpeting *fraahuk* or *braak* (Sibley).

Note White morph sometimes called Great White Heron, and has even been treated as a species.

COCOI HERON *Ardea cocoi*

Pl. 21

Identification 97–127cm. Crown black with 2 long black nuchal plumes, rest of head, neck and underparts white with 2 rows of black streaks on foreneck, grey above, paler on back with long plumes, primaries black; eyes yellow, bill dull yellow, legs and feet dull black; when breeding bill becomes brighter yellow and even orange or reddish at base, legs and feet dusky pink. From Great Blue Heron by black crown and lack of any buffy or rufous.

Ssp. Monotypic (all except Ar, Bo, Cu)

Habits Solitary, quiet and cautious; stalks in shallow water or remains still, watching patiently. Takes largish fish, frogs, crabs and insects; occasionally small mammals and even scavenges. Usually territorial, but in receding waters, at onset of dry season, several may feed together.

Status Fairly common.

Habitat Tropical Zone. Freshwater lakes, flooded fields and open marshes, slow rivers. Frequent in coastal areas, in mangroves, coastal marshes, estuaries.

Voice Flight-call a very deep, hoarse trumpeting *fraahuk* or *braak*, like Great Blue but higher in tone.

PURPLE HERON *Ardea purpurea* Pl. 21

Identification 78–90cm. Complex head pattern, basically rufous with black crown and back of neck, black line from below eyes across face-sides and ending in pair of nuchal plumes, black line on neck-sides, throat chin and foreneck black, edged white, with black streaks; base of neck grey, feathers of breast lanceolate, black and white, and hang down, rest of underparts umber; brownish-grey back, becoming paler and browner on lanceolate plumes, wings have deep russet shoulders, rest dark grey; eyes yellow, loral skin greyish-yellow, bill ochraceous horn with black culmen, legs and feet yellow with large black scales. When breeding, lores and bill brighter yellow, tinged orange. Juvenile similar with crown but no black lines on head or neck, but has black streaks bordering white foreneck, upperparts brownish-grey with all feathers fringed buff. From larger Great Blue by rufous head and neck.

Ssp. *A. p. purpurea?* (Tr)

Habits Forages alone, mostly in twilight hours. Stalks prey by waiting motionless, or may stalk slowly forward with neck held at angle of 60°, facing sun, the eyes facing down (Hancock & Kushlan 1978).

Status Western Palearctic species, accidental on Tobago, in 1999 (Kenefick 2004). Accidentals also recorded on Barbados and Fernando de Noronha, Brazil. Makes very extensive (even transoceanic) post-breeding movements.

Habitat Coastal wetlands.

Voice In flight, a gruff monosyllabic *krrek*, like Grey Heron but shorter and slightly disyllabic, deader and less resonant (Mullarney *et al.*).

GREAT EGRET *Ardea alba*

Pl. 22

Identification 80–105cm. Adult non-breeding all white with kinked neck that is distinctive; eyes yellow, loral skin dull almost greenish-yellow, bill yellow, legs and feet yellowish near thighs grading into black. In breeding plumage has long extended plumes from back and rump, lores become brighter yellow; in courtship also has plumes from breast, and for brief period before first egg, eyes reddish, loral skin bluish and bill red. Significantly larger than other white herons and egrets; taller and more slender than white-morph Great Blue Heron, and also has blackish legs and feet.

Ssp. *A. a. egretta* (all countries)

Habits Roosts and breeds in mixed colonies but forages alone, standing still and watching quietly. Where food is very abundant may feed in mixed flocks, but otherwise defends a feeding territory.

Status Common and widespread.

Habitat Tropical to Lower Subtropical Zones. Brackish or freshwater wetlands of all kinds, also rice paddies, wet fields and irrigation channels in agricultural areas, and occasionally in grassy pastures.

Voice Grating caws and croaks. Flushes with coarse or raspy *guuk* or *guuk-uuuk-uuuk*, sometimes given several times (Hilty), a deep, low, gravelly *kroow* or grating, unmusical *karrrr* (Sibley).

Note Sometimes placed in genus *Casmerodius*.

WHISTLING HERON*Syrigma sibilatrix*

Pl. 21

Identification 50–61cm. Fairly small heron; broad black band over crown and long plumes behind, white chin, buffy neck and breast, blue-grey back and wings, with buffy wing-coverts fringed black, white tail, white belly and undertail-coverts; bright blue orbital skin and pale yellow eyes, orange-yellow bill with black tip, legs and feet blackish. Juvenile quite similar but has paler bill, browner wing-coverts and pale grey breast. The white tail contrasts with the grey and buffy back in flight.

Ssp. *S. a. fostersmithi* (E Co, C Ve)

Habits Forages alone or in pairs, sometimes in small groups. Often perches on fenceposts and may be found in pastures and fields away from water. Widely dispersed individuals commute regularly to roost together in tree rookeries. Northernmost populations (north-east Venezuela) move south in non-breeding season.

Status Patchily distributed but locally common throughout range. Recent sight record in eastern Ecuador (Mena & Jahn 2003).

Habitat Tropical Zone. Generally a dry-land species, found especially in dry pastures, and near streams, ponds, rice paddies and flooded forests, but never wades in open water.

Voice High-frequency calls (whistles) uttered in flight afford species its name. Call a complaining *wueeee wueeee* (Hilty).

CAPPED HERON *Pilherodius pileatus* Pl. 22

Identification 51–61cm. Adult all white with variable pale grey on back and wings, crown black, a few white plumes extending from nape; eyes olive, bill variably blue, legs and feet bluish-grey. When breeding, head, plumes and upper neck are buffy, becoming paler distally. Juvenile has grey cap, no plumes, and buffy tone to back and wings; eyes darker and bill greener. From egrets by bright blue face and black headband, and chunky appearance. Distinctive, bent wings held low flight that appears somewhat laborious.

Ssp. Monotypic (E Ec, Co, Ve, Gu, Su, FG)

Habits Forages alone and is very wary, being quick to flush. Antisocial, but found occasionally near gatherings of other species. Stalks prey at edge of water, motionless or walking slowly.

Status Widespread but generally scarce.

Habitat Tropical Zone. Freshwater wetlands of various types, especially marshes, streams, small ponds, flooded grasslands and smaller rivers; often in or near forest.

Voice Mostly silent, but an occasional croak (Hilty).

Note Sometimes placed in genus *Nycticorax* (e.g. SFP&M), but we follow AOU (1998).

TRICOLOURED HERON*Egretta tricolor*

Pl. 21

Identification 50–76cm. Distinctive heron; non-breeding adult has short nuchal plumes, long thin neck, and entire upperparts grey, from throat to base of neck rufous with streaks of black and white, underparts white; eyes reddish-

brown, facial skin and bill yellow with dark line along culmen and black tip, legs and feet greenish-yellow. Breeding adult has longer, bright reddish-rufous plumes on neck, and much longer, more noticeable buffy plumes on back and rump; bill bright blue with black tip and red legs. Juvenile brown on head, neck and upper back, becoming grey on outer wings, rump and tail, and chin, throat (with some streaks and short plumes) and rest of underparts white. From Little Blue Heron by white belly and yellow legs.

Ssp. *E. t. ruficollis* (boreal migrant to Ec, Co, NW Ve, ABC) larger, with white line on forehead
E. t. tricolor (NE Ve, Tr, Guianas) as described

Habits Forages alone in feeding territory, occasionally in small groups. Active feeder, frequently fishes by raising and spreading wings, and holding head partially under a wing, walking in shallow water (Hilty).

Status Fairly common to uncommon in northern South America. Migrant race *ruficollis* occurs in northern South America November to late February; local race is sedentary.

Habitat Tropical Zone. Seashores, salt or mudflats; coastal shallows and marshes; mangroves, river deltas and tidal creeks.

Voice Soft nasal moaning, similar to ibises (Sibley).

Notes Previously placed in *Hydranassa* (e.g. SFP&M). Sometimes called Louisiana Heron.

REDDISH EGRET*Egretta rufescens*

Pl. 21–22

Identification 66–81cm. Adult of normal (grey) morph unmistakable; entire head and neck reddish-rufous with all feathers elongated, rest of body slate grey with long rufescent plumes from back extending beyond tail. In breeding plumage, plumes brighter and longer; pale eyes, bill pink with black tip, legs and feet dark, brighter bluish-grey when breeding. Juvenile has head, neck and underparts drab, grey above, washed drab on back and wing-coverts. White morph from other white egrets by pink-flesh bill with black tip in all plumages.

Ssp. *E. r. rufescens* (N Co, N Ve: offshore islands, Ar, Bo, Cu, T&T)

Habits Forages alone in tenaciously defended territory; constantly active, running and hopping, occasionally holding wings open or raking the bottom for fish.

Status Uncommon, populations have declined in many areas in recent years.

Habitat Tropical Zone. Seashores, coastal shallows or marshes, mangroves and saltflats.

Voice An infrequent soft groan and short grunt, similar to Tricoloured Heron (Sibley).

Note Previously placed in *Hydranassa* or monotypic genus *Dichromanassa* (AOU 1998).

WESTERN REEF HERON*Egretta gularis*

Pl. 21–22

Identification 55–65cm. Dark-grey morph is uniform slate grey with a white chin; breeding birds have 2 long nuchal plumes, and lengthy lanceolate plumes on breast and back.

Non-breeding adult all white with yellow eyes, yellow loreal skin, black bill, black legs and yellow feet. Breeding birds have orange lores and feet. White morph from Snowy Egret by colour of lores and orbital skin (normally bluish-grey but can be yellow, even orange in breeding condition), and slightly drooping bill (*not* easy to see in field). Also, often shows a few dark feathers in wings and tail. From white-morph Little by heavier and dark, greyish-yellow bill. Dark morph has white throat, and separable from rare dark-morph Little by latter, and bill size and colour. Dark morph may show a few white feathers.

Ssp. Monotypic (T&T)

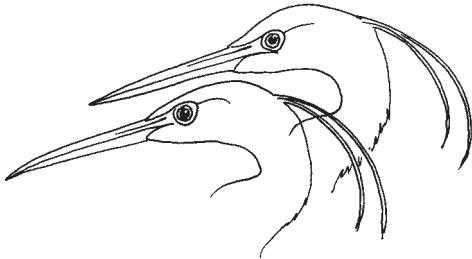
Habits Solitary, defends feeding territory. Typically forages by slow wading in shallows with occasional rushes, also stirs mud with feet.

Status Several records from Trinidad and one from Tobago, perhaps overlooked elsewhere. Mainly an Old World species.

Habitat Tropical Zone. Mainly on reefs and rocky coastal areas, but sometimes at sandy or muddy edges to wetlands of salt or brackish water, less frequently estuaries, mudflats, saltmarshes, etc.

Voice When disturbed may utter a guttural *kawww*.

Notes Treated as a subspecies of Little Egret *E. garzetta* by Martínez-Vilalta & Motis. Sometimes called Western Reef Egret.



Western Reef Heron (lower left) has drooping bill that is not at all obvious, but is a sure discriminator from Little Egret's straight bill (upper right)

LITTLE EGRET *Egretta garzetta* Pl. 22

Identification 55–65cm. Very rare dark grey morph is uniform slate grey with a white chin; breeders have 2 long nuchal plumes, and lengthy lanceolate plumes on breast and back. White morph is all white. Differences in soft-part colours are same in both morphs; eyes always yellow, non-breeders have grey to greenish loreal skin and bill dark grey, legs dark grey; breeders have loreal skin orange (bright mauve-red during courtship), bill and legs black, the feet become orange then red during courtship. More slender than Snowy. Note dark lores of non-breeder. Breeder from Snowy by 2 nuchal plumes (Snowy has a spray).

Ssp. Monotypic (Ar, Tr, Su, FG)

Habits Solitary, defends feeding territory; when foraging stirs mud with feet.

Status Old World species, well known for its extensive post-breeding dispersal, recorded as an occasional vagrant on some Caribbean islands (where now breeding on Barbados), and Trinidad, Guyana, Suriname and French Guiana. Records for Trinidad and Suriname are of birds banded in Spain. Regular, if sporadic, in coastal French Guiana since 2004.

Habitat Tropical Zone. Open shallow wetlands of salt, fresh or brackish water.

Voice Generally silent away from colony, but may give a short, grunting *raaak* (Porter *et al.*), and on take-off a sharp, hoarse *aaah* (Mullarney *et al.*). Several croaks, growls and sighs (*kre-kre-kre*; *da-wah*; *la-la-la-la-ahhhh*; *kark*, *gggrow*) in contact, when landing or flying off, and in aggression.

SNOWY EGRET *Egretta thula* Pl. 22

Identification 48–68cm. Adult all white with yellow eyes and lores, black bill, and black legs with yellow feet. In breeding plumage, fine sprayed plumes extend from nape, lower neck and breast, and back and rump. Yellow feet ('dancing slippers') and black legs distinguish it from all except Little Egret. From latter with difficulty, being slightly smaller but more robust; in all plumages, bill black; lores are paler and more yellowish. In breeding plumage, lores feet turn first clear yellow, then briefly pinkish-orange, and it acquires long curving, graceful plumes on neck, head and back (Little has just 2 plumes).

Ssp. *E. t. thula* (all countries)

Habits Forages very actively in flocks; sometimes follows cattle, uses wide variety of methods to catch prey, frequently stirring water with feet to flush aquatic animals.

Status Common and widespread. Wide-ranging seasonal and migratory movements, including post-breeding dispersal.

Habitat Tropical, Subtropical and lower Temperate Zones. All types of shallow wetland with fresh, brackish or salt water, inland and coastal, even in pools on rocky sea shores.

Voice Mostly silent. A hoarse, rasping *raarr* or *hrraa*, very similar to Little Blue Heron, and higher and more nasal than Great Egret (Sibley).

LITTLE BLUE HERON

Egretta caerulea Pl. 21–22

Identification 51–76cm. Non-breeding adult has purple-brown head and neck, rest of body grey; skin of lores dull green, eyes pale yellow, bill base grey with black tip, legs and feet bluish- or greenish-grey. Breeding adult develops long lanceolate plumes on rear crown and nape, lower throat and back (extending beyond the tail), loreal skin becomes blue, bill and legs blackish. White (juvenile) phase from white Reddish and other white egrets by colour of bill: base blue-grey with distal two-thirds black, also, intermediate immature is oddly piebald, with grey-smudged back of neck and upperparts. Darker than Reddish Egret, paler than Green Heron, and lacks white underparts of Tricoloured Heron.

Ssp. Monotypic (all countries)

Habits Forages sedately during day, alone or in small groups

and sometimes, in an unusual mutualistic relationship, with manatees or ibises.

Status Common.

Habitat Tropical and Subtropical Zones. Mainly freshwater wetlands of all kinds, but also in brackish and saltwater areas, mangroves and estuaries.

Voice Generally silent, but various hoarse squawks, and a fairly high *raaaaa, raaa...* similar to *raar* of Snowy Egret (Sibley).

Note Previously placed in genus *Florida*.

THRESKIORNITHIDAE – Ibises and Spoonbills

Ibises generally occur in areas with wet soft soil, being mostly seen in open fields that have been recently flooded and left muddy, marshes, swamps, rice fields and other irrigated cultivation. Some are more usually found in coastal areas, mangrove swamps and brackish lagoons, others more inland, sometimes on open savannas and dry areas far from water. They probe and dig for worms, catch small fish, insects, amphibians and other small animals, but most species don't usually wade in water. Several birds are often scattered over a foraging area, frequently involving several different species. Most have a smooth, sustained flight, and fly in long untidy lines and broken skeins.

Additional references used here include Mathieu & del Hoyo (1992), Elliott (1992) and Sibley (2000).

WHITE IBIS *Eudocimus albus* Pl. 24

Identification 56–71cm. All white with tips of outer primaries black; red facial skin, red bill, legs and feet. In breeding condition, distal half of bill is black. When not breeding, the amount of red facial skin is reduced. Juvenile brown above with whitish head and neck, streaked brown, and white underparts. Becomes whiter with age. When foraging on mudflats looks as if it has fallen in the mud. From white egrets by long, decurved red bill and general posture. Flies with neck outstretched (egrets and herons tuck neck back).

Ssp. Monotypic (Ec, Co, Ve, Ar, Cu, Tr)

Habits Notably gregarious, mixing with other ibises and egrets, etc. Flies long distances in skeins from roosts to foraging areas.

Status Locally uncommon to common in coastal Ecuador, local, uncommon and seasonal in parts of Colombia, uncommon to locally fairly common in Venezuela, scarce in Trinidad (no records from Tobago). Casual visitor from mainland to Aruba and Curaçao.

Habitat Lower Tropical Zone. Mainly coastal, mangroves and tidal mudflats. Inland, favours rice fields, rivers, sewage waterways and flooded land.

Voice Nasal grunting *urnk* on ground or in flight (Hilty), and occasional soft honks and grunts (R&G).

Notes Has been considered conspecific with Scarlet Ibis. Hybrids between them are rare. The IOC-recommended English name for this species is American White Ibis.

SCARLET IBIS *Eudocimus ruber* Pl. 24

Identification 54–70cm. Entire plumage vermilion scarlet-red with ends of outer primaries black; red facial skin, entire bill black when breeding, otherwise pinkish-red, and red legs and feet. Juvenile brown above with whitish head and neck, streaked brown, underparts white, but becomes pinker, then redder with age. Adult unmistakable, but immature difficult to separate from immature White Ibis, unless it has some red feathers.

Ssp. Monotypic (Ec?, Co, Ve, Ar, T&T, Gu, Su, FG)

Habits Gregarious, forages and roosts with other large waterbirds, including egrets. Regularly follows grazing cattle and horses. May fly long distances from roost to foraging areas.

Status Hypothetical vagrant to Ecuador, common non-breeding resident east Colombia, locally common Venezuela, casual visitor from mainland to Aruba, abundant in Trinidad but uncommon in Tobago, common to abundant elsewhere, but patchy and declining. Important nesting colonies in coastal Suriname and French Guiana. Heavy human persecution in Venezuela, especially at island breeding colonies where nestlings taken for food.

Habitat Lower Tropical Zone. Mainly coastal, but can occur well inland, e.g. Barinas and Apure in Venezuela. Mangroves, muddy estuaries, sewage ponds, tidal mudflats; inland, rice fields and irrigated cultivation are favoured.

Voice Usually quiet. Nasal *urunk*, similar to White Ibis (Hilty), or *urnk, urnk, urnk* (Sibley).

Note Has been considered conspecific with White Ibis. Hybrids between them are rare.

GLOSSY IBIS *Plegadis falcinellus* Pl. 24

Identification 50–65cm. Entirely dark green with rich bronze, purple and other glossy tones, but looks blackish in poor light; there is a narrow white line framing the blackish facial skin, from base of culmen to dark eye and at base of mandible. Long, decurved bill, legs and feet are also dark. In non-breeding plumage, head and neck become white-streaked. Juvenile similar but duller with a greyish-white wash to head and neck. Green Ibis is chunkier and its shorter legs do not extend beyond tail. Flies in long skeins, alternating series of wingbeats with glides. Legs project beyond tail in flight.

Ssp. Monotypic (Ec, Co, Ve, Ar, Cu, Bo, Tr, To, Gu)

Habits Occasionally wades, sometimes submerging head entirely to probe bottom. May run after prey. Small scattered groups to flocks.

Status Hypothetical visitor to lowland south-west coastal Ecuador, scarce and casual in Colombia, frequent to abundant in Venezuela, frequent non-breeding visitor from mainland to Aruba, Curaçao and Bonaire, scarce in Trinidad & Tobago where sight records only, scarce in Guyana.

Habitat Lower Tropical Zone. Typical ibis habitat but less common in coastal areas, preferring freshwater marshes. Occasionally occurs in dry grasslands, but seldom far from water.

Voice Feeding flocks give soft, nasal, often doubled grunt *wehp-ehp* (Sibley).

WHITE-FACED IBIS *Plegadis chihi* Pl. 24

Identification 46–66cm. Entirely dark green and brown, shot with rich bronzes and other glossy tones. Breeding adult has bill dark horn and facial skin reddish, framed by a broad white line; legs and feet pinkish-red. Non-breeding adult duller with neck strongly streaked white, facial skin and white line duller, bill darker. From very similar Glossy Ibis by red eye, broad white line fringing face, and red legs when breeding. Non-breeder and immature very similar to Glossy but distinguished by streaked head and neck.

Ssp. Monotypic (Ar)

Habits Usually forages in flocks.

Status Vagrant from North America, a casual visitor to Aruba, rare on offshore islands and hypothetical for mainland.

Habitat Tropical to Lower Subtropical Zones. Mainly freshwater marshes, ponds, rice fields, irrigated cultivation and, occasionally, dry fields.

Voice Feeding flocks give soft, nasal, often doubled grunt, *wehp-ehp* (Sibley).

SHARP-TAILED IBIS *Cercibis oxycerca* Pl. 24

Identification 76–86cm. All black, with a greenish gloss and a short, bushy nuchal crest. Long, slightly decurved bill is orange, bright red facial skin forms wattle around eye, mesial line pale, lappet on throat orange, legs and feet orange-red. Large and long-tailed with comparatively and proportionately oddly short legs afford distinctive outline in field. Slow, laboured flight; legs do not extend beyond tail. From Bare-faced by larger size, different shape and tufty nuchal crest.

Ssp. Monotypic (Co, Ve, Gu)

Habits Singly, in pairs or occasionally in small (mixed) flocks.

Status Scarce in Colombia, uncommon to locally frequent, but always in small numbers in Venezuela, and frequent in Guyana.

Habitat Tropical Zone. Damp grassland, savanna at edges of lakes and rivers, open marshes and muddy rice fields.

Voice Loud nasal, bugled *tuur-deee* or truncated *tut-toot*, the second note higher, often repeated constantly in flight. Also calls a nasal *taro-taro* in flight (D. Ascanio recording). Duets, with first bird uttering *tuur* or *tuur-tuur*, the second *deee* (Hilty).

GREEN IBIS*Mesembrinibis cayennensis* Pl. 24

Identification 50–58cm. Overall black, head and neck dull black and unglossed, but bushy nape has distinctive turquoise-green gloss, upperparts bronze-olive with greenish gloss; eyes dark brown, bill dull black, legs and feet dark brownish-grey. Appears very dark, but if seen in good light reflects glossy green, especially on neck hackles.

Ssp. Monotypic (all mainland countries)

Habits Wary, most active at dusk and dawn, and normally only in open at these times; probably nocturnal. Short legs do not extend beyond tail in flight. Flies in long, irregular, undulating and erratic lines; wingbeats have stiff upward

jerkiness, like Limpkin. Usually singly or pairs, rarely in small loose, scattered groups, and invariably close near forest.

Status Uncommon to locally frequent in Ecuador, uncommon and local in Colombia, frequent to locally common in Venezuela, common in Guyana, fairly common in Suriname, common in French Guiana.

Habitat Tropical Zone. Wet, muddy forested areas, swampy woods and thickets, open stony banks of rivers and streams, mangrove swamps, usually near trees.

Voice Most vocal at dusk: distinctive, loud and rapid, rolling *co'ro co'ro co'ro...* or *kr'u'u'u'u'u'u'u'u'a*, usually in flight (R&G, Hilty).

BARE-FACED (WHISPERING) IBIS*Phimosus infuscatus* Pl. 24

Identification 46–54cm. All-dark ibis with green, bronze purple and red glosses, but actually seems rather dull; pink-red facial skin with horn-coloured bill, pinkish-red legs and feet. Noticeably smaller and shorter tailed than Sharp-tailed Ibis (similar to *Eudocimus* in size). Very short legs do not extend beyond tail in flight. Larger Sharp-tailed Ibis has long tail, giving it a more horizontal stance, and heavier bill; larger Glossy Ibis has longer legs that extend beyond tail in flight.

Ssp. *P. i. berlepschi* (Ec, Co, Ve, Gu)

Habits Social, usually in compact groups. Follows grazing cattle and horses to examine turned-up mud.

Status Movements related to rainfall (breeds soon after rains). Rare visitor to lowland north-east Ecuador, very common Colombia (seasonal in some areas). Very common, especially in *llanos*, in Venezuela. Uncertain status Guyana.

Habitat Lower Tropical Zone. Typical ibis habitat, normally to c.500 m, but vagrants to 3,600 m (Hilty).

Voice Rather quiet. Takes alternate common name from soft whispery *cua-cua-cua-cua-cua...*, which swells in volume then diminishes, 12 notes or more, repeated like a soft chant (Hilty).

BUFF-NECKED IBIS*Theristicus caudatus* Pl. 24

Identification 71–81cm. Brownish-grey back and wings, the feathers fringed whitish, flight-feathers and tail black; head-sides and throat buffy, with facial skin and mesial lappet black, crown and line down nape joining breast chestnut, merging into black underparts. Eyes red, long decurved bill dark grey, legs and feet orange-red. Seems heavy-bodied and wing pattern lends a goose-like appearance, despite the long, curved bill.

Ssp. *T. c. caudatus* (Co, Ve, Gu, Su, FG)

Habits Forages singly, in pairs or loose and well-scattered small groups. Usually noisy in flight, when black on wings is particularly obvious.

Status Rare west of Andes, frequent but very local east of Andes in Colombia. Common in Venezuela, frequent in Guyana, unknown in Suriname, accidental in French Guiana.

Habitat Tropical Zone. Open country, in savannas, fields and open forests, often far from water, and on dry and recently

burned pastures. Infrequently occurs in more typical ibis habitat, but less often in watery areas than other ibises.

Voice Flight-call a loud nasal *knack-knock*, given repeatedly pre-dawn from roost. Roosting birds may cry in chorus at dawn, before departing for day, *ca-cu-cu-cu-nac-nac-nac-nac*, at first soft but culminating in loud, rhythmic chorus (Hilty), also calls a loud nasal *tau-TAco* at roost, predawn (D. Ascanio recording).

BLACK-FACED IBIS

Theristicus melanopis

Pl. 24

Identification 71–76cm. Brownish-grey back and wings, the feathers fringed whitish, flight-feathers and tail black; head-sides and throat buffy extending to breast, which has bar of broken grey crescents across it. Facial skin, mesial lappet and long decurved bill black, eyes red, legs and feet orange-red. Immature has buffy-scalloped wing-coverts. Heavy-bodied and wing pattern lends goose-like appearance, despite long, curved bill. No overlap with Buff-necked Ibis.

Ssp. *T. m. branickii* (Ec)

Habits Forages in pairs or small flocks, rather wary of man. Often wades in comparatively deep water, probing into the bottom mud.

Status Very rare and local in eastern highlands of Ecuador, principally around Antisana and Cotopaxi volcanoes. Has declined through persecution and continues to be hunted for food.

Habitat Páramo. Open country: fields, meadows, pastures, ploughed and cultivated fields in highlands, often near livestock. Also in more typical ibis habitat, but less often in watery areas than other ibises.

Voice Far-carrying, metallic *tur-túrt* usually given in couplets and principally in flight (R&G).

Note The *branickii* subspecies has been considered a distinct species, Andean Ibis (S&M).

Spoonbills are large, heron-like birds that are all white or, in the case of the Neotropical species, a rich reddish-pink. They have a unique style of feeding, swinging the bill, which is long and spatula-shaped, from side to side in the water as they walk slowly forwards. At times the head and even part of the neck may be completely submerged. They may forage singly or in small groups, and are not particularly sociable.

ROSEATE SPOONBILL

Platalea ajaja

Pl. 25

Identification 68–86cm. Unmistakable pink bird with unique bill. Essentially white with rosy-pink wings, and pink buff-washed back; lesser wing-coverts and uppertail-coverts crimson, tail buffy. Head bare, greenish with black band at base of neck, long, spatulate bill is horn, mottled greenish; eyes red, legs and feet purplish-red. Immature has yellowish-brown eyes and bill, white-feathered head, and darker legs and feet.

Ssp. Monotypic (all countries)

Habits Forages alone or in small flocks.

Status Local and rare to frequent in Ecuador. In Colombia, fairly scattered and local, but occasionally common on Caribbean coast, rare on Pacific coast and may wander inland. Common on coast and frequent inland in Venezuela. Casual visitor from mainland to Aruba and Bonaire, scarce in Trinidad, rare in Tobago, frequent in Guyana, fairly common in Suriname, rare in coastal French Guiana on mudflats and adjacent young stages of *Avicennia* mangroves.

Habitat Coastal areas: tidal pools, mangroves, areas of salt or brackish water; less often inland, in rice fields, marshes and open watery areas in savannas.

Voice Low ibis-like grunting *huh-huh-huh-huh...*, without changing pitch or volume. Also, a fairly dry, rasping *rrek-ek-ek-ek-ek-ek...*, much lower and faster than ibises (Sibley).

Note Formerly placed in monotypic genus *Ajaja*.

EURASIAN SPOONBILL

Platalea leucorodia

Pl. 25

Identification 86cm. Heron-sized, all white with variable yellowish crescent on upper breast and black bill tipped yellow. Dark grey legs and feet. Quite distinct from Roseate Spoonbill.

Ssp. *P. l. leucorodia* (To)

Habits Does not usually mix with other species.

Status Boreal migrant from Old World. Accidental on Tobago, November 1986 (photographed), identified as nominate *leucorodia* by yellow bill tip. Two records from Fernando de Noronha (Brazil). Flies in lines and in V formations at great altitudes on migration, and stray individuals may be blown way off-course.

Habitat Strong preference for sheltered, shallow open water and salt ponds.

Voice Mainly silent in wintering areas.

CICONIIDAE – Storks

Only 3 distinctive members of this family occur in northern South America. They are long-legged, mainly white birds, all of them easily recognised. Omnivorous, they take virtually anything capable of being eaten, from insects to snakes (including small anacondas), from frogs to baby alligators, even some plant material and carrion. Mostly, they feed on fish, even spiny catfish, which are crushed repeatedly in the bill to break the spines. They breed early in the dry season when ponds and rivers are drying, and fish are increasingly trapped in the diminishing waters and thus easiest to catch. Nests are large and conspicuous, but each sufficiently different as to be easily identified. Wood Stork and Jabiru nest in trees, often building platforms atop palms, but whereas Wood Stork nests in colonies, Jabiru breeds in isolation; Maguari Stork nests on the ground. Normally silent, stork vocalisations consists almost solely of bill-clapping, although juvenile Jabiru make a loud whistling when begging, and can be very noisy. Storks fly necks outstretched and are thus easy to separate from herons, which tuck their necks into their shoulders. A soaring stork may look very much like a vulture, but again the outstretched neck is key.

WOOD STORK *Mycteria americana* Pl. 25

Identification 83–110cm. Large white wading bird with black flight-feathers and conspicuously bare head and neck – black in adult, greyish in immature. From Maguari by black head and bill which has downward droop. Similar to King Vulture when soaring, but long neck and legs, and slow wingbeats alternating with glides separate it.

Ssp. Monotypic (all countries)

Habits Gregarious, often in large flocks. Commutes long distances to feeding grounds. Feeds by probing in shallow waters, mostly for fish but pirates from conspecifics and other waders. During non-breeding season, flocks wander widely in search of better food supplies, e.g. Orinoco basin populations may reach Amazonia. (Large flocks regularly recorded over French Guiana – but never land – flying high in the sky in a migratory manner, deep over the forest of the interior or the coastal plain, obviously crossing the country from and to far wetlands.)

Status Populations apparently declining in many areas (quantitative data very scarce), but still quite abundant in Venezuela and to a lesser extent Guyana and Suriname. Rare and sporadic in French Guiana where it does not rest. Rare in Aruba, Bonaire and Curaçao. Threatened by habitat loss and humans taking eggs and chicks.

Habitat Tropical Zone. Wetlands of all kinds, preferably fresh water but sometimes in tidal and brackish waters if food is abundant.

Voice Silent. Grunting and bill-clapping around nesting colonies. Young occasionally give nasal, barking *nyah, nyah, nyah* (Sibley).

MAGUARI STORK *Ciconia maguari* Pl. 25

Identification 97–102cm. Large; all white except black rump to uppertail-coverts and basal half of outer tail-feathers, greater wing-coverts, tertials and all remiges; facial skin red, eyes yellow, bill long, large and has straight culmen and recurved lower mandible, all grey with distal quarter red, legs and feet red. Juvenile similar but has black facial skin, brown eyes and shorter bill.

Ssp. Monotypic (Co, Ve, Tr, Gu, Su, FG)

Habits Forages alone, in pairs or in small groups, especially as waters recede during dry season. Takes small aquatic animals of all kinds (frogs and tadpoles, fish, crabs, etc.). Main threats are agrochemicals and poaching of eggs and chicks for human consumption.

Status Populations believed to be decreasing steadily in Venezuela. Few data from other northern South American countries. Very rare in French Guiana.

Habitat Tropical Zone. Freshwater wetlands of all kinds, including ponds, flooded savannas, rice fields and reedbeds.

Voice Usually silent. Rattles bill. Occasional wheezy, bisyllabic whistling (Kahl 1991).

JABIRU *Jabiru mycteria* Pl. 25

Identification 120–150cm. Largest stork, much larger than others. Long black legs, massive upturned bill, bare head and swollen neck black, red at base. Male is larger, with longer bill.

Juvenile all white with feathered head and neck, and black facial skin restricted to around eyes and lores, and black bill. Juvenile Maguari Stork has grey bill with red tip.

Ssp. Monotypic (all mainland countries, T&T)

Habits In dry season tends to prefer shallow open water and may gather in groups. May also fish in unison, the group working together to disturb prey. In wet season prefers deeper water and usually solitary.

Status Fairly common, but now very rare in French Guiana.

Habitat Tropical Zone to 400m. Near water, but often found on dry grassy areas in ranchlands and *llanos*. Wetlands: ponds, marshes, flooded savannas, paddies and banks of rivers in open country or areas of scattered trees.

Voice Usually quiet. Bill-clapping at nest.

CATHARTIDAE – Vultures

Vultures are extremely well designed for the life they live, a sort of ‘Bauhaus bird’, as illustrated by some of the main characteristics that seem to define this family – all are bare-headed, magnificent fliers, and have either keen sight or keen sense of smell. The various open-area species form guilds, supplementing each other’s foraging and feeding abilities. For scavengers, whose main food is carrion, a bare head is just the thing – it can penetrate the innards of carcasses with minimal hindrance. In finding food, their acute sight is of value, but for the guild as a whole the best asset is the extremely keen sense of smell of the Turkey Vultures, which are always first to find a carcass. They guide the others to food, for all tend to spy on the Turkeys, and if they see them suddenly dropping to some spot, they follow. That’s when the spectacular flying abilities, where thermals are used to remain aloft for hours with minimum energy cost, become very handy, because the best way to survey the neighbourhood is to be high above it. When all members of the guild are feeding, their different sizes and different bills complement each other well – the larger species (King Vulture, Condors) with more powerful bills, specialize in tearing open the skin and feeding on the harder parts (sinews, muscles), whilst the smaller species take the viscera and finish off the small pieces left on the bones. Greater Yellow-headed Vulture, the only species that is exclusively a forest-dweller and therefore does not often feed in association with the others also has a keen sense of smell. Regarding voice, vultures are generally silent, although they may occasionally grunt or hiss.

In preparing this family we also referred to: Houston (1994, 2001), and Ferguson-Lees & Christie (2001, hereafter F-L&C).

BLACK VULTURE *Coragyps atratus* Pl. 26

Identification 56–68cm. All black. Head and upper neck consists of bare grey and black skin, wrinkled and warty. Legs and feet black. Juvenile has head slightly smoother. From other vultures in flight by shorter tail and whitish patch in primaries. When seen in good light latter appears really white. Wings usually held flat on horizontal plane.

Ssp. *C. a. brasiliensis* (all countries) clear white patch in primaries

C. a. foetens (S Ec) white in primaries much less distinct

Habits General scavenger, visiting carcasses of any size; gathering in large numbers particularly on garbage dumps and refuse piles. Its gape, much larger than Turkey Vulture's, permits it to gulp down muscles and viscera. Hunts small prey (birds, insects, reptiles), but has a predilection for mammal meat. It has no sense of smell, and thus spies on Turkey and other vultures.

Status Very common and widespread. Benefits from human occupation of lands.

Habitat Tropical and Subtropical Zones. Almost always near or within human settlements, common in cities; also throughout lowland open country, especially near rivers. Inevitable at rubbish dumps, sewage outlets and slaughterhouses, etc. In forests, only at edges. Common to 2,700m.

Voice Low hisses, grunts and croaks when feeding and disturbed, or in aggression (F-L&C).

Note Sometimes called American Black Vulture.

TURKEY VULTURE *Cathartes aura* Pl. 26

Identification 64–81cm. All-black plumage, remiges seem dark brown in flight; head bare, reddish (varies according to race) and bill pale. Legs and feet vinaceous-horn. From Black by longer tail and wings held in distinctive shallow V; jinks, rocks and tilts regularly as it glides. Remiges evenly dark brown.

Ssp. *C. a. meridionalis* (boreal migrant to northern South America) largest and brownest with purplish gloss, broad brown fringes above, head red with purplish nape

C. a. septentrionalis (boreal migrant from E USA to Central America and likely N S.Am) larger than *aura*, and pronounced brown edges to feathers of upperparts and primaries

C. a. ruficollis (east of Andes, from N Co, Ve, Gu, Su, FG) the blackest, distinct bluish-white to yellowish corrugations on nape to hindneck

C. a. jota (Co, Ec) smaller, blacker with brown fringes, head bright red

C. a. falklandicus (Ec) like *jota* but larger and browner

Habits Feeds almost exclusively by scavenging (seldom if ever kills), and will even visit carcasses of small birds, although main food is small to medium-sized reptiles and mammals. Finds food through exceedingly sharp sense of smell. At carcasses, tends to be 'overpowered' by other vultures. If pushed out, will return to clean bones when others leave. Avoids carcasses in advanced state of decomposition. Benefits from human occupation of areas, profiting from road kills and pasture burns.

Status Widespread and abundant. The 2 races in North America migrate to northern South America.

Habitat Tropical to Temperate Zones. Less closely associated with human settlements than Black Vulture, but visits garbage dumps.

Voice Usually silent. Low hisses and grunts (F-L&C).

LESSER YELLOW-HEADED VULTURE

Cathartes burrovianus Pl. 26

Identification 58–66cm. Plumage all black; head bare, reddish on throat, yellow on sides and front, and blue on

crown and nape, legs and feet vinaceous-horn. From Turkey and Greater Yellow-headed Vultures by silvery grey tone to remiges, and has white primary shafts when seen from above. Flies with wings in shallow V, like Turkey, also jinks and rocks as it glides, but seldom reaches any height, usually flying fairly low.

Ssp. *C. b. burrovianus* (N & W Co, NW Ve) as described

C. b. urubitinga (SW Co, S Ve, Gu, Su, FG) larger with straw-coloured primary shafts

Habits Feeds almost exclusively by scavenging (seldom if ever kills), and even visits carcasses of small birds, although main food is small to medium-sized reptiles and mammals. Finds food through exceedingly sharp sense of smell. At carcasses, tends to be 'overpowered' by other vultures, but will return to clean bones when they leave. Avoids carcasses in advanced state of decomposition. Benefits from human occupation of areas, profiting from road kills and pasture burns.

Status Fairly large populations; widespread.

Habitat Tropical Zone. Grasslands, *llanos* and savannas. In forest, only at edges.

GREATER YELLOW-HEADED VULTURE

Cathartes melambrotus Pl. 26

Identification 74–81cm. Plumage all black; head bare, reddish on throat, yellow on sides and front, and blue on crown and nape, legs and feet vinaceous-horn. Tail longer and wings larger than Lesser Yellow-headed. Innermost primaries distinctly darker. Flies on level wings.

Ssp. Monotypic (W & SW Co, S & W Ve, Gu, Su, FG)

Habits Scavenges for forest animals using keen sense of smell and by flying low over canopy. May also soar very high over forests. Joins other vultures at carcasses only rarely and only inside wooded areas.

Status Common in remote, undisturbed forests, but threatened in some areas by deforestation and heavy hunting of potential prey.

Habitat Lower Tropical Zone. Exclusively in pristine, untouched lowland rain forest.

KING VULTURE *Sarcoramphus papa* Pl. 26

Identification 71–81cm. Adult has white back and wings to median coverts, all flushed buffy, white underparts, lower back and tail, rest of wings black, feathered collar on lower neck black, a large blob of flesh-coloured skin protrudes from central breast; head and neck bare, neck reddish-orange on sides and yellowish front, head black overlain with various colours, red on crown, purple at sides, folds and wrinkles yellow, and has a yellowish cere with a bright orange wattle; bill red, legs and feet dark grey with black large scales; eyes white surrounded by red. Juvenile all black with a small black collar and black wattle on cere; eyes dark brown, legs and feet horn-grey. Takes c.4 years to reach adulthood via series of intermediate plumages; see plate. Unmistakable close to, but could be confused with Maguari Stork when soaring or at distance. Note stork has extended neck and legs.

Ssp. Monotypic (all countries)

Habits Usually alone, but may be seen in pairs and small family groups. Scavenges with Turkey and both Yellow-headed Vultures, and depends on Turkeys to find carcasses, for it lacks sense of smell. Dominates smaller vultures when feeding, but tears open skin of large animals with its large, powerful bill, thus permitting the smaller vultures to feed. Picks off skin and tougher parts, slowly biting off small pieces.

Status Generally scarce; fairly common locally in Venezuelan Llanos.

Habitat Tropical Zone. Lowland tropics, always in or near undisturbed forest, often in *llanos* and savannas.

Voice Guttural grunts and hisses. Low croaks and bill-snapping when nest threatened (F-L&C).

ANDEAN CONDOR *Vultur gryphus* Pl. 26

Identification 100–130cm, W up to 320cm. Very large. Essentially all black with white collar at base of neck, and white greater wing-coverts and secondaries producing large patch on wings. Head and neck bare, with wrinkles and sagging lobes, pinkish-grey to reddish-grey, bill yellow; adult male has an upright wattle on its crown that is quite distinctive. Juvenile entirely dusky brown with a yellow bill, and takes 4 years or more to reach adulthood, during which time the collar becomes grey, and pink is gradually acquired on the head and neck. Fairly long, rounded tail. Black-and-white pattern and long splayed primaries make bird unmistakable, even at long range. Juvenile is all dark and significantly larger than other vultures. Neck ruff might be detectable. All large eagles have some distinguishing mark, such as a tail-band.

Ssp. Monotypic (Andes)

Habits Ranges widely and flies long distances to forage, but sedentary in general area. Feeds on carrion, on medium to large mammals, including carcasses of farm animals. Large groups (<20) may gather at a carcass. It can easily tear skin and pull off muscles and viscera. Slow breeding rate and may not breed every year.

Status Very rare in Colombia and Venezuela; scarce in Ecuador. Persecuted by local people due to misconceptions.

Habitat Mainly in Temperate Zone and Páramo, but may even descend to coasts (Tropical Zone). Open mountain areas.

PHOENICOPTERIDAE – Flamingos

Flamingos are a small but cosmopolitan family, and immediately recognisable. They all prefer brackish or alkaline waters with few, if any fish. The remarkable, boomerang-shaped bill is held upside-down in the water and swung side to side in a combing-filtering action that traps small crustaceans, algae, diatoms, insect larvae and small fish. They are highly gregarious, gathering in large flocks at feeding grounds and breeding colonially. The black flight-feathers in the wings contrast strongly with the rest of the bird's pale plumage in flight.

Additional references used to prepare this family include del Hoyo (1992) and Sibley (2000).

GREATER FLAMINGO

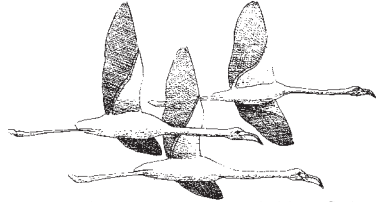
Phoenicopterus ruber

Pl. 25

Identification 120–145cm. Essentially rosy-pink throughout, back paler and contrasting with deeper, reddish wings and black flight-feathers. Bill deep rosy with white base and black tip. Long pink legs and feet. Juvenile greyish-brown with some pink in wings and tail. Unmistakable in range. Very distinctive profile in flight, with swift, steady wingbeats.

Ssp. *P. r. ruber* (Caribbean coast and islands Gu, Su, FG)

Habits Wades in shallow water. Typically wary but may be fairly tame on feeding grounds.



Greater Flamingos are unmistakable in flight

Status Numerous on Caribbean coast and offshore islands, but occurrence erratic and unpredictable. Declining due to habitat loss, disturbance and predation by man. Very rare to very locally regular in small numbers, but no longer breeds, in Colombia. In Venezuela, common and regular in large numbers at several localities on Caribbean coast, and has returned to breed at Ciénaga Los Olivitos, in Zulia. Rare on Trinidad (no records Tobago), situation uncertain in Guyana, fairly common in Suriname, uncommon and erratic in French Guiana where flocks of tens of birds may be seen on the coastal mudflats, or flying to and from the lagoons of Amapá.

Habitat Saline lagoons, estuaries and salt pans.

Voice Rather noisy. Variety of goose-like honks in flight. Also, an incessantly repeated, gabbling *hu-HU-hu* (Hilty). A high, nasal honking, *hooh-hööh-hooh*, like wild geese, but deeper. Courting birds utter *eep-eep* (male), *cak-cak* (female), thus *eep-eep, cak-cak...* (Sibley).

Note Sometimes listed as American Flamingo (e.g. Hilty).

CHILEAN FLAMINGO

Phoenicopterus chilensis

Pl. 25

Identification 99–109cm. Pale, rather washed-out pink body with reddish streaks on back, reddish-pink wings and black remiges and tertials. Bill fleshy, with distal half black. Legs whitish with deep pink knee-joints and pink feet. Juvenile essentially whitish with greyish-brown on wings and darker streaks on back. Bill yellowish with distal half black, legs and feet grey. Unmistakable in range. From Greater by smaller size, generally paler coloration and shorter legs, which are grey to pink, and red knees.

Ssp. Monotypic (Ec)

Habits Typically wades in shallow water. Flies strongly on powerful and deep wingbeats, long neck and legs outstretched.

Status Recently recorded in Ecuador, where now present year-round on Santa Elena Peninsula.

Habitat Saltwater lagoons, estuaries and mudflats on coast, preferring water without fish.

Voice Usually quiet in Ecuador; a low howling sometimes heard (R&G).

PANDIONIDAE – Osprey

The Osprey is a large, long-winged and long-legged bird that is quite distinct from the other raptors and is accorded family status because of the extent of the anatomical differences. It is a fish specialist that is usually a boreal migrant visitor to the region, but younger birds often remain year-round. The wings are comparatively narrow for their length, and display a marked angle at the carpal joint when fully open (a sure identification aid). They are adapted for their familiar patrol-hover-dive behaviour, as well as for flying long distances when migrating. Osprey also has a different kind of plumage, dense and oily with considerable water resistance. It has structurally different legs, with the toes all the same length, the outermost reversible, and there are sharp spines on the pads of the soles of the feet. The combination of large and very sharp claws with the spiny under-feet enables the birds to securely grasp large, slippery, wriggling fish. Its nostrils have special valves that close when the bird strikes into the water to snatch large fish swimming near the surface.

Additional references include: Blake (1977), Dunne & Weick (1980), Poole (1994), Sibley (2000) and Ferguson-Lees & Christie (2001).

OSPREY *Pandion haliaetus* Pl. 27

Identification 55–58cm, W145–170cm. Forehead to nape white, broad dark brown wedge on ear-coverts widens on sides, and meets on, back of neck, rest of upperparts dark brown, tail has several dark shadow bars; entire underparts creamy white, underwings essentially white with two broad dark bars, and underside of tail barred brown. Pale to white eyes. Unmistakable once distinctive flight silhouette is known.

Ssp. *P. h. carolinensis* (all countries)

Habits Usually fishes alone, soaring reasonably low over open water or diving, talons outspread, to catch trout-sized fish that constitute their main diet.

Status Boreal migrant, uncommon to rare in Ecuador, frequent in Colombia; winters regularly in Aruba, Curaçao and Bonaire (especially on the leeward side of the islands), common and regular in Venezuela, common in Trinidad & Tobago, and frequent in Guyana, Suriname and French Guiana. In northern South America mainly during Northern Hemisphere winter (October–May), but many reports of immatures staying year-round and even building nests. There is a case in French Guiana (Amana Reserve) where a pair had obviously built a nest (never effectively found), followed a few weeks later by regular come-and-go feeding flights (O. Tostain). Birds from eastern North America that winter in northern South America usually follow Atlantic coast, thence to Cuba and thereafter Hispaniola, and from there cross either to Central America or to the coasts of Colombia and Venezuela, dispersing inland.

Habitat Tropical Zone. Coasts and large rivers, and around large bodies of fresh, brackish or salt water. Most abundant near relatively shallow areas and in coastal wetlands (salt-marshes, mangroves, estuaries, etc.).

Voice Series of upward-inflected whistles, *curlée, curlée, curlée* or a high thin *chur, chee chee chee* in flight or perched (Hilty).

ACCIPITRIDAE – Kites, Harriers, Hawks and Eagles

The Accipitridae is a large and rather diverse family of kites, hawks and eagles, whose names do not connote any kind of similarity of features. They all have hooked bills and bare cere, sharp talons on their toes and catch prey with their feet. Wings and tail are usually barred and provide the diagnostics for identification of soaring birds. They take live prey, hence the term raptors, which ranges from grasshoppers and moths, through snails and crabs, birds and fish, to monkeys and sloths. In most species females are larger and the sexes play different roles when breeding. Smaller males catch smaller prey nearer to the nest, and are very important when the young are small and the female remains at the nest. The female catches larger prey and travels farther afield in search of it.

Additional references include: Blake (1977), Dunne & Weick (1980), Sibley & Sutton (1988), Pearman (1993), Bierregaard (1994a), Thiollay (1994), White, Olsen & Kiff (1994), Sibley (2000) and Ferguson-Lees & Christie (2001).

Kites are a somewhat diverse collection of species, and the term has no clear taxonomic significance. Rather it groups several genera of elegant and graceful birds that are mostly longer winged than other Accipitridae, often with long, forked tails, and are usually birds of open areas that sometimes hover when hunting.

GREY-HEADED KITE

Leptodon cayanensis Pl. 27, In flight Pl. 29

Identification 46–54cm. Adult has grey head with white throat, underwing-coverts black, rest of underparts white, upperparts all blackish, 3 white bars on tail, the uppermost concealed by uppertail-coverts; eyes blue-grey, cere, facial skin, legs and feet blue-grey. Three colour morphs in immatures: pale phase white on head (small black cap at rear), neck and entire underparts including underwing-coverts, back, wings and tail dark brown with 2 broad paler brown bars on tail and paler fringes to wing-coverts and tertials. Intermediate morph darker above, including entire head except throat, 4 slightly paler bars on tail; and dark morph has entire head, throat and upperparts dark, and streaks on breast, becoming weaker on flanks; bars on tail are fringed above and below with black. Eyes, facial skin, cere, bill, legs and feet yellow in immatures. Pale-phase immature easily confused with Black-and-white Hawk-Eagle but lacks white leading edge to forewing. Adult quite distinct.

Ssp. *L. c. cayanensis* (all countries)

Habits Repeatedly soars above canopy for short periods throughout day. Often perches near treetops. Hunts from exposed perch, mainly at dawn and dusk; also follows troops of monkeys to catch disturbed insects. Flight displays in courtship.

Status Uncommon to rare in Ecuador, uncommon in Colombia (most numerous in Amazonian south-east), uncommon in Trinidad (does not occur in Tobago), uncommon in Guyana, frequent in Suriname, and widespread and locally frequent in French Guiana.

Habitat Tropical and Subtropical Zones. Mainly in lowland rain forests and near water. Gallery forests and partially disturbed, patchy woods.

Voice Apparently calls only during breeding period, when commonest is series of up to 20 loud *wuh wuh wuh*... barks, *kek kek kek*... clucks or guttural *keyo keyo keyo*... notes, which often trigger a response from others in nearby territories. Other calls include a feline *miaow* and, in flight, an *aaaaahh-yal* cry, similar to a gull's. Some calls recall Laughing Falcon (F-L&C).

PEARL KITE

Gampsonyx swainsonii Pl. 27, In flight Pl. 29

Identification 20–28cm. Forehead to crown, lores and face-sides rich buff, back of head and neck and upperparts black, chin to undertail-coverts including underwing-coverts white with a small black patch on breast-sides, rufous patch on lower flanks and thighs; eyes reddish-brown, cere and bill black, legs and feet yellow. Very small hawk, rather falcon-like. Virtually unmistakable but might be mistaken for an American Kestrel given fleeting views, as they are similar in size.

Ssp. *G. s. leonae* (N Co, Ve, Tr, Gu, Su, FG) darker than others, with more conspicuous reddish on flanks and tibia
G. s. magnus (W Co, Ec) like *swainsonii* but slightly larger
G. s. swainsonii (E Ec?) white on flanks, tibia more yellowish-buff

Habits Most often seen singly, sometimes in pairs. Takes lizards and occasionally small birds.

Status Fairly common locally. Uncommon to rare in Ecuador, frequent in Colombia, uncommon and fairly local in Venezuela, uncommon on Trinidad (does not occur on Tobago), and uncommon to rare in Guyana and Suriname. Only one record for French Guiana.

Habitat Tropical Zone. In dry to arid areas, savannas and overgrown pastures, open woodland.

Voice Normally silent. High-pitched scolding *kitt-y; kitt-y; kitt-y* and *kit-kit-kit tsi-ew, ew, ew, ew*, and a low *kee-kee* (F-L&C)

HOOK-BILLED KITE

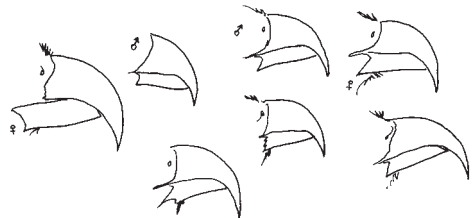
Chondrohierax uncinatus Pl. 27, In flight Pl. 29

Identification 38–42cm. Adult male is entirely bluish-grey with white vent to undertail-coverts, centres of feathers on back and wing-coverts slightly darker and all feathers of back and wings finely fringed paler, uppertail-coverts barred blackish, tail has 3 broad black bars, the uppermost partially concealed by tail-coverts, flanks finely barred white; eyes vary from yellow to bluish-grey, facial skin, cere, legs and

feet yellow, bill black above, white below. Adult female has head and upperparts dark fuscous brown with a narrow pale grey band at base of tail and broad brown bar further down; nuchal collar and entire underparts reddish-rufous, with all but rear collar barred white, and some fine black barring on breast and sides. Dark morph all black except broad white bar at base of tail; eyes brown, facial skin and cere grey, bill black. Immature male dark brown above with narrow white nuchal collar and 4–5 pale bars on tail; underparts entirely white, barred very irregularly brown and black on flanks, undertail-coverts washed slightly buffy, with rufescent bars. Immature female has dark brown cap from forehead to nape, back and wings to tail dark brown, with 3 pale bars on tail and a few white teardrop spots on wing-coverts. Immatures have dark eyes, yellow facial skin, cere, legs and feet, and black bill. Flight profile distinctive: long tail usually held closed and broad wings noticeably narrower at base. Grey morph may be confused with Grey Hawk.

Ssp. *C. u. uncinatus* (all countries except ABC)

Habits It has been suggested that the many different plumages mimic those of other faster or larger raptors, which differ in behaviour or shape. Generally sluggish, secretive and shy, perching inside forest, but will soar high above it. Flies with alternate flaps and glides, then hovers and glides down to seize prey, swooping up again thereafter. Also forages by hopping from branch to branch or hunts from a perch. Feeds mostly on tree snails, complemented with insects and their larvae (especially caterpillars), crabs, frogs, small lizards and salamanders. With snails, it cracks shell to the core and uses hook of bill to extract the body. On the mainland, where different snails are vary in size, birds are dimorphic, with 2 significantly different bill sizes; whilst on islands, where only a single species of snail, all have same-size bill. Breeds later than sympatric kites, almost into rainy season, perhaps to avoid competition over snails.



Note the considerable variation in the size and shape of bill of Hook-billed Kite (all drawn in exact proportion from specimens in the Phelps Collection in Caracas)

Status Widespread but scarce and irregular. In Ecuador, rare and local, Colombia thinly spread, Venezuela uncommon, Trinidad infrequent visitor, Tobago rare, Guyana uncommon, Suriname common, and French Guiana uncommon.

Habitat Tropical Zone. Rain forests, mostly below canopy or at edges, in clearings and partially open, disturbed areas.

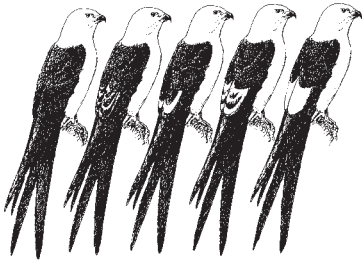
Voice Apparently silent when not breeding, but quite noisy in protecting nest, at which time (in Panama) calls include a fast musical *wi-i-i-i-i-i-i-i-uh* (Hilty).

SWALLOW-TAILED KITE*Elanoides forficatus* Pl. 28, In flight Pl. 29

Identification 56–66cm. Striking black-and-white kite with long forked tail; head and underparts snow white, back, wings and tail black (variable white possible on tertials); eyes red, facial skin and cere blue, bill black, legs and feet blue-grey. Juvenile buffy-white rather than pure white, with brown streaks, tail may be shorter. Migrant *forficatus* easily mistaken for resident *yetapa*.

Ssp. *E.f.forficatus* (boreal migrant, Ec) purple gloss above
E.f.yetapa (throughout, except Cu & Bo) green gloss above

Habits Highly aerial, most frequently seen soaring above forest, catching insects alone or in groups that congregate especially where there is a swarm or hatching of winged insects, e.g. termites or *Atta* ants. Gathers in groups of up to 30+ that drift along montane ridges and above lowland forests in sunny weather. Also takes small vertebrates (birds, frogs, lizards) and occasionally fruits. Residents are nomadic over forests through most of South American range, whilst populations at limits of range move to tropical latitudes, making it unclear in our region if birds are resident or migrants.



Tertials on Swallow-tailed Kite vary from all black to all white

Status Relatively common throughout. Residents locally common in Ecuador, fairly common in Colombia, common on Trinidad but rare on Tobago, frequent in Guyana, common in Suriname, and frequent in the interior but rather local along coast in French Guiana.

Habitat Tropical to Subtropical Zones. Forested areas, especially with swampy areas.

Voice Normally silent, but utters repeated, shrill high-pitched, twittering whistles. Also, varied series of 2–5 syllables, e.g. *klee-klee...*, *peet-peet...*, *kii-ki-ti*, *bit-dlewit-dlewit* and *gee-wip* (F-L&C).

SNAIL KITE *Rostrhamus sociabilis* Pl. 28

Identification 40–45cm. Adult male deep sooty grey, darker on wings and tail, which has broad white band at base and greyish tip; facial skin, eyes and cere red, bright crimson when breeding, long, very hooked bill is black, legs and feet bright orange. Female dark greyish-brown above with brown fringes that impart barred effect, base of tail white; head, except nape, and underparts buffy white, streaked black, thighs rich buffy, eyes orange to red, facial skin and cere yellow, bill black, legs and feet yellow. Immature like female but much more heavily

streaked on head and underparts (to flanks and thighs). Juvenile ruddy brown above, the feathers fringed paler, with rufous front and warm rufous underparts, streaked dark brown to flanks and thighs. Almost unmistakable, with heron-like flight and white tail base, but when quartering or soaring low over marshes is rather harrier-like, with floppier flight.

Ssp. *R.s.sociabilis* (E Ec, N Co, NC Ve, Tr, Gu, Su, FG)

Habits Constantly moves tail. Almost exclusively feeds on medium-sized *Pomacea* snails, using thin, sharply hooked bill to cut the attaching muscles. Juveniles and immatures take smaller snails. Catches prey with feet, sallying from a fixed perch to snatch snails from shallow water or water plants. Also hunts by cruising low over water. Nomadic throughout range according to food availability. Populations at southern limits migrate north to northern South America, but no data on where they go. Nests during rainy season, in colonies of up to several dozen pairs. Communal roosts may comprise up to several hundreds; roosting sites are often loosely associated with heronries, but change as *Pomacea* supplies are depleted.

Status Quite common, but populations subject to local fluctuations according to water and snail situation. Affected by pesticides, drainage of wetlands and, at some sites, introduced *Tilapias*, which affect snail populations. Declining, but locally fairly common in Ecuador and Venezuela, infrequent visitor to Trinidad (not recorded on Tobago), common in Guyana, numerous in Suriname, and rare in French Guiana.

Habitat Tropical Zone. Open, freshwater lowland marshes, rushy lakes and lagoons. Requires abundant stock of Apple Snails (*Pomacea*), thus found only in continuously flooded, mature wetlands and remains in a given area until stocks dwindle, after c.2–4 years.

Voice Noisy when breeding but silent when hunting. A rasping bleating *whe-he-he-he-he...* (F&K) and clicking *crik-ik-ik-ik, ik, ik* when disturbed. Also a single *kor-ee-ee-a*. In courtship, female utters a 'watch-winding' *weh-heh-heh...* and male a sheep-like bleating (F-L&C, H&B). *Ker-wuck* at roosts, in aerial displays or towards other kites (F-L&C).

SLENDER-BILLED KITE*Helicolestes hamatus*

Pl. 28

Identification 37–41cm. Adult is slate grey with darker wings and tail; eyes yellow to white, facial skin and cere bright red, bill black, legs and feet red. Immature dull grey with darker wings and brownish tail, fringes to wing feathers rufescent, tail has 2 fairly narrow white bars and buff tip, underparts dark brown-grey, paler distally, barred buffy on thighs and undertail-coverts; eyes brown, facial skin and cere orange, bill dusky, legs and feet yellow. Replaces Snail Kite in forested areas. Could be confused with Slate-coloured Hawk (which has broader head and longer, more rounded tail).

Ssp. Monotypic (Ec, Co, Ve, Gu, Su, FG)

Habits Often soars, not high, in small groups. Hunts from a low perch, mostly taking *Pomacea* snails, which are pulled from the shell by cutting the attachment muscle. Also takes crabs but in much lesser proportion.

Status Poorly known, but restricted habitat and specialised diet make it vulnerable. Very local and scarce in Ecuador and Venezuela, scarce in Guyana, common in coastal region of Suriname, and rare and local in French Guiana.

Habitat Tropical Zone. *Várzea*, edges of swamp forests and flooded gallery and riverine forests; shallow lagoons surrounded by forest; occasionally in plantations.

Voice Call descriptions include a feline *meeeuuu*, similar to a small *Buteo*, and a rising then falling *whееееаааааh*, nasal and buzzy like a kazoo.

Note Traditionally placed in own genus, *Helicolestes*, due to differences from Snail Kite, but recent authors have considered them sufficiently similar to place both in *Rostrhamus* (e.g. Bierregaard 1994, R&G).

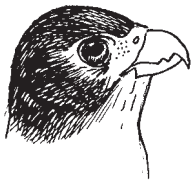
DOUBLE-TOOTHED KITE

Harpagus bidentatus Pl. 27, In flight Pl. 29

Identification 31–35cm. Adult has slate grey head with whitish streak either side of central grey of throat, Upperparts grey with 3–4 faint pale bars on tail; breast to flanks, thighs and vent deep rufous, undertail-coverts white; eyes red, cere yellow, bill black, legs and feet yellow. Black morph has entire head, upper breast and upperparts blackish, with 2–3 faint narrow bars on tail, breast to vent deep chestnut, barred finely black and white at rear, and undertail-coverts white. Two immature plumages, both dark brown above with 4–5 faint bars on tail, the first entirely buffy-white below, the other with blackish line on central throat, and black streaks on breast that become shallow V-shaped, broken bars, and narrow black and rufous bars on flanks. More similar to an accipiter than other kites and may be taken for such in flight, especially for female Sharp-shinned or male Bicoloured Hawk, though both have shorter wings and longer legs. Note prominent white undertail-coverts. Wingtips reach halfway down tail and inner web to primaries is bright rufous-chestnut.

Ssp. *H. b. bidentatus* (throughout except western coastal strip) as described

H. b. fasciatus (W Co, W Ec) adult male washed rufous on breast-sides and flanks, barred from breast to flanks with irregular lines of black and white; female has solid rufous breast to flanks, barred finely with white; juvenile male paler grey on head, pale grey from breast to flanks, and barred finely black and grey; eyes red



Double-toothed Kite takes its name from the shape of the cutting edge to the upper mandible

Habits Frequently follows troupes of monkeys, bird flocks and army ants for prey they disturb (lizards, large insects, etc.). Soars in circles, and often in small groups.

Status Uncommon to rare in Ecuador, frequent in Colombia and Venezuela, uncommon in Trinidad (does not occur on Tobago), and uncommon in Guyana, fairly common in Suriname and frequent in French Guiana.

Habitat Tropical Zone, in wet and humid forest, forest edge and open trees such as coffee plantations, wooded savannas and tall secondary woods.

Voice Particularly vocal when breeding, but their high-pitched, thin calls are easily missed. Include *tsip-tsip-tsip-tsip-whееееооооо*, a drawn-out *whееееооооо*, a whistled *see-whееееееep see-weееееt* and a repeated, thin *peeееave*.... Also a single, high *cheep* (F-L&C).

RUFOUS-THIGHED KITE

Harpagus diodon Pl. 27, In flight Pl. 29

Identification 29–35cm. Dark brown above, with greyish ear-coverts, 3 faint bars on tail, buffy white throat with dark mesial line, greyish breast merging with rufous thighs, white undertail-coverts; eyes orange or red, facial skin, cere, legs and feet yellow, and bill black. Juvenile similar but is entirely buffy white below with rufous thighs, black streaks on breast and central belly, flanks barred. From larger Double-toothed Kite by ferruginous underwing-coverts.

Ssp. Monotypic (E Ec, Ve, Gu, Su, FG)

Habits Very poorly known. Small accipiter-like kite which is relatively tame and sluggish. Usually solitary but occasionally in pairs. Regularly soars over forest, and open areas. Hunts at mid to lower levels

Status Rare but sometimes locally frequent. Only sight records from Ecuador, where very rare and possibly an accidental visitor, uncommon in Venezuela, scarce in Guyana, where possibly an austral migrant, very rare in Suriname, and rare in French Guiana.

Habitat Tropical Zone, in forests of various types, but often in dense primary forest, and is intolerant of disturbed forest and second growth. In French Guiana occurs only in primary forest.

Voice Calls *ēWEEoo-WEEoo-wīīī* (Sick 1993).

WHITE-TAILED KITE

Elanus leucurus Pl. 28, In flight Pl. 29

Identification 38–43cm. Adult pale grey above, almost white on tail and has black lesser and median wing-coverts, white forehead, eyebrow, face-sides and underparts; eyes red, cere yellow, bill black, legs and feet yellow. Immature similar but head is lightly streaked black, heaviest on nape, upperparts brown with white fringes to all feathers, large black wing patch, and breast to flanks is washed buffy. In flight, resembles a small gull with a long white tail, and at dusk could be taken for a Barn Owl. Sometimes hovers like a kestrel or even flies leisurely on raised wings like a harrier.

Ssp. *E. l. leucurus* (Ec, Co, Ar, Ve, Tr, Gu, Su, FG)

Habits Usually alone though it congregates to roost and

sometimes when hunting. Mainly hunts at dawn and dusk, principally searching for small rodents. Resident populations are nomadic according to prey availability.

Status Both resident and migrant populations occur in northern South America, migrants being both austral and boreal, coming from both ends of range. Populations perhaps increasing over most of range, due to increasing clearance for agriculture. Rare and very local in Ecuador (first sighting 1984, confirmed 1992), frequent in Colombia and Venezuela, sight records in Aruba and Trinidad, frequent in Guyana, and moderately common in Suriname. Rare and very local in NW coastal French Guiana.

Habitat Tropical Zone. Open or lightly wooded areas, savannas with patchy woods, marshes. Areas partially cleared for agriculture.

Voice Calls infrequently, including a *kweep* or *kewp* whistle in greeting, and a 2-note *eeee-grack* whistle followed by a grunt (H&B, Hilty).

Note Formerly *Elanus caeruleus leucurus*, but New World *E. leucurus* now separated from Old World *E. caeruleus* (Clark & Banks 1992).

MISSISSIPPI KITE

Ictinia mississippiensis Pl. 28, In flight Pl. 29

Identification 31–37 cm. Small, falcon-shaped kite. Pale grey head, darker grey back and wings, pale to white greater wing-coverts, black flight-feathers that only just reach beyond tip of tail; underparts entirely bluish-grey; eyes red, facial skin, cere and bill black, legs and feet bright orange. Immature has underparts heavily streaked rufous, but note feathers are pale-fringed, thus streaks appear as large dots; legs and feet yellow. Could be confused with Plumbeous Kite when perched. Mississippi has paler head, secondaries and underparts. Wingtips of Plumbeous protrude well past tip of tail. Very difficult to separate when overhead: look for rufous in wings and barred tail of Plumbeous.

Ssp. Monotypic (E Ec, Co)

Habits Very social, migrating in flocks. Hunts mainly in flight, leisurely gliding to snap up flying insects, but also still-hunts like a flycatcher, returning to the perch to feed. Follows grazing animals to snatch disturbed insects.

Status Boreal migrant, passing through Colombia to winter in Paraguay, northern Argentina and Bolivia. In our region, mainly seen October and March. Winter range and migration routes through northern South America poorly known. Occasional sightings Ecuador (April, December); hypothetical for Venezuela.

Habitat Mostly Lower Tropical Zone, from open grassland to forests, typically agricultural and pasturelands, parks and cultivated areas, open woodland.

Voice Normally silent but birds in flight may chatter to each other.

PLUMBEOUS KITE

Ictinia plumbea Pl. 28, In flight Pl. 29

Identification 33–38cm. Small falcon-like kite that is easily confused with Mississippi Kite, but wingtips project well

beyond tip of tail. Head and body plumbeous grey, wings and tail slate to sooty grey with chestnut primaries and white bars on tail; eyes yellow in Ecuador, red elsewhere, cere and bill black, legs and feet bright orange. Immature has whitish head, heavily streaked black, dark grey underparts (feathers fringed pale buffy giving a slightly scaled appearance). Juvenile has entire head and underparts buffy-white, streaked dark grey on head and black on underparts. Young have brown eyes, grey facial skin and cere, darker bills, yellow legs and feet.

Ssp. Monotypic (E Ec, Co, Ve, Tr, Gu, Su, FG)

Habits Often perches on exposed branches and dead trees apparently ignoring human observers, but may also remain concealed in cover.

Status Uncommon to frequent throughout. Ranges from Mexico to Argentina, and birds from both extremes of range visit our region as migrants. In Ecuador uncommon to locally frequent. Frequent to common in Colombia, fairly common in Venezuela, and common in Trinidad.

Habitat Tropical Zone, in fairly open forest; forest edge, secondary woods, gallery forest, forest islands in palm savanna, near rivers and mangroves. Also covers open country.

Voice Usually vocal only when breeding. Mournful, 2–3-syllable whistles descending at end, e.g. *swee-zeeew* or *fee-edee*, recalling Piratic Flycatcher. Shrill *shirreeer* or *sisseeeoo*. Also *hee-hi hee-hi, jip jip* (F-L&C).

Note Sometimes treated as conspecific with Mississippi Kite.

Harriers are medium-sized and slender, with long wings, tails and legs. Flight is buoyant, the wings characteristically held in shallow V, with gull-like glides and sideways rocking rather like Turkey Vultures. They are usually encountered over open country, marshes, swamps, rice fields and cultivated areas where they hunt by quartering the ground, criss-crossing, occasionally hovering briefly before dropping onto their prey.

LONG-WINGED HARRIER

Circus buffoni Pl. 30

Identification 45–60cm. Particularly long wings, and white rump in all but dark morph. Adult male normal morph has head, breast and back to rump black, wings and tail grey with black bars, 4 faint grey bars and grey tip to tail; white eyebrow, fore face, half-ring around facial disc and underparts, with some faint streaking on flanks and thighs; eyes, facial skin and cere yellow, bill black, legs and feet yellow. Female brown above with darker barring, flight-feathers paler with clearer barring, underparts buffy, streaked on breast to flanks; eyes brown. Immature paler brown, more spotted than barred and much more heavily streaked below; more white on face and facial disc more noticeable, soft parts as female. Pale morph is paler and greyer in all plumages. Dark morph is all black with deep ruddy-chestnut thighs and undertail-coverts, immature dark brown above with white facial disc, eyebrow and throat, ochraceous below streaked black and chestnut thighs. The largest harrier with longer wings and more buoyant flight