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INTRODUCTION
TO THE
BIRDS OF AUSTRALIA

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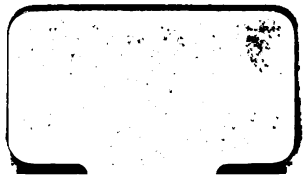

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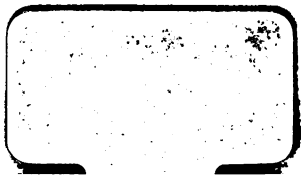

BIRDS OF AUSTRALIA.

AN

INTRODUCTION

TO THE

BIRDS OF AUSTRALIA.

BY

JOHN GOULD, F.R.S.,

F.L.S., F.Z.S., M.E.S., F.ETHN.S., F.R.GEOG.S., M.RAY S.,

HON. MEMB. OF THE ROYAL ACADEMY OF SCIENCES OF TURIN, OF THE ROY. ZOOL. SOC. OF IRELAND, OF THE PENZANCE NAT. HIST. SOC., OF THE WORCESTER NAT. HIST. SOC., OF THE NORTHUMBERLAND, DURHAM AND NEWCASTLE NAT. HIST. SOC., OF THE NAT. HIST. SOC. OF DARMSTADT, OF THE TASMANIAN SOC. OF VAN DIEMEN'S LAND, OF THE NAT. HIST. SOC. OF STRASBOURG, AND OF THE NAT. HIST. SOC. OF IPSWICH.

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1848.

BIBLIOTHECA BODLEIANA

TO

HER MOST GRACIOUS MAJESTY

VICTORIA,

QUEEN OF GREAT BRITAIN AND IRELAND,

THIS WORK,

ON THE

BIRDS OF AUSTRALIA,

IS, WITH HER ROYAL PERMISSION,

DEDICATED

BY HER MAJESTY'S

MOST OBEDIENT AND FAITHFUL

SUBJECT AND SERVANT,

JOHN GOULD.

NOTICE.

THE Preface and Introduction to my "Birds of Australia" having been set up in small type for facility of correction, I have had a limited number of copies printed in an octavo form, for distribution among my scientific friends and others, to whom I trust it will be at once useful and acceptable. They must however still regard it more as a proof-sheet than otherwise, inasmuch as it contains many imperfections, most of which have been corrected in the folio edition; for instance, the family terms and genera are here given without the authorities, which have been added in the larger work.

With respect to the arrangement, it will be seen that while I have not proposed one of my own, I have not implicitly adopted that of any previous writer, but have chiefly followed that of the late Mr. Vigors; the time in fact has not yet arrived, when a philosophic view of the ornithology of the world can be achieved, hundreds of species and many forms yet remaining to be discovered, without a knowledge of which any general arrangement must necessarily be most imperfect. I am not speaking in disparagement of the attempts at classification that have hitherto been made, all and each of which has its own individual merits, and tends to promote the object we wish to arrive at—a natural arrangement: we are in truth merely the pioneers preceding the great master mind, which will doubt-

lessly arise at some future period, endowed with the capacity requisite for the classification of the immense mass of materials we at present possess, and with which future researches will make us acquainted; it is our province to discover and distinguish species, and to define, as nearly as may be, the minor groups in which they appear to be naturally arranged; it will be his to classify these groups into one comprehensive system; but this cannot be done until more of the recent species, and as many of the fossil as possible, have been discovered.

It will be observed, that I have employed subfamily terms in some cases and omitted them in others; they are in fact chiefly employed where it appeared to me that they were necessary to facilitate a knowledge of the subject; I do not object to the use of such terms generally, but consider it to be almost an impossibility to apply them with correctness, when merely writing upon the birds of any one country; thus some persons might object to the use of the term *Tinamidæ* when treating of the ornithology of a country wherein a Tinamou is not to be found; and other similar instances might be cited.

PREFACE.

HAVING in the summer of 1837 brought my work on the "Birds of Europe" to a successful termination, I was naturally desirous of turning my attention to the Ornithology of some other region; and a variety of opportune and concurring circumstances induced me to select that of Australia, the birds of which, although invested with the highest degree of interest, had been almost entirely neglected. Dr. Shaw, in his "Zoology of New Holland," had devoted a few plates to the subject, from specimens collected by Sir Joseph Banks during the first voyage of Captain Cook; the "Birds of New Holland" by Lewin comprised not more than twenty-six plates; and figures and descriptions of a few species were given in the earlier voyages of Phillip, White and Collins, and the more recent one of King. At a subsequent period the late Mr. Vigors and Dr. Horsfield commenced an elaborate memoir on the Collection of Australian Birds in the possession of the Linnean Society; but unfortunately, they did not proceed farther than the *Meliphagidæ*, and the non-completion of their labours is the more to be regretted, inasmuch as the Linnean Society's collection of Australian birds, at that time the finest extant, comprised many species collected by Mr. Brown during his voyage with the celebrated navigator Flinders, and was moreover enriched with some interesting notes by the late Mr. George Caley, by whom the collection was chiefly formed. Descriptions of many Australian birds were also included in the works of Latham, Shaw, Cuvier and Vieillot, as well as in several of the recent French voyages of discovery; still no general work on the subject had been undertaken, and nearly all that had been recorded by the various writers above enumerated, had reference almost exclusively to the productions of New South Wales and Van Diemen's Land, these being almost the only explored portions of that great country. In the absence, then, of any general work on the Birds of Australia, the field was comparatively a new one, and of no ordinary degree of interest, from the circumstance of its being one of the finest possessions of the British Crown, and from its natural productions being as remarkable for the anomalous nature of their forms, as for their beauty, and the singularity of their habits. In the attempt to supply this desideratum I commenced publishing from the materials then accessible, but soon found, from the paucity of information extant upon the subject, that it could not be executed in a manner that would be satisfactory to my own mind, or commensurate with the exigencies of science; I therefore determined to proceed to Australia and personally investigate (so far as a stay of two years would allow) the habits and manners of its birds in a state of nature. I accordingly left England in May 1838, provided, by the liberality of Government, with letters from Lord Glenelg, at that time Secretary of State for the Colonies; Sir George Grey, Bart., and Gordon Gairdner, Esq., of the Colonial Office, recommending me to the countenance and protection of the various Governors, and requesting them to afford me such aid and assistance in furtherance of my objects as they might have it in their power to render; similar favours were also granted me by the authorities of the Admiralty, who, through their Secretary, Sir John Barrow, directed the captains and commanders of Her Majesty's ships and vessels employed on the

coasts of Australia to further my views, by giving myself and my assistant a passage to such part of the coasts as either of us might be desirous of visiting, only stipulating that the ships under their command should not be detained on any parts of the coasts they were not ordered to visit. His late Royal Highness the Duke of Sussex, in his capacity of President of the Royal Society, was pleased to favour me with a letter addressed to the authorities, civil and military, of Her Majesty's Colonies, recommending me to their kind offices and protection, as he felt assured that my exertions would materially promote the interests of Natural History. I was also under considerable obligations to the kindness of Captain Washington, R.N., at that time Secretary of the Royal Geographical Society, who furnished me with introductions to Captains Sir John Franklin and Sir Gordon Bremer, R.N., and other influential persons. Having thus acknowledged the facilities afforded me by the home authorities, it becomes my pleasing duty to state that their recommendations and wishes were responded to in the warmest manner by Captain Sir John Franklin, R.N., Governor of Van Diemen's Land; Sir George Gipps, Governor-General of New South Wales; Lieut.-Colonel Gawler, Governor of South Australia; John Hutt, Esq., Governor of Western Australia; and Captain M'Arthur, Commandant at Port Essington; all of whom rendered me every assistance compatible with the instructions under which they were acting. I should be wanting, however, both in courtesy and gratitude, did I not especially acknowledge the warm friendship, and the many acts of genuine kindness which I received at the hands of my valued friends Sir John and Lady Franklin, who, besides facilitating my views in every way, both publicly and privately, with the most generous hospitality received myself and family into their house, where Mrs. Gould and my eldest son, who had accompanied us, remained for nearly ten months, while I pursued my researches in various parts of Van Diemen's Land and the continent of Australia; and it is only by those who, like myself, have had the advantage of residing with that amiable family, that the kindness of their nature and the goodness of their hearts can be duly appreciated, and which can never be erased from my memory. I must acknowledge not less gratefully the many acts of kindness rendered to me by Sir George and Lady Gipps during my stay in Sydney. After exploring Van Diemen's Land, the islands in Bass's Straits, South Australia, and New South Wales, into the interior of which country I penetrated to the distance of nearly four hundred miles from the coast-line, I despatched my able assistant, Mr. Gilbert, to explore the western and northern portions of the country, and returned to England in August 1840; I immediately commenced the work *de novo*, and the result of my labours is now before the public. It fortunately happened that at the commencement and during the progress of the work, Her Majesty's ships the Beagle, under the command of Captains Wickham and Stokes; the Britomart, under Captain Stanley; the Fly, under Captain Blackwood, and the Pelorus, under Captain Chambers, were employed in surveying the northern and north-western coasts of Australia; and the Erebus and Terror under Captain Sir James C. Ross, in a voyage of discovery towards the south pole. While engaged in the performance of their arduous duties the officers of those vessels succeeded in procuring many interesting novelties, which were with the greatest

liberality communicated to me for the present work, whereby its value has been much enhanced. This liberality will be found duly acknowledged in the histories of the species for the use of which I am indebted to the kindness of B. Bynoe, Esq., Surgeon R.N., Lieut. Emery, R.N., Commander J. M. R. Ince, R.N., Edward Dring, Esq., Purser R.N., Dr. Robertson and Robert M'Cormick, Esq., Surgeons R.N., and John M'Gillivray, Esq.

After spending two years in Western and Northern Australia, Mr. Gilbert returned to England in September 1841, bringing with him the result of his labours, which proved of sufficient value and importance to induce me to believe that much yet remained to be discovered in those countries, and to direct him to return thither, which he accordingly did in the ensuing spring; and after again visiting Swan River, and sedulously exploring the interior so far as practicable, he proceeded to Sydney, and, unfortunately for himself, allowed his love of science, in the advancement of which no one was more ardent, to induce him to join Dr. Leichardt in his overland journey from Moreton Bay to Port Essington. On this expedition he, as usual, displayed his wonted zeal and activity until the 28th of June, when, the party being treacherously attacked by the natives, his valuable life was sacrificed, I lost a most able coadjutor, and science has to deplore one of her most devoted servants; fortunately, however, in despite of the many difficulties and dangers which beset the party during the remainder of their journey, his journals and notes, together with the specimens he had been able to procure, were preserved and transmitted to me by Dr. Leichardt, and proved of valuable assistance in determining the range of many of the species.

My own researches commenced immediately after passing the Equator, from whence, throughout the entire route to Australia, I omitted no opportunity of studying the habits, and collecting the different species of the oceanic birds that came under my notice: these observations were again resumed on my return from thence to England; and as the outward passage was by the Cape of Good Hope, and the homeward one by Cape Horn, they extended round the globe, and, as will be seen in the course of the work, have led to some important results. And here I must acknowledge my obligations to the various captains with whom I sailed, namely Captain M'Kellar of the "Parsee," which vessel conveyed me to Van Diemen's Land; Captain Harding of the "Black Joke," in which I proceeded from Launceston in Van Diemen's Land to Adelaide; Captain Fell of the "Catherine Stewart Forbes," in which I returned from Adelaide to Hobart Town; Captain Gilchrist of the "Potentate," in which I sailed from Hobart Town to Sydney; and Lieutenant Mallard, R.N., of the "Kinnear," which brought me to England; all of whom rendered me every assistance in their power, and the use of a boat and crew whenever the weather would admit of one being lowered, by which means I was enabled to obtain nearly forty species of Petrel, being the finest collection of the *Procellaridæ* ever brought together.

At the commencement of the work it was not expected that it would prove so extensive as it has become, since not more than about 300 species were then known, which number has now been increased, by the

united efforts of myself and those who have so kindly aided my views, to upwards of 600 species, among which are comprised many forms remarkable for their novelty, the anomalous character of their structure, and the singularity of their habits, such as the Bower Birds (*Ptilonorhynchi* and *Chlamyderæ*) and the Mound-raising Birds (*Talegalla, Leipoa* and *Megapodius*). The singular runs or bowers of the *Chlamyderæ* were considered by some explorers to be the cradles of the infants of the aborigines, and the mounds of the *Megapodius* to be tumuli, errors which have been rectified in the present work.

It is not to be supposed that an undertaking of such magnitude as the present could have been brought to a successful termination by the unaided efforts of a single individual, and I have, therefore, very great pleasure in stating that my views were most ably seconded by every one with whom the nature of my investigations brought me in contact; but by none more than by the Rev. Thomas James Ewing, who, besides manifesting the warmest friendship, has ever taken especial interest in promoting the success of the present work; nor must I omit to mention R. C. Gunn, Esq., Lieut. Breton, R.N., the Hon. Henry Elliot, Aide-de-camp to the Governor, Lieut. Friend, R.N., and Captain Booth, all of Van Diemen's Land. In New South Wales my best thanks are due to George Bennett, Esq., who, like Mr. Ewing, favoured me with his warmest friendship, and evinced an equal anxiety for the success of my undertaking; the Messrs. James and William M'Arthur, of Camden; the Messrs. Stephen and Charles Coxen, of Yarrundi; Charles Throsby, Esq., of Bong-bong; Alexander and William S. MacLeay, Esqs.; Captain P. P. King, and many others. Much valuable information has been communicated to me by George Grey, Esq. (now Governor of New Zealand), whose exertions during his expedition along the north-western coasts of Australia were characterized by a degree of energy of character and perseverance but rarely equalled; whose ornithological collection made during this arduous enterprise, although small, was by no means destitute of interest; and who, upon succeeding Colonel Gawler in the Governorship of South Australia, found time amidst his multifarious occupations to devote considerable attention to Natural History, and to send me some interesting drawings and other details respecting the mounds raised by the *Leipoa*, &c. In South Australia I received many acts of kind attention and assistance from my friend Captain Sturt, whom I accompanied on one of his expeditions into the interior; and I have much pleasure in acknowledging my obligations to Mr. Eyre, now Lieut.-Governor of New Zealand, and the late J. B. Harvey, Esq.

Nor must I conclude my acknowledgements of the kindness of those who have rendered me their aid, without especially recording the liberality of the Right Hon. The Earl of Derby, who has at all times most readily submitted to my inspection every collection of which he has become the possessor, and allowed me the free use of any objects desirable for the enhancement of the "Birds of Australia;" neither is the kindness of His Highness the Prince of Canino, Sir Wm. Jardine, Bart., Professor Owen, Robert Brown, H. E. Strickland, W. Yarrell, T. C. Eyton, J. J. Bennett, D. W. Mitchell, and E. Blyth, Esqs., forgotten by one whom they have ever been sedulous to oblige. My thanks are also

due to the Trustees, to J. E. Gray, and G. R. Gray, Esqs., of the British Museum; and to the authorities of the Linnean and Zoological Societies of London, the Royal Museums of Berlin, Leyden and Paris, and the Museum at Sydney. I am also considerably indebted to my friend W. C. L. Martin, Esq., author of many valuable works and papers on natural history, for the readiness with which his varied literary attainments and critical acumen have at all times been rendered, whenever solicited, to enhance the accuracy of my labours.

At the conclusion of my "Birds of Europe," I had the pleasing duty of stating that nearly the whole of the plates had been lithographed by my amiable wife. Would that I had the happiness of recording a similar statement with regard to the present work; but such, alas! is not the case, it having pleased the All-wise Disposer of Events to remove her from this sublunary world within one short year after our return from Australia, during her sojourn in which country an immense mass of drawings, both ornithological and botanical, were made by her inimitable hand and pencil, and which has enabled Mr. H. C. Richter, to whom, after her lamented death, the execution of the plates was entrusted, to perform his task in a manner highly satisfactory to myself, and I trust equally so to the Subscribers. The colouring, as in the case of the "Birds of Europe," and my other works, has been entirely executed by Mr. Bayfield, to whose unwearied exertions and punctuality I must not fail to bear testimony, as well as to the minute accuracy with which his labours have been performed. The printing of the plates, by Messrs. Hullmandel and Walton, and the letter-press, by Messrs. R. and J. E. Taylor, has also been equally satisfactory.

And I cannot refrain from speaking in the highest terms of my assistant, Mr. Edwin C. Prince, who has been with me from the commencement of my various works. I left him in charge of the whole of my affairs during my absence from England, with a perfect conviction that he would zealously exert himself for my interest, and the confidence I reposed in him has been fully realized, not only during my absence, but during the long period of eighteen years.

It was my most anxious wish that the unique and perfect collection of Australian Birds, forming the originals of the present work, should have found a resting-place in the National Museum of this country, inasmuch as it comprised examples of both sexes of nearly every known species in various stages of plumage, each carefully labelled with its correct scientific appellation, the date when and the place where killed, the sex ascertained by dissection, and the colouring of the soft parts; besides which, it comprised the finest specimens I had been able to procure during the long period of ten years, collected together at the expense of more than two thousand pounds, and at the cost of three valuable lives, namely, that of Mr. Gilbert above referred to; that of Mr. Johnson Drummond, who was killed by a native while seeking for specimens in Western Australia; and that of a fine young man, one of the attendants assigned to me by Sir John Franklin, who was accidentally killed by the explosion of a gun he was removing from a boat when landing on one of the islands in Bass's Straits. Regretting that I could not afford to make a donation of it, I addressed a letter to J. E. Gray, Esq., the chief Zoological officer of the British Museum,

in which, after stating that the entire collection amounted to nearly 600 species, and upwards of 1800 specimens, with the full complements of eggs of more than 300 species, I made the following offer: "I believe that in some instances the Government has lent its aid and support to works of such magnitude as the Birds of Australia by taking a certain number of copies; were this done in my own case and not less than 25 copies were taken, I should be most happy to present to the Museum both the Collections above mentioned; but should such an arrangement be declined, then I beg to offer them to the Trustees for the sum of £1000." To my own, as well as to the regret of nearly every scientific man in Europe, my offer was declined by the Trustees. Upon this circumstance becoming known to Edward Wilson, Esq., of Lydstip House, near Tenby in Pembrokeshire, that gentleman immediately purchased the entire collection for his brother, Dr. T. B. Wilson, of Philadelphia in North America, whither it will be shortly removed, and where it will be at all times available for the purposes of science, and form a portion of perhaps the most extensive ornithological collection in the world.

In conclusion I would beg to say, that having brought the "Birds of Australia" to a close, after devoting nearly ten years to its production, I trust it will be admitted that it has been terminated in the same spirit with which it was commenced, and that any errors which may be found will be viewed with leniency, when the extent of the work, and the difficulty of procuring and arranging so large a mass of materials, is taken into consideration; should my labours, such as they are, merit the approbation of those who have so liberally supported it, my own efforts will be amply repaid. Although the work comprises every species known to inhabit Australia up to the present time, it is not to be supposed that it contains the whole of the birds of that vast country, of which so large a portion is yet a *terra incognita*. Every new district towards the north-west that may be explored will doubtless afford additional species, and which may hereafter form the materials for a supplement.

I originally intended to include the Birds of New Zealand in the present work, but upon farther investigation of the subject I found that they belong to a distinct Fauna, which fact, coupled with the vast accession of new species from the continent of Australia, induced me to omit all but those that had been published in the first instance, and one or two others remarkable for their great interest.

Enjoying, by the blessing of Providence, constant good health, and energies as yet unimpaired, I propose still to devote my humble efforts to the advancement of Ornithology, that science which treats of one of the most pleasing portions of the Almighty's many wonderful works; and with ample materials at my command for illustrating the Birds of another magnificent portion of the domains of the British Crown—India—my next work will probably be on "the Birds of Asia," which will, irrespective of all other considerations, be of no little interest as forming the connecting link between the Birds of Europe and Birds of Australia.

JOHN GOULD.

June 12, 1848.

INTRODUCTION.

GEOLOGICAL investigations into the structure of the globe show that a succession of physical changes have modified its surface from the earliest period up to the present time, and that these changes have been accompanied with variations not only in the phases of animal and vegetable life, but often in the development also of organization; and as these changes cannot be supposed to have been operating uniformly over the entire surface of the globe in the same periods of time, we should naturally be prepared for finding the now existing fauna of some regions exhibiting a higher state of development than that of others; accordingly, if we contrast the fauna of the old continents of geographers with the zoology of Australia and New Zealand, we find a wide difference in the degree of organization which creation has reached in these respective regions. In New Zealand, with the exception of a *Vespertilio* and a *Mus*, which latter is said to exist there, but which has not yet been sent to this country, the most highly organized animal yet discovered, either fossil or recent, is a bird; in Australia, if compared with New Zealand, creation appears to have considerably advanced, but even here the order *Rodentia* is the highest in the scale of its indigenous animal productions; the great majority of its quadrupeds being the *Marsupiata* (Kangaroos, &c.) and the *Monotremata* (*Echidna* and *Ornithorhynchus*), which are the very lowest of the Mammalia. The ornithology of Australia is characterized by the presence of certain peculiar genera, the *Talegalla*, *Leipoa* and *Megapodius*; birds which do not incubate their own eggs, and which are perhaps the lowest representatives of their class, while the low organization of its botany is indicated by the remarkable absence of fruit-bearing trees, the *Cerealia*, &c.

My investigation of the natural productions of Australia induces me to believe, that at some remote period it was divided into at least two portions, since, with a few exceptions, I find the species inhabiting the same latitudes of its eastern and western divisions differing from, but representing each other. Some writers, Captain Sturt and Mr. Jukes, *e. g.* are of opinion that its subdivision was even greater, and that the sandy deserts now met with in the interior were formerly the beds of the seas that flowed between the archipelago of islands of which they suppose it to have been composed. In a valuable paper by Mr. Jukes, entitled 'Notes on the Geology of the Coasts of Australia,' read at the meeting of the Geological Society on the 17th of November 1847, that gentleman stated, that "The eastern coast is occupied by a great range of high land, appearing like a continuous chain of mountains when seen from the sea, and rising in several places to 5000 feet or more above the sea-level. This chain has an axis of granite, with occasional large masses of green-

stone, basalt and other igneous rocks. It is flanked on both sides by thick beds of palæozoic formations, chiefly sandstone, but also containing limestone and coal. In the northern portion of the chain Dr. Leichardt found similar formations—and especially trap and granite near the Burdekin river. In the Port Philip district there are similar igneous rocks, and on the coast tertiary formations resting on the edges of upturned palæozoic beds. In West Australia, the Darling range consists of granite below, covered by metamorphic rocks; and between it and the sea is a plain composed of tertiary beds. In the colony of North Australia there is a great sandstone plateau, rising about 1800 feet above the sea, and probably of palæozoic age; whilst on the immediate shore and round the Gulf of Carpentaria are beds supposed to belong to the tertiary period. Similar formations constitute the substratum of the central desert; in which Captain Sturt was compelled to turn, when half-way to the Gulf of Carpentaria, from the southern coast. Hence these tertiary rocks are probably continuous through the whole centre of the island, and during the tertiary period all this portion of the country was submerged, whilst the high lands on the coast rose like four groups of islands from the shallow sea."—*Athenæum, Nov.* 24, 1847.

Whichever of these opinions be the correct one, we certainly find the natural productions of all these portions of the country composed of precisely the same types, the generality of which differ entirely from those of the islands of the Indian Archipelago on the one hand, and of New Zealand and Polynesia on the other.

With respect to the position of Australia, it will only be necessary to state that it is situated between the 10th and 45th degrees of south latitude, and the 112th and 154th degrees of longitude east from Greenwich; its extent, in round numbers, may therefore be said to be 3000 miles in length, or from west to east, and inclusive of Van Diemen's Land nearly the same in breadth, or from north to south. In its present uplifted position its form is nearly square, with a depressed centre bounded by an almost continuous range of hills and plateaux, which, varying in altitude from one to six thousand feet above the level of the sea, in some places approach the coast and present lofty and inaccessible cliffs to the ocean, while in others they trend towards the interior of the country at a distance of from twenty to eighty miles from the coast-line; but inasmuch as these elevations are all of an undulating and not of a precipitous character, no part of the country can be considered as strictly alpine. Nothing can be more different than the features of the country on the exterior and interior of this great barrier, particularly on the eastern coast, where, between the mountains and the sea, the vegetation partakes to a great extent of a tropical character; it is there, on the rich alluvial soil, formed by the debris washed down from the hills, that we find various species of *Eucalypti*, *Fici*, and other trees, many of which attain an immense altitude, and forests of towering palms; the surface of the ground beneath clothed with a dense and impervious underwood, composed of dwarf trees, shrubs and tree-

ferns festooned with creepers and parasitic plants in the richest profusion, the continuity of which is here and there broken by rich open meadow-like districts admirably adapted for the pasturing of cattle, and to which, from the frequent occurrence of the *Angophoræ*, a tribe of trees in which the settlers see a fancied resemblance to the apple-trees of Europe, the name of Apple-tree Flats has been given. Within the ranges, on the other hand, we find immense open downs and grassy plains, studded here and there with detached belts and forests of *Eucalypti*, *Acaciæ*, &c., presenting a park-like appearance, to which, as we advance farther towards the interior, succeed either extensive marshes or land of a most sterile description. The face of this vast country consequently presents much variety of aspect; the infrequency of rain tends much to give a sombre brown hue to the surface of the interior, which however is relieved by the constant verdure of its trees, the peculiar lanceolate form and the pendent position of which render them almost shadowless. It is in the neighbourhood of the few rivers which intersect the country, and in the lower flats flooded by the waters, when floods occur, that we find the vegetation more luxuriant and the trees attaining a far greater size; the sides of the rivers are moreover fringed with *Casuarinæ* and other trees, which, although of large size, never arrive at the altitude of the stately *Eucalypti*, which attain, under favourable circumstances, a size and height which appear perfectly incredible. Mr. Backhouse states that one measured by him on the Lopham Road, near Emu Bay in Van Diemen's Land, which "was rather hollow at the bottom and broken at the top, was 49 feet round at about 5 feet from the ground; another that was solid, and supposed to be 200 feet high, was 41 feet round; and a third, supposed to be 250 feet high, was 55½ feet round. As this tree spread much at the base, it would be nearly 70 feet in circumference at the surface of the ground. My companions spoke to each other when at the opposite side of this tree from myself, and their voices sounded so distant that I concluded they had inadvertently left me, to see some other object, and immediately called to them. They in answer remarked the distant sound of my voice, and inquired if I were behind the tree! When the road through this forest was forming, a man who had only about two hundred yards to go, from one company of work-people to another, lost himself: he called, and was repeatedly answered; but getting further astray, his voice became more indistinct, till it ceased to be heard, and he perished. The largest trees do not always carry up their width in proportion to their height, but many that are mere spars are 200 feet high."

A prostrate tree noticed by Mr. Backhouse in the forest near the junction of the Emu River with the Loudwater "was 35 feet in circumference at the base, 22 feet at 66 feet up, 19 feet at 110 feet up; there were two large branches at 120 feet; the general head branched off at 150 feet; the elevation of the tree, traceable by the branches on the ground, was 213 feet. We ascended this tree on an inclined plane, formed by one of its limbs, and walked four abreast with ease

upon its trunk! In its fall it had overturned another 168 feet high, which had brought up with its roots a ball of earth 20 feet across." There are other remarkable features, which, as they appertain to districts frequently alluded to in the course of the work, it becomes necessary to notice, namely the immense deltas formed by the descent of the waters of the interior, such as the valley of the Murray near its embouchure into the sea, spoken of as the great Murray scrub of South Australia; this enormous flat of nearly one hundred miles in length by more than twenty in breadth is clothed with a vegetation peculiarly its own, the prevailing trees which form a belt down the centre consisting of dwarf *Eucalypti*, while the margins are fringed with shrub-like trees of various kinds. Nor must the immense belts of *Banksiæ*, which grow on the sand-hills bordering the sea-coast and in some parts of the interior, or the districts clothed with grass-trees (*Xanthorrhoæ*), be passed over unnoticed; in the intertropical regions of Australia, of which at present so little is known, we find, besides the *Eucalypti*, *Banksiæ* and other trees of the southern coast, dense forests of canes, mangroves, &c. Each of these districts has a zoology peculiarly its own: for instance, the *Banksiæ* are everywhere tenanted by the true Meliphagous birds; the *Eucalypti* by the *Trichoglossi* and *Ptiloti*; the towering fig-trees by the Regent and Satin birds; the palms by the *Carpophagæ* or fruit-eating Pigeons, and the grassy plains by the ground Pigeons and grass Parrakeets. The circumstance of the boles of the trees being destitute of a thick corrugated rind or bark will doubtless account for the total absence of any member of the genus *Picus* or Woodpeckers, a group of birds found in all parts of the world with the exception of Australia and Polynesia.

Such then is a transient view of a few of the great physical features of Australia to which I have thought it requisite to allude in the Introduction of the present work, and I cannot conclude this portion of the subject without mentioning the very remarkable manner in which many of the Australian birds represent other nearly allied species belonging to the Old World, as if some particular law existed in reference to the subject, the species so represented being evidently destined to fulfil the same offices in either hemisphere. As instances in point, I may mention among the *Falconidæ* the *F. hypoleucus* and *F. melanogenys*, which represent the *F. Islandicus* and *F. Peregrinus*; our Merlin and Kestril are equally well represented by the *Falco frontatus* and *Tinnunculus Cenchroïdes* of Australia; the Osprey of Europe also is represented by the *P. leucocephala*; among the wading birds, the Curlew and the Whimbrel of Europe are beautifully represented by the *Numenius Australis* and *N. uropygialis*, and the bar-tailed and black-tailed Godwits by the *Limosa uropygialis* and *L. Melanuroïdes*. Both Europe and Australia have each one Stilted Plover, one Dottrell (*Eudromias*), and one Avocet. Among the water birds the Cormorants and Grebes of Europe are similarly represented by the *Phalacrocorax Carboïdes*, &c., and *Podiceps Australis*, *P. Nestor* and *P. gularis*; and other in-

stances might be noticed, but as they will all be found in the body of the work, it will not be necessary to recapitulate them here. Although so many curious instances of representation and of nearly allied species are found to occur, no country possesses so many genera peculiar to itself as Australia, such as *Ægotheles*, *Falcunculus*, *Colluricincla*, *Grallina*, *Gymnorhina*, *Strepera*, *Cinclosoma*, *Menura*, *Psophodes*, *Malurus*, *Sericornis*, *Ephthianura*, *Pardalotus*, *Chlamydera*, *Ptilonorhynchus*, *Struthidea*, *Licmetis*, *Calyptorhynchus*, *Platycercus*, *Euphema*, *Nymphicus*, *Climacteris*, *Scythrops*, *Myzantha*, *Talegalla*, *Leipoa*, *Pedionomus*, *Cladorhynchus*, *Tribonyx*, *Cereopsis*, *Anseranas*, and *Biziura*.

In a country of such vast extent as Australia, spreading over so many degrees of latitude, we might naturally expect to find much diversity in the climate, and such is really the case. Van Diemen's Land, from its isolated and more southern position, is cooler and characterized by greater humidity than Australia; its vegetation is therefore abundant, and its forests dense and difficult of access. The climate of the continent, on the other hand, between the 25th and 35th degrees of latitude, is much drier, and has a temperature which is probably higher than that of any other part of the world; the thermometer frequently rising to 110°, 120°, and even 130° in the shade; and this high temperature is not unfrequently increased by the hot winds which sweep over the country from the northward, and which indicate most strongly the parched and sterile nature of the interior. Unlike other hot countries, this great heat and dryness is unaccompanied by night dews, and the falls of rain being uncertain and irregular, droughts of many months' duration sometimes occur, during which the rivers and lagoons are dried up, the land becomes a parched waste, vegetation is burnt up, and famine spreads destruction on every side. It is easier for the imagination to conceive than the pen to depict the horrors of so dreadful a visitation. The indigenous animals and birds retire to the mountains, or to more distant regions exempt from its influence. Thousands of sheep and oxen perish, bullocks are seen dead by the road-side or in the dried-up water-holes, to which, in the hope of relief, they had dragged themselves, there to fall and die; trees are cut down for the sake of the twigs as fodder; the flocks are driven to the mountains in the hope that water may there be found, and every effort is made to avert the impending ruin; but in spite of all that can be done the loss is extreme. At length a change takes place, rain falls abundantly, and the plains, on which but lately not a blade of herbage was to be seen, and over which the stillness of desolation reigned, become green with luxuriant vegetation. *Orchideæ* and thousands of flowers of the loveliest hues are profusely spread around, as if nature rejoiced in her renovation, and the grain springing up vigorously gives promise of an abundant harvest. This change from sterility to abundance in the vegetable world is accompanied by a correspondent increase of animal life, the waters become stocked with fish, the marshy districts with frogs and other reptiles; hosts of caterpillars and other insects make their appearance, and spreading over the surface of the country com-

mence the work of devastation, which however is speedily checked by the birds of various kinds that follow in their train. Attracted by the abundance of food, hawks of three or four species, in flocks of hundreds, depart from their usual solitary habits, become gregarious and busy at the feast, and thousands of Straw-necked Ibises (*Ibis spinicollis*), and other species of the feathered race, revel in the profusion of a welcome banquet. It must not however be imagined that this change is effected without its attendant horrors; the heavy rains often filling the river beds so suddenly, that the onward pouring flood carries with it everything that may impede its course; and woe to the unhappy settler whose house or grounds may lie within the influence of the overwhelming floods! A painful instance of the desolating effects of this sudden irruption of the waters came under my own observation while travelling in the plains bordering the Lower Namoi in New South Wales. On pulling up my horse at one of the huts erected by the stock-keepers charged with the flocks and herds depastured in this vast grazing-ground, I found it occupied by Lieut. Lowe and his nephew, who had gone thither for the purpose of being present at the shearing of the flocks belonging to the former gentleman. Although strangers, their reception of me was warm and hospitable, and I left them with a promise of making their abode a resting-place on my return. My second welcome was such as friends receive from friends, and rejoicing that I had made the acquaintance of persons so worthy and estimable, I left them busy in their operations, happy and prosperous. Seven days after my departure from their dwelling heavy rains suddenly set in; the mountain-streams swelled into foaming torrents, filling the deep gullies; the rivers rose, some to the height of forty feet, bearing all before them. The Namoi having widely overflowed its banks, rolled along with impetuous fury, sweeping away the huts of the stock-keepers in its course, tearing up trees, and hurrying affrighted men and flocks to destruction. Before there was time to escape, the hut in which Lieut. Lowe and his nephew were sojourning was torn up and washed away, and the nephew and two men, overwhelmed by the torrent, sank and perished. Lieut. Lowe stripped to swim, and getting on the trunk of an uprooted tree, hoped to be carried down the eddying flood to some part where he could obtain assistance. But he was floated into the midst of a sea of water stretching as far as he could discern on every side around him. Here he slowly drifted; the rains had ceased, the thermometer was at 100°, a glaring sun and a coppery sky were above him; he looked in vain for help, but no prospect of escape animated him, and the hot sun began its dreadful work. His skin blistered, dried, became parched and hard, like the bark of a tree, and life began to ebb. At length assistance arrived—it came too late; he was indeed just alive, but died almost immediately. He was scorched to death.

Sir Thomas Mitchell, in his recently published "Journal of an Expedition into the interior of Tropical Australia," has given a most vivid picture of the manner in which floods occasioned by distant rains fill the river-beds, and which I beg leave to transcribe. Sir Thomas being

somewhat unwell while encamped on the banks of the Macquarie, the channel of which was deep and dry, sent Mr. Stephenson, one of his party, to Mount Foster, to make inquiries about the river and the stations on it lower down. Mr. Stephenson returned early with two of the mounted police. To his most important question, "what water was to be found lower down in the river, the reply was, 'plenty, and a *flood coming down* from the Turòn mountains.' The two policemen said that they had travelled twenty miles with it on the day previous, and that it would still take some time to arrive near our camp. . . . . In the afternoon, two of the men taking a walk up the river, reported on their return, that the flood poured in upon them when in the river bed so suddenly, that they narrowly escaped it. Still the bed of the Macquarie before our camp continued so dry and silent, that I could scarcely believe the flood coming to be real, and so near to us, who had been put to so many shifts for the want of water. Towards evening I stationed a man with a gun a little way up the river, with orders to fire on the flood's appearance, that I might have time to run and witness what I so much wished to see, as well from curiosity as from urgent need. The shades of evening came, however, but no flood, and the man on the look-out returned to the camp. Some hours later, and after the moon had risen, a murmuring sound, like that of a distant waterfall, mingled with occasional cracks, as of breaking timber, drew our attention, and I hastened to the river-bank. By very slow degrees the sound grew louder, and at length so audible as to draw various persons besides from the camp to the river-side. Still no flood appeared, although its approach was indicated by the occasional rending of trees with a loud noise. Such a phænomenon in a most serene moonlight night was new to us all. At length the rushing sound of waters, and loud cracking of timber, announced that the flood was in the next bend. It rushed into our sight, glittering in the moonbeams, a moving cataract, tossing before it ancient trees, and snapping them against its banks. It was preceded by a point of meandering water, picking its way, like a thing of life, through the deepest parts of the dark, dry and shady bed, of what thus again became a flowing river. By my party, situated as we were at that time, beating about the country, and impeded in our journey solely by the almost total absence of water,—suffering excessively from thirst and extreme heat,—I am convinced the scene never can be forgotten. Here came at once abundance, the produce of storms in the far-off mountains that overlooked our homes. . . . . The river gradually filled up the channel nearly bank-high, while the living cataract travelled onward much slower than I had expected to see it; so slowly, indeed, that more than an hour after its first arrival the sweet music of the head of the flood was distinctly audible, as the murmur of waters and diapason crash of logs travelled slowly through the tortuous windings. . . . . The next morning the river had risen to within six feet of the top of its banks, and poured its turbid waters along in fulness and strength, but no longer with noise. All night that body of water had been in motion downwards, and seemed to me enough to deluge the whole country."

So little has as yet been ascertained respecting the climatology of western, north-western and northern Australia, that it is not known whether they also are subject to these tremendous visitations; but as we have reason to believe that the intertropical parts of the country are favoured with a more constant supply of rain as well as a lower degree of temperature, it is most probable that they do not there occur.

Independently of the vast accession of birds attracted by the great supply of food, as mentioned above, there are many species which make regular migrations, visiting the southern parts of the continent and Van Diemen's Land during the months of summer, for the purpose of breeding and rearing their progeny, and which retire again northwards on the approach of winter, following in fact the same law which governs the migrations of the species inhabiting similar latitudes of the Old World. There are also periods when some species of birds appear to entirely forsake the part of the country in which they have been accustomed to dwell, and to betake themselves to some distant locality, where they remain for five or ten years, or even for a longer period, and whence they as suddenly disappear as they had arrived. Some remarkable instances of this kind came under my own observation; for instance, the beautiful little warbling Grass Parrakeet (*Melopsittacus undulatus*), which, prior to 1838, was so rare in the southern parts of Australia that only a single example had been sent to Europe, arrived in that year in such countless multitudes on the Liverpool plains, that I could have procured any number of specimens, and more than once their delicate bodies formed an excellent article of food for myself and party. The *Nymphicus Novæ Hollandiæ* forms another case in point, and the beautiful Harlequin Bronze-winged Pigeon (*Peristera histrionica*) a third; this latter bird occurred in such numbers on the plains near the Namoi in 1839, that eight fell to a single discharge of my gun; both the settlers and natives assured me that they had suddenly arrived, and that they had never before been seen in that part of the country. The aborigines who were with me, and of whom I must speak in the highest praise, from the readiness with which they rendered me their assistance, affirmed, upon learning the nature of my pursuits, that they had come to meet me. The *Tribonyx ventralis* may be cited as another species whose movements are influenced by the same law. This bird visited the colony of Swan River in 1833, and that of South Australia in 1840, in such countless myriads, that whole fields of corn were trodden down and destroyed in a single night; and even the streets and gardens of Adelaide were, according to Captain Sturt, alive with them.

If we compare the ornithology of Australia with that of any other country in similar latitudes and of the same extent, we shall find that it fully equals, if it does not exceed them all, in the number of species it comprises; and the parts of the country still unexplored doubtless contain many yet to be added to the list of its Fauna.

In the course of the present work it will be found that I have frequently given a wide range of habitat to some of the species, and

that I have at the same time pointed out slight variations, not amounting to a specific difference, in individuals from different localities. This difference I am unable to account for. I do not believe the birds to be distinct species, but am inclined to regard them as varieties or races of the same species, modified by the character of the situations they frequent. I may mention some curious instances in point, such as the *Artamus sordidus*, which is a migratory bird in Van Diemen's Land, and partially stationary in New South Wales, yet all the examples procured in the former country are the largest and most vigorous, which we should naturally attribute to the excess of food afforded by the more humid climate of Van Diemen's Land; but an instance precisely the reverse of this occurs with regard to the *Graucalus*, which is also a migratory bird in Van Diemen's Land, and examples of which, killed in that island, are much more feeble and diminutive than those obtained in New South Wales. The *Halcyon sanctus*, again, whose distribution is universal in Australia, varies somewhat in size in every colony, still not sufficiently so to afford any tangible specific characters.

Upon taking a general view of the Australian ornithology we find no species of Vulture, only one typical Eagle, and indeed a remarkable deficiency in the number of the species of its birds of prey, with the exception of the nocturnal Owls, among which the species belonging to the restricted genus *Strix* are more numerous than in any other part of the world; a circumstance which is probably attributable to the great abundance of small quadrupeds, most of which are nocturnal in their habits.

Among the perching birds there is a great excess of the *Insectivoræ—Podargi, Meliphagidæ, Maluridæ, Gymnorhinæ*, &c., of the *Granivoræ*, such as various species of the *Fringillidæ*, and of the *Psittacidæ*. The latter tribe of birds is more numerous in Australia than in any other part of the world, and forms four great groups, viz. the *Calyptorhynchi*, which mainly procure their food from the *Banksiæ, Casuarinæ* and *Eucalypti*; the *Cacatuæ*, which feed upon the terrestrial *Orchideæ*, &c.; the *Trichoglossi*, which subsist upon the nectar they extract from the flower-cups and blossoms of the *Eucalypti*; and the ground and grass Parrakeets, which feed almost exclusively on the seeds of the various grasses that abound on the plains; the united groups amounting to nearly sixty species.

Of the Rasorial forms,—while the Pigeons and Hemipodes are numerous, the larger and typical *Gallinaceæ* are entirely wanting; their only representatives being a few species of *Coturnix* and *Synoïcus*. The Grallatorial birds are about equal in number to those of other countries; and among the water birds the true Ducks are but few, while the *Procellaridæ* which visit the coast are in much greater abundance than in any other part of the world. On a retrospect of the whole we find a greater number of nocturnal birds than is comprised in the ornithology of any other section of the globe. I must not omit to mention too the extraordinary fecundity which prevails in Australia, many of its smaller birds breeding three or four times in a season; but laying fewer eggs in the early spring when insect

life is less developed, and a greater number later in the season when the supply of insect food has become more abundant. I have also some reason to believe that the young of many species breed during the first season, for among others I frequently found one section of the Honey-eaters (the *Melithrepti*) sitting upon eggs while still clothed in the brown dress of immaturity; and we know that such is the case with the introduced *Gallinaceæ*, three or four generations of which have been often produced in the course of a year.

Another peculiar feature connected with the Australian ornithology is that of its comprising several forms endowed with the power of sustaining and enjoying life without a supply of water, that element without which most others languish and die; for instance, the Halcyons, which I found sustaining life and breeding on the parched plains of the interior during the severe drought of 1838–9, far removed from any water; the food of these birds being insects and lizards.

A considerable number of the older-known of the Australian birds have been described in the general works of Vieillot, Latham, Shaw and others; but their descriptions are so vague, and the species themselves referred so frequently to genera widely different from those to which they really belong, that it has been impossible to identify the whole of them with certainty; wherever this could be done their names have been adopted, or quoted in the synonyms.

The "Birds of Europe" were arranged according to the views of the late Mr. Vigors; and in the "Birds of Australia" the arrangement is mainly the same, with some modifications of my own which appeared to me to be necessary.

I have been constrained, for the sake of uniformity in size, to divide the present work into seven volumes; the first of which comprises the Raptores, the small number of which will account for its being somewhat thinner than the others; the second, third, fourth, fifth and sixth volumes comprise the Insessores, Rasores and Grallatores in one continuous series, and the seventh the Natatores.

The following synoptical table will give a general view of the whole; it contains all the additional information I have received, or been able to procure, during the progress of the work; the characters of the new genera I have found it necessary to institute, &c.; and the references to the volumes in which the respective plates are arranged will render it easy to consult and to quote them.

Order RAPTORES.

Family FALCONIDÆ.

Subfamily AQUILINÆ.

Genus AQUILA.

Numerous species of this genus exist in Asia and Europe; the form also occurs in Africa, and in North America; so far as I am

aware it is not found in South America, and two species are all that are known in Australia.

1. Aquila fucosa, *Cuv.* . . . . . Vol. I. Pl. 1.

Vultur audax, Lath. Ind. Orn. Supp., p. ii.
Aquila cuneicaudata, Brehm. Isis, 1845, p. 356.
—— (*Uroaëtus*) *audax*, Kaup. Classif. der Säug. und Vög., p. 12.

This fine Eagle ranges over the whole of the southern portion of Australia and Van Diemen's Land, but I have no positive evidence of its having been seen in the intertropical regions of the country.

2. Aquila Morphnoïdes, *Gould* . . . . . Vol. I. Pl. 2.

A beautiful representative of the *Aquila pennata* of Europe and India. Since the discovery of this bird at Yarrundi in New South Wales, when I obtained only a single specimen, T. C. Eyton, Esq., has received a second example in a collection obtained at Port Phillip, and a third was procured by Captain Sturt at the depôt in South Australia.

Genus Ichthyiaëtus.

The members of this genus inhabit India and the whole of the Indian Islands, and enjoy an equally extensive range over the continent of Africa. Their natural abode is the margins of large rivers and inlets of the sea; and their chief food consists of fish, dead cetacea and carrion.

3. Ichthyiaëtus leucogaster . . . . . Vol. I. Pl. 3.

Haliaëtus (*Pontoaëtus*) *leucogaster*, Kaup, Classif. der Säug. und Vög. p. 122.
Cuncuma leucogaster, List of Birds in Brit. Mus. Coll., Part I. 2nd edit. p. 24.

Found all round the coast of Australia, and said to extend its range to India and even to Africa; but this wants confirmation.

An opinion has been lately expressed that the enormous nests observed by Captains Cook and Flinders had been constructed by some species of *Dinornis*; but it is quite evident from the account given by Flinders that they must have been formed by a bird of the Raptorial order, and I have no doubt that they were the nests of the present bird.

"Near Point Possession," says Flinders, "were found two nests of extraordinary magnitude. They were built upon the ground, from which they rose above two feet; and were of vast circumference and great interior capacity, the branches of trees and other matter, of which each nest was composed, being enough to fill a small cart. Captain Cook found one of these enormous nests upon Eagle Island, on the east coast." Subsequently Flinders found another of these nests in which were "several masses resembling those which contain the hair and bones of mice, and are disgorged by the Owls in England after the flesh is digested. These masses were larger, and consisted of the hair of seals and of land animals, of the scaly feathers of penguins, and the bones of birds and small quadrupeds. Possibly

the constructor of the nest might be an enormous Owl; and if so, the cause of the bird being never seen, whilst the nests were not scarce, would be from its not going out until dark; but from the very open and exposed situations in which the nests were found, I should rather judge it to be of the Eagle kind; and that its powers are such as to render it heedless of any attempts of the natives upon its young."—Flinders' Voyage, vol. i. pp. 64 and 81.

The accumulation of so large a mass of materials is readily accounted for when we remember that the bird is in the habit of resorting to the same eyry for a long succession of years, and of annually carrying additional materials to reconstruct the nest.

I myself found and took young birds of this species from similar nests placed on the points of rocks and promontories of the islands in Bass's Straits.

Genus Haliastur.

The range of the members of this genus extends over Australia and all the islands to India.

4. Haliastur leucosternus, *Gould* . . . . . Vol. I. Pl. 4.

Falco ponticerianus, Shaw, Nat. Misc., pl. 389.
Haliaëtus (Ictinoaëtus) leucosternon, Kaup, Isis, 1847, p. 276.

Confined, so far as I am aware, to Australia, and forming a beautiful representative of the *Haliastur ponticerianus* of India.

5. Haliastur sphenurus . . . . . Vol. I. Pl. 5.

Milvus sphenurus, Swains. Class. of Birds, vol. ii. p. 211.
Haliaëtus (Ictinoaëtus) canorus, Kaup, Isis, 1847, p. 277.

Inhabits all parts of Australia yet visited by travellers, even the Depôt in the interior.

Genus Pandion.

Of the genus Pandion four species are now known; one inhabiting America, another Europe and Asia, a third the Indian Islands, and the fourth Australia.

6. Pandion leucocephalus, *Gould* . . . . . Vol. I. Pl. 6.

Pandion Gouldii, Kaup, Isis, 1847, p. 270.—List of Birds in Brit. Mus. Coll., Part I. 2nd edit. p. 22.

This species of *Pandion* performs precisely the same office in Australia that the *P. haliaëtus* does in Europe and the *P. Carolinensis* in America; to both of which species it is very nearly allied.

Genus Falco.

As they are the most typical of all the Hawks, so are the members of the genus *Falco* the most universally dispersed over the face of the globe; and I question whether the law of representation is in any case more beautifully and clearly shown than by the members of the present group.

7. Falco hypoleucus, *Gould* . . . . . Vol. I. Pl. 7.

Up to the present time only four examples of this fine Falcon have

been procured; it is a species admirably adapted for the sport of Falconry, and is a beautiful representative of the *Falco Gyrfalco* of Europe. Its native habitat is the interior of the southern and western portions of Australia.

8. Falco melanogenys, *Gould* . . . . . Vol. I. Pl. 8.

Falco macropus, Swains. Anim. in Menag. p. 341.
—— *melanogenys*, Kaup, Isis, 1847, p. 75.

India, Europe, and North America on the one hand, and Cape Horn, the Cape of Good Hope and Australia on the other, are all inhabited by Falcons so nearly allied to each other as to favour the opinion that they are merely varieties of each other; but I agree with the Prince of Canino and Professor Kaup in considering them to be distinct and representatives of each other in the respective countries they inhabit. It will doubtless be found that the habits and economy of the whole are as similar as they are in outward appearance; and that the *Falco melanogenys* is as destructive to the ducks of the interior of Australia as the *Falco Anatum* is in North America.

9. Falco subniger, *Gray* . . . . . Vol. I. Pl. 9.

A powerful Falcon differing somewhat in structure from the *F. hypoleucus* and *F. melanogenys*. Nothing is known of its habits, and as yet I have only seen four examples, all of which were procured in the interior of South Australia.

10. Falco frontatus, *Gould* . . . . . Vol. I. Pl. 10.

Falco lunulatus, Lath. Ind. Orn. Suppl., p. xiii.?
Sparvius lunulatus, Vieill. Nouv. Dict d'Hist. Nat., tom. x. p. 324.
Falco longipennis, Swains. Anim. in Menag., p. 341.
—— *subbuteo*, Brehm, Isis, 1845, p. 347?
—— (*Hypotriorchis*) *frontatus*, Kaup, Isis, 1847, p. 65.

A little Falcon with the habits of the Hobby and Merlin combined; found in all parts of Australia to the southward of the 25th degree of S. lat.; among other birds it preys upon the Quails and the little Partridges belonging to the genus *Synoïcus*.

Genus Ieracidea, *Gould*.

Generic characters.

Bill and general form of *Falco*, but the *wings* less powerful, and the third quill-feather the longest; *tarsi* more elongated, slender, and covered anteriorly with hexagonal scales; *toes* more feeble, the hind-toe shorter, and the *claws* less robust.

So far as our present knowledge extends, the members of this genus are only three in number, all of which are confined to Australia and New Zealand.

11. Ieracidea Berigora . . . . . Vol. I. Pl. 11.

Ieracidea Berigora, Kaup, Class. der Säug. und Vög., p. 112.

Professor Kaup considers this species and the succeeding one,

I. occidentalis, to be identical, but having had numerous opportunities of observing them, I am satisfied that they are distinct; and in confirmation of this opinion I may state that the *I. Berigora*, which is from the eastern coast, is always the largest, has the cere blue-grey, and the plumage of the adult light brown, sparingly blotched with white on the breast; while the *I. occidentalis*, from the western coast, is a more delicately formed bird, has the cere yellow and the breast white, with faint lines of brown down the centre of each feather.

12. Ieracidea occidentalis, *Gould* . . . . . Vol. I. Pl. 12.

Genus TINNUNCULUS.

13. Tinnunculus Cenchroïdes . . . . . Vol. I. Pl. 13.

Cerchneis immaculatus, Brehm, Isis.

A beautiful representative of the Kestrils of Europe and India, where, as well as in Africa and in most parts of America, members of this group are to be found.

The range of the *Tinnunculus Cenchroïdes* extends over the whole of the southern parts of Australia, and that it extends far towards the northern portion of the country is proved by Mr. Gilbert having found it, as well as its nest, during the expedition of Dr. Leichardt from Moreton Bay to Port Essington.

The following is an extract from his Journal:—"October 2. Found, for the first time, the eggs of *Tinnunculus Cenchroïdes*, four in number, deposited in a hollow spout of a gum-tree overhanging a creek; there was no nest, the eggs being merely deposited on a bed of decayed wood." They are freckled all over with blotches and minute dots of rich reddish chestnut on a paler ground, and are one inch and five-eighths in length by one inch and a quarter in breadth.

Genus ASTUR.

14. Astur Novæ-Hollandiæ . . . . . Vol. I. Pl. 14.

15. Astur Novæ-Hollandiæ, albino . . . . . Vol. I. Pl. 15.

Astur Novæ-Hollandiæ, Cuv. Règ. An. 1817, p. 320.
Sparvius niveus, Vieill. Nouv. Dict. d'Hist. Nat., tom. x. p. 338.
Dædalion candidum, Less. Traité d'Orn., p. 66.
Falco leucaëtos, Forst. Descr. Anim. and Drawings, No. 35.
Astur (*Leucospiza*) *Novæ-Hollandiæ*, Kaup, Class. der Säug. und Vög. p. 119.

I think Professor Kaup is right in proposing a new generic title for this species, differing as it does both in structure and habits from the true *Asturs*; he also, like myself, considers the white birds to be merely albino varieties of the other; but my friends, the Rev. T. J. Ewing and Ronald C. Gunn, Esq. of Van Diemen's Land, are both most decidedly opposed to this view of the subject, and found their dissent upon the circumstance of there being none other than white individuals found in Van Diemen's Land.

So far as it is at present known, the southern and eastern portions

of Australia and the island of Van Diemen's Land constitute the habitat of the species.

16. Astur radiatus. . . . . Vol. I. Pl. 16.

Astur testaceus (*Ernest.*), Kaup, Isis, 1847, p. 367.

A curious form not quite agreeing with *Astur*; it is very rare, and nothing whatever is known of its habits.

17. Astur approximans, *Vig. & Horsf.* . . . . Vol. I. Pl. 17.

Astur radiatus, Cuv. Règ. An., 1829, p. 332.

Nisus (*Urospiza*) *radiatus*, Kaup, Mus. Senckenb., 1845, p. 259.

—— (————) *approximans*, Kaup, Isis, 1847, p. 182.

Accipitur approximans, List of Birds in Brit. Mus. Coll., Part I. 2nd edit. p. 74.

The *Astur approximans* has been with propriety removed to the genus *Accipiter* by Mr. G. R. Gray, and to this genus my *A. cruentus* is also referable; for although of a larger size than the other members of that form, their structure, except in the shorter middle toe, is very similar.

18. Astur cruentus, *Gould* . . . . . Vol. I. Pl. 18.

Astur cruentus, Gould in Proc. of Zool. Soc., Part X. p. 113.

This species and the preceding are representatives of each other in the eastern and western portions of the continent.

I have lately seen specimens from Port Essington.

Genus Accipiter.

19. Accipiter torquatus . . . . . Vol. I. Pl. 19.

Sparvius cirrhocephalus, Vieill. Nouv. Dict. d'Hist. Nat., tom. x. p. 328.

———— *tricolor*, Vieill., ibid. p. 329.

Falco melanops, Lath. Ind. Orn. Supp., p. 12?

Sparvius melanops, Vieill. Nouv. Dict. d'Hist. Nat., tom. x. p. 239?

Astur (*Micronisus*) *torquatus*, Kaup, Mus. Senckenb., 1845, p. 259.

Nisus (*Urospiza*) *torquatus*, Kaup, Isis, 1847, p. 181.

Accipiter cirrhocephalus, List of Birds in Brit. Mus. Coll., Part I. 2nd edit. p. 73.

Precisely similar in all its actions and in its economy to the Sparrow Hawk, *Accipiter nisus* of Europe.

Genus Buteo.

Several species of the genus *Buteo* are dispersed over the great continents of Europe, Asia, Africa and America, but only one has yet been discovered in Australia.

20. Buteo melanosternon, *Gould.* . . . . . Vol. I. Pl. 20.

This bird departs somewhat in form from the typical species of the genus *Buteo*; but so little is known respecting it that we are ignorant how far this departure may influence its habits and economy. One most singular story has been transmitted to me and is

here given as I received it; without vouching for its truth, I may remark that the testimony of the natives may generally be relied upon.

"The natives, Mr. Drummond, and his son Mr. Johnson Drummond tell me," says Mr. Gilbert, "that this bird is so bold, that upon discovering an Emu sitting on her eggs it will attack her with great ferocity until it succeeds driving her from the nest; when the eggs being the attraction, it takes up a stone with its feet, and while hovering over the nest lets the stone fall upon and crush them, and then descends and devours their contents. I have had numerous opportunities of observing the bird myself, and can bear testimony to its great powers of scent or vision; for upon several occasions, when the natives had placed a small kangaroo or kangaroo rat in the fork of a tree or on the top of a *Xanthorrhœa* with the intention of taking it again on our return, we have found that the bird had discovered, and during our short absence had devoured every part of it except the skin, which was left so perfect, that at first I could not believe that it had not been done by the hand of man."

Genus Milvus.

Asia is the great stronghold of the Kites or restricted genus *Milvus*; a few species occur in Europe, Africa, and the Indian Islands, and two are natives of Australia.

21. Milvus affinis, *Gould* . . . . . Vol. I. Pl. 21.

Milvus (*Hydroictinia*) *affinis*, Kaup, Isis, 1847, p. 118.

This representative of the *Milvus ater* of Europe is found all over Australia, even at Port Essington: and Captain Sturt observed it flying over the far interior of South Australia in great numbers.

22. Milvus isurus, *Gould* . . . . . Vol. I. Pl. 22.

This species, which is sparingly dispersed over the whole of the southern part of Australia, is an equally beautiful representative of the common Kite, *Milvus regalis* of Europe.

Genus Elanus.

Species of this beautiful and well-defined genus inhabit nearly every part of the world: two are natives of Australia.

23. Elanus axillaris . . . . . Vol. I. Pl. 23.

Elanus melanopterus, Vig. & Horsf. in Linn. Trans., vol. xv. p. 185.

The *Elanus axillaris* is a representative of the *Elanus melanopterus* of Europe.

24. Elanus scriptus, *Gould* . . . . . Vol. I. Pl. 24.

A fine new species rendered conspicuously different from all the other members of the genus by the black-lettered form of the markings under the wings.

Captain Sturt found this bird abundant at the depôt towards the interior of Australia.

Genus Baza.

Of this fine genus at least four species are known, one of which inhabits Africa, and the remainder the Indian islands and Australia.

25. Baza subcristata.

Lepidogenys subcristatus, *Gould* . . . . Vol. I. Pl. 25.

Baza subcristata, G. R. Gray, List of Birds in Brit. Mus. Coll., Part I. p. 19., 2nd edit. p. 41.

Pernis (*Hyptiopus*) *subcristatus*, Kaup, Isis, 1847, p. 343.

I have no additional information respecting this noble species; all the examples of which, that have come under my notice, have been obtained in the brushes of the east coast of Australia.

Genus Circus.

Two if not three species of Harriers inhabit Australia, consequently the number of species is nearly equal in Europe, Asia, Africa, America, and Australia; those inhabiting the latter country are precisely of the same form, and perform the same offices as their near allies do in the other parts of the world.

26. Circus assimilis, *Jard. and Selb.* . . . . . Vol. I. Pl. 26.

27. Circus Jardinii, *Gould* . . . . . Vol. I. Pl. 27.

Circus (*Spilocircus*) *Jardinii*, Kaup, Isis, 1847, p. 102.

Family STRIGIDÆ.

Genus Strix.

While as a general rule other great countries are only inhabited by a single species of the restricted genus *Strix*, the Fauna of Australia comprises no less than four, all of which appear to be necessary in order to prevent an inordinate increase of the smaller quadrupeds which there abound.

28. Strix castanops, *Gould* . . . . . Vol. I. Pl. 28.

29. Strix personata, *Vig.* . . . . . Vol. I. Pl. 29.

30. Strix tenebricosus, *Gould* . . . . . Vol. I. Pl. 30.

31. Strix delicatulus, *Gould* . . . . . Vol. I. Pl. 31.

Strix flammea? Vig. & Horsf. in Linn. Trans., vol. xv. p. 190.

Genus Athene.

A genus of diurnal Owls, of which five species are natives of Australia; the smaller kinds are represented in Europe and Asia by the *Athene noctua*, *A. Cuculoïdes* and *A. Brama*; the larger kinds have no representatives in the northern hemisphere.

32. Athene Boobook . . . . . Vol. I. Pl. 32.

33. Athene maculata . . . . . Vol. I. Pl. 33.

34. Athene marmorata, *Gould.*

Athene marmorata, Gould in Proc. of Zool. Soc., Part XIV. p. 18.

All the upper surface, wings and tail dark brown, obscurely spotted with white round the back of the neck, on the wing-coverts and scapularies; inner webs of the primaries at their base, and the inner webs of the lateral tail-feathers crossed by bands, which are buff next the shaft and white towards the extremity of the webs; face and chin whitish; under surface dark brown, blotched with white and sandy brown; legs and thighs fawn-colour; bill horn-colour; feet yellow.

Inhabits South Australia, is much larger than *A. maculata*, but so nearly allied to, and so much like that species, that I have not thought it necessary to give a separate figure of it.

35. Athene connivens . . . . . Vol. I. Pl. 34.

Buteo connivens, Vieill, Nouv. Dict. d'Hist. Nat., tom. iv. p. 481.

36. Athene strenua, *Gould* . . . . . Vol. I. Pl. 35.

37. Athene rufa, *Gould* . . . . . Vol. I. Pl. 36.

Order INSESSORES.

Family CAPRIMULGIDÆ.

Genus Ægotheles.

The known species of this genus are two in number, both of which, so far as has yet been ascertained, are confined to Australia. In many of their actions, and in their nidification, they are very owl-like, depositing, like those birds, their four or five round white eggs in the hollows of trees, without any nest.

38. Ægotheles Novæ-Hollandiæ . . . . . Vol. II. Pl. 1.

Inhabits the whole of the southern parts of Australia and Van Diemen's Land.

39. Ægotheles leucogaster, *Gould* . . . . . Vol. II. Pl. 2.

Inhabits the northern or intertropical parts of Australia, where it represents the *Æ. Novæ-Hollandiæ.*

Genus Podargus.

With no one group of the Australian birds have I had so much difficulty in discriminating the species as the genus *Podargus*. It is almost impossible to determine with certainty the older species described by Latham; could this have been done satisfactorily, even in a single instance, it would have greatly facilitated the investigation of the remainder. Messrs. Vigors and Horsfield regarded the

specimens in the Linnean Collection as referable to three species, and have described them under the names of *Stanleyanus*, *humeralis*, and *Cuvieri*; Latham's description of the species named by him *megacephalus* accords so well with the *P. Stanleyanus*, that I suspect both those terms have been applied to one and the same species, an opinion strengthened by Latham's remarks as to the great size of the head and mandibles of his bird, the total length of which he states to be thirty inches, which is evidently an error.

After examining a large number of specimens comprising individuals of all ages, I have come to the conclusion that the Australian members of this genus constitute six species; four of which, namely, *P. megacephalus*, *P. humeralis*, *P. Cuvieri* and *P. brachypterus*, are most closely allied to each other; and two, namely, *P. plumiferus* and *P. Phalænoïdes*, which present specific characters that cannot be mistaken. We have then in Australia a large group of nocturnal birds of this form, destined, as it would seem, to keep in check the great families of *Cicadæ* and *Phasmidæ*, upon which they mainly subsist; but they do not refuse other insects, and even berries have been found in their stomachs. They are an inanimate and sluggish group of birds, depending less upon their powers of flight than upon the power they possess of traversing the branches of the various trees upon which their favourite insects reside; at intervals during the night they sit about in open places, on rails, stumps of trees, on the roofs of houses and on the tombstones in the churchyards, omens of death, their hoarse disagreeable voice adding not a little to the terrors induced by their presence.

In their nidification the *Podargi* differ in a most remarkable manner from all the other *Caprimulgidæ*, inasmuch as while the eggs of the *Ægothelæ* are deposited in the holes of trees, and those of the members of the other genera of this family on the ground, these birds construct a flat nest of small sticks on the horizontal branches of trees for the reception of theirs, which are moreover of the purest white.

Although I have no satisfactory evidence that these birds resort to a kind of hybernation for short periods during some portions of the year, I must not omit to mention that I have been assured that they do occasionally retire to and remain secluded in the hollow parts of the trees; and if such should prove to be the case, it may account for the extreme obesity of many of the individuals I procured, which was often so great as to prevent me from preserving their skins. I trust that these remarks will cause the subject to be investigated by those who are favourably situated for so doing; for my own part I see no reason why a bird should not pass a portion of its existence in a state of hybernation as well as some species of quadrupeds, animals much higher in the scale of creation.

So great a similarity in plumage reigns throughout the first four of the species enumerated below that I have thought it unnecessary to figure more than two, viz. *P. humeralis* and *P. Cuvieri*; the other two may be readily distinguished by the descriptions I have given of them, particularly if the localities be attended to.

40. Podargus megacephalus.

Caprimulgus megacephalus, Lath. Ind. Orn. Supp., p. lviii.
Great-headed Goatsucker, Lath. Gen. Syn. Supp., vol. ii. p. 265; Shaw, Gen. Zool., vol. x. p. 141; Lath. Gen. Hist., vol. vii. p. 364.
Wedge-tailed Goatsucker, Lath. Gen. Hist., vol. vii. p. 368?
Podargus Stanleyanus, Lath. MSS., Vig. & Horsf. in Linn. Trans., vol. xv. p. 197?

In the general colouring, form and arrangement of its markings, this species so closely resembles the *P. humeralis*, that one description applies equally to both; but it may be distinguished by its being somewhat larger in the body and much larger in the head, and by the very great development of the mandibles.

It inhabits the brushes of the east coast, and in its habits and economy resembles the other species of the group.

41. Podargus humeralis, *Vig. & Horsf.* . . . . Vol. II. Pl. 3.

42. Podargus Cuvieri, *Vig. & Horsf.* . . . . . Vol. II. Pl. 4.

43. Podargus brachypterus, *Gould.*

Podargus brachypterus, Gould in Proc. of Zool. Soc., Part VIII. p. 163.

In its general appearance this bird closely resembles the *P. humeralis*, but is even smaller in size than *P. Cuvieri*, while at the same time the bill is larger than that of the former species, and projects much farther from the face than in any other of its congeners; it also differs in the shortness of its wings, which circumstance suggested the specific appellation I have assigned to it.

It is a native of western Australia.

44. Podargus Phalænoïdes, *Gould* . . . . . Vol. II. Pl. 5.

45. Podargus plumiferus, *Gould* . . . . . Vol. II. Pl. 6.

Genus Eurostopodus.

Generic characters.

Bill somewhat more produced and stouter than in *Caprimulgus*; *nostrils* lateral and linear; *rictus* entirely devoid of bristles, but furnished with short, weak, divided and branching hairs; *wings* longer and more powerful than in *Caprimulgus*; first and second quills equal and longest; *tail* moderately long and nearly square; *tarsi* stout, and clothed anteriorly for their whole length; *toes* short, thick and fleshy; outer ones equal, and united to the middle one by a membrane for more than half their length; nail of the middle toe strongly pectinated on the inner side.

This genus, so far as is yet known, comprises but two species, both of which are natives of and confined to Australia. They differ considerably in their habits from the true *Caprimulgi*. Their wing-powers being enormous, they pass through the air with great rapidity, and while hawking for insects during the twilight of the early dawn and evening, they make the most abrupt and sudden turns in

order to secure their prey. Like the typical *Caprimulgi*, they rest on the ground during the day. In every instance in which the site employed for incubation has been discovered, a single egg only has been found; it is deposited on the bare ground, and differs from those of the other *Caprimulgi* in being much more round in form, and of a dull olive-green spotted with jet black.

The members of this genus are very nearly allied to the *Lyncorni*, a group of birds inhabiting the Indian Islands.

46. Eurostopodus albogularis . . . . . Vol. II. Pl. 7.

47. Eurostopodus guttatus . . . . . Vol. II. Pl. 8.

Fichtel's Goatsucker, Lath. Gen. Hist., vol. vii. p. 345.

Genus Caprimulgus.

Europe, Asia and Africa are the great strongholds of the members of this genus as at present restricted. A single species only has yet been discovered in Australia, where it frequents the northern or intertropical parts of the country.

48. Caprimulgus macrurus, *Horsf.* . . . . . Vol. II. Pl. 9.

This bird is found in Java, and I believe in southern India.

Family HIRUNDINIDÆ.

Genus Acanthylis.

A group of birds possessing enormous powers of flight, and the members of which are distributed over the Indian Islands and Asia; the form is also found in Africa and in America, but in those countries the species are fewer in number: one species only has yet been discovered in Australia.

49. Acanthylis caudacuta . . . . . Vol. II. Pl. 10.

A migratory bird in most parts of Australia, but whence it comes or whither it goes has not yet been ascertained; of its nidification also nothing is known.

I have alluded to the great wing-powers of the birds of the genus *Acanthylis*, and in illustration I may mention that an individual of this species was killed in England during the past year: it would be interesting to know the route pursued by the bird in travelling from so great a distance as it must have done.

Genus Cypselus.

Of this genus, as of *Acanthylis*, there is but one species peculiar to Australia: other members of the group inhabit the continents of Europe, Asia and Africa, but not America.

50. Cypselus Australis, *Gould* . . . . . Vol. II. Pl. 11.

Hirundo pacifica, Lath.?

Genus Atticora.

The members of this genus are principally American.

I am not fully satisfied of the propriety of placing the bird I described in the 'Proceedings of the Zoological Society' as *Hirundo leucosternon* in the present genus: if on a further knowledge of the Australian birds it should prove that I have been correct in so doing, it would be somewhat singular that the genus should have representatives in Africa and Australia, but not in India.

51. Atticora leucosternon, *Gould* . . . . . Vol. II. Pl. 12.

Since I described and figured this species I have received numerous examples from Swan River, where Mr. Gilbert observed it on the 19th of August flying about the holes of the Boodee (*Bettongia Grayii*) in pairs; but it was not until the latter end of September that he succeeded in finding their nests placed at the extremities of holes bored in the side of a bank. All the holes that he saw were perfectly round, not more than two inches in diameter, running horizontally, and of the same dimensions, for three feet from the entrance, and then expanding to the extent of four inches and forming the receptacle of the nest, which is constructed of the broad portions of dried grasses and the dry dead leaves of the Acacia. Mr. Johnson Drummond informed him that he had frequently found seven, eight or nine eggs in a single nest, from which he inferred that more than one female lays in the same nest: the eggs are white, somewhat lengthened, and pointed in form. It would seem that the holes are not constructed exclusively for the purpose of nidification, for upon Mr. Gilbert's inserting a long grass stalk into one of them five birds made their way out, all of which he succeeded in catching; upon his digging to the extremity in the hope of procuring their eggs, no nest was found, and hence he concludes that their holes are also used as places of resort for the night.

Subfamily HIRUNDININÆ.

Genus HIRUNDO.

The members of the genus *Hirundo*, or true Swallows, inhabit Europe, Asia, Africa, North America, the Indian Islands and Australia, where the European and American chimney Swallows, *Hirundo rustica* and *H. rufa*, are beautifully represented by the *H. neoxena*.

52. Hirundo neoxena, *Gould* . . . . . Vol. II. Pl. 13.

Hirundo neoxena, Gould in Proc. of Zool. Soc., Part X. p. 113.

Genus CHELIDON.

I find that by some unaccountable mistake I have placed the Australian members of this genus in that of *Collocalia*,—an error which I take this opportunity of correcting.

The two species inhabiting Australia are both represented by others in Europe, Asia, Africa and America. They differ somewhat from each other in habits, one always resorting to the holes of trees

for the purpose of nidification, and the other building a clay nest similar to those constructed by the martins of Europe and America.

53. Chelidon arborea.
Collocalia arborea, *Gould* . . . . . Vol. II. Pl. 14.

54. Chelidon Ariel.
Collocalia Ariel, *Gould* . . . . . Vol. II. Pl. 15.

Family MEROPIDÆ.

Genus MEROPS.

India and Africa may be said to be the great nursery of this lovely group of birds; one species of which, common in the southern parts of Europe, is beautifully represented in Australia by the *Merops ornatus*, the only species inhabiting that country.

55. Merops ornatus, *Lath.* . . . . . Vol. II. Pl. 16.

Family ——?

Genus EURYSTOMUS.

One species of this genus is found in Australia, and others inhabit India and Africa. They are closely allied to the Rollers, and not very distantly related to the Halcyons.

56. Eurystomus Australis, *Swains.* . . . . . Vol. II. Pl. 17.

Family HALCYONIDÆ.

Genus DACELO.

The members of the genus *Dacelo* comprise the largest species of the great family of the *Halcyonidæ*, and form a conspicuous portion of the ornithology of Australia; but remarkably enough are confined to the south-eastern and northern portions of the country, the south-western parts being uninhabited by any species of this group. I believe that water is not essential to their existence, and that they seldom or never drink. They feed almost exclusively upon animal substances, small quadrupeds, birds, snakes, lizards, and insects of every kind being equally acceptable.

Three species inhabit Australia.

57. Dacelo gigantea . . . . . Vol. II. Pl. 18.
Inhabits the south-eastern portion of Australia, from South Australia to Moreton Bay.

58. Dacelo Leachii, *Vig. and Horsf.* . . . . Vol. II. Pl. 19.
Inhabits the north-eastern portion of Australia, and is common at Port Essington.

59. Dacelo cervina, *Gould* . . . . . Vol. II. Pl. 20.
Inhabits the north-western parts of Australia, particularly the Cobourg Peninsula.

In his 'Journal of an Overland Expedition from Moreton Bay to Port Essington,' Dr. Leichardt states that when near the Gulf of

Carpentaria, "The laughing jackass (Dacelo cervina, *Gould*) of this part of the country is of a different species from that of the eastern coast, is of a smaller size and speaks a different language; but the noise is by no means so ridiculous as that of *Dacelo gigantea*; he is heard before sunrise, and immediately after sunset, like his representative of the eastern coast; the latter was observed as far as the upper Lynd, where the new one made his appearance."—P. 326.

Genus Halcyon.

The members of this genus, as now restricted, are found in all the islands of the Indian Archipelago, Australia, and New Zealand. The Australian species, which are two in number, have many habits in common with the *Dacelos*, and dwell among other places on the open plains, far away from water, and consequently must live for considerable periods without a supply of that element.

60. Halcyon sanctus, *Vig. and Horsf.* . . . . Vol. II. Pl. 21.

Universally dispersed over Australia.

61. Halcyon pyrrhopygia, *Gould* . . . . . Vol. II. Pl. 22.

Mr. Gilbert procured examples of this new species during Dr. Leichardt's overland expedition above-mentioned; Captain Sturt found it at the depôt in South Australia, and I have received specimens from the interior of Swan River; consequently it has a very wide range, but is more an inhabitant of the interior of the country than of the districts near the coast.

62. Halcyon sordidus, *Gould* . . . . . Vol. II. Pl. 23.

From the north coast.

63. Halcyon MacLeayii, *Jard. and Selb.* . . . Vol. II. Pl. 24.

Independently of the Cobourg Peninsula, which I have given as the true habitat of this bird, I have received specimens from Moreton Bay and other parts of the east coast; it doubtless therefore ranges over the whole of the northern and eastern parts of the country.

Genus Alcyone.

The members of this genus are so intimately allied to each other that I have only deemed it necessary to figure two species, viz. *Alcyone azurea* and *A. pusilla*; the two species not figured are both nearly allied to *A. azurea*, and may be considered its northern and southern prototypes, since the one to which I have given the name of *pulchra* inhabits the north coast, and the other, which I have called *Diemenensis*, inhabits Van Diemen's Land. The *A. azurea* inhabits the intermediate or rather the south-eastern portions of the country, but no species of the genus has yet been found in Western Australia. They all frequent the margins of rivers, and live on small fish and insects, and have many habits in common with the members of the genus *Alcedo*, of which the Kingfisher of Europe, *A. Ispida*, is the type. Although some species are found in New Guinea and the Indian Islands, Australia is the country in which birds of this form are most abundant.

64. Alcyone azurea . . . . . Vol. II. Pl. 25.

65. Alcyone Diemenensis, *Gould.*

Alcyone Diemenensis, Gould in Proc. of Zool. Soc., Part XIV. p. 19.

All the upper surface deep blue, becoming more vivid on the rump and upper tail-coverts; wings black washed with blue; throat buff; under surface of the body and wings ferruginous orange; on each side of the chest a patch of bluish black; lores and a small patch behind the ears buff; crown of the head indistinctly barred with black; irides and bill black; feet orange.

Inhabits Van Diemen's Land.

66. Alcyone pulchra, *Gould.*

Alcyone pulchra, Gould in Proc. of Zool. Soc., Part XIV. p. 19.

All the upper surface shining purplish blue; wings brownish black; lores, tuft behind the ear, and throat buff; under surface deep ferruginous orange; sides of the chest fine purplish blue, passing into a rich vinous tint on the flanks; irides and bill black; feet orange.

Inhabits the north coast of Australia.

67. Alcyone pusilla . . . . . Vol. II. Pl. 26.

Family ——?

Genus Artamus.

The members of this singular genus are distributed over New Guinea, Ceram, the Indian Islands and the continent of India, but are more numerous in Australia than elsewhere, its fauna comprising no less than seven well-defined species.

68. Artamus sordidus . . . . . Vol. II. Pl. 27.

69. Artamus minor, *Vieill.* . . . . . Vol. II. Pl. 28.

Mr. Gilbert found this species breeding in the interior of the country during Dr. Leichardt's overland journey to Port Essington.

70. Artamus cinereus, *Vieill.* . . . . . Vol. II. Pl. 29.

71. Artamus albiventris, *Gould* . . . . . Vol. II. Pl. 30.

72. Artamus personatus, *Gould* . . . . . Vol. II. Pl. 31.

73. Artamus superciliosus, *Gould* . . . . . Vol. II. Pl. 32.

74. Artamus leucopygialis, *Gould* . . . . . Vol. II. Pl. 33.

Family ———?

Genus Dicæum.

The continent of India, the Indian Islands and New Guinea are the countries in which the members of this genus abound; as yet only a single species has been found in Australia.

75. Dicæum hirundinaceum . . . . . Vol. I. Pl. 34.

Family PIPRIDÆ.

Genus PARDALOTUS.

This form is peculiar to Australia, in every portion of which great country, including Van Diemen's Land, one or other of the species I have figured are to be found; some of them associated in the same district, and even inhabiting the same trees, while in other parts only a single species exists; for instance, the *P. punctatus*, *P. quadragintus* and *P. affinis* inhabit Van Diemen's Land; on the whole of the southern coast of the continent from east to west *P. punctatus* and *P. striatus* are associated; the north coast is the cradle of the species I have called *uropygialis*, and the east coast that of *melanocephalus*, from both of which countries the others are excluded; the true habitat of the beautiful species I have figured and described as *P. rubricatus* is not yet known.

The seven species of this little group are each individually very numerous, which, together with their general distribution, may enable them to effect some important operation in the economy of nature; their chief food consisting of the larvæ of insects.

76. Pardalotus punctatus . . . . . Vol. II. Pl. 35.
77. Pardalotus rubricatus, *Gould* . . . . . Vol. II. Pl. 36.
78. Pardalotus quadragintus, *Gould* . . . . . Vol. II. Pl. 37.
79. Pardalotus striatus . . . . . Vol. II. Pl. 38.
80. Pardalotus affinis, *Gould* . . . . . Vol. II. Pl. 39.
81. Pardalotus melanocephalus, *Gould* . . . . Vol. II. Pl. 40.
82. Pardalotus uropygialis, *Gould* . . . . . Vol. II. Pl. 41.

Family LANIADÆ.

Genus STREPERA.

Prior to the commencement of the present work only two species of this form (*S. graculina* and *S. Anaphonensis*) had been described, and these had been referred to a different genus by almost every author who had occasion to mention them; the older writers assigning them to *Corvus*, *Coracias* and *Gracula*, and the more modern ones to *Cracticus* and *Barita*: finding that its structure did not agree with the character of either of those genera, I (in 1837) proposed to make the first-mentioned species type of a new genus (*Coronica*), not being aware at the time that this had been done some years before by M. Lesson, whose name, from its priority, is necessarily the one adopted.

My researches in Australia have enabled me to add four other species to the group, three possessing well-defined specific characters, and one, the distinctive markings of which are not so apparent, but which, in my opinion, is equally distinct; the specific characters of some groups of birds are, in fact, so difficult to be determined, both from the similarity of the species and the want of a knowledge of

their natural habits, as to cause the naturalist no little trouble and research in properly distinguishing them; and to no group does this remark more strongly apply than to the one under consideration; the ample materials, however, at my command, and the possession of a large number of specimens, the sexes of which have all been ascertained by dissection, and the habits of which have been observed in their native localities, enables me to give as perfect an account of this curious group as any I have yet attempted.

On a careful examination of the members of this genus, it will be perceived that their relationship to the *Corvidæ*, to which they have been usually assigned, is very remote, their size and colour being, in fact, the only features of resemblance; their whole structure and economy is indeed very different from those of every other bird known, except those of *Gymnorhina* and *Cracticus*, with which genera they form a very natural group most nearly allied to the great family of *Laniadæ* or Shrikes.

All the species yet discovered are not only peculiar to Australia, but are strictly confined to the southern portion of that continent; their range being limited to the country comprised within the 25th and 40th degrees of south latitude; future research may, however, add both to the number of species and to the extent of their range; still their great stronghold is undoubtedly the most southern portion of the Australian continent, the islands of Bass's Straits and Van Diemen's Land.

Most of these birds seek their food on or near the ground, sometimes in swampy situations, and even on the sea-shore, at others on the most sterile plains far distant from water; grasshoppers and insects of every order are eaten by them with avidity, and to these grain, seeds and fruits are frequently added; they hop with remarkable agility over the broken surface of the ground, and leap from branch to branch with great alacrity: their flight is feeble and protracted, and they seldom mount high in the air, except for the purpose of crossing a gully, or for passing from one part of the forest to another, and then merely over the tops of the trees; during flight they usually utter a peculiar shrill cry, which is frequently repeated and answered by other birds of the same troop, for they mostly flit about in small companies of from four to six in number, apparently the parents and their offspring of the year. All the species occasionally descend to the cultivated grounds, orchards and gardens of the settlers, and commit considerable havoc among their fruits and grain; in many parts of Australia, particularly in Van Diemen's Land, they form an article of food, and are considered good and even delicate eating. They usually build open cup-shaped nests as large as that of the Crow, composed of sticks and other coarse materials, lined with grasses or any other suitable substance that may be at hand; the eggs are generally three, but are sometimes four, in number. The sexes are similar in plumage, and the young assume the livery of the adult from the time they leave the nest.

83. Strepera graculina . . . . . Vol. II. Pl. 42.

84. Strepera fuliginosa, *Gould* . . . . . Vol. II. Pl. 43.

85. Strepera Arguta, *Gould* . . . . . Vol. II. Pl. 44.

86. Strepera Anaphonensis . . . . . Vol. II. Pl. 45.
Corvus versicolor, Lath.?

87. Strepera melanoptera, *Gould*.
Strepera melanoptera, Gould in Proc. of Zool. Soc., Part XIV. p. 20.

All the upper surface, wings, and tail black; under surface brownish black, tinged with grey on the abdomen; under tail-coverts and tips of all but the two centre tail-feathers white; irides yellow; bill and feet black.

Total length, 19 inches; *bill*, 2; *wings*, 11; *tail*, 9; *tarsi*, $2\frac{5}{8}$.

This species inhabits South Australia, and is distinguished from all its congeners by the total absence of any white mark on the wings; in other respects it is so similar to *S. Arguta*, that I have not considered it necessary to give a figure of it.

Genus Gymnorhina.

Like *Strepera* this is strictly an Australian form, all the species of which frequent exclusively the southern parts of the country. Their structure is a mere modification of that of the members of the last genus adapted to a somewhat different mode of life and habits. They are more pastoral than the *Streperæ*, frequenting as they do the open plains and grassy downs, over which they run or rather hop with great facility. Their chief food consists of grasshoppers and other insects, to which berries and fruits are added, when such kinds of food are procurable. If unmolested in their natural haunts they may be considered a more familiar race than the *Streperæ*, but if persecuted they become extremely shy and distrustful. Few birds are more ornamental, or give a more animated appearance to the country than the members of this genus, either when running over the surface of the lawn-like ground, or when pouring forth their singular choral-like notes while perched together on the bare branches of a fallen *Eucalyptus*. The form and situation of the nest is the same as those of the *Streperæ*, larger, but not unlike that of the European Crow.

Specimens of this form from Western Australia exhibit some trifling differences, but I have not as yet been able to satisfy myself whether they are or are not distinct.

88. Gymnorhina Tibicen . . . . . Vol. II. Pl. 46.

89. Gymnorhina leuconota, *Gould* . . . . . Vol. II. Pl. 47.

90. Gymnorhina organicum, *Gould* . . . . . Vol. II. Pl. 48.

Genus Cracticus.

The members of this genus, which are universally dispersed over Australia, prey upon small quadrupeds, birds, lizards and insects, which they frequently impale after the manner of the ordinary

Shrikes. Their nidification resembles that of the species belonging to the genera *Strepera* and *Gymnorhina*, the nest being a large round structure placed among the branches of the trees, and the eggs four in number. So great a similarity exists between the species inhabiting New South Wales, Van Diemen's Land, and Swan River, that I have thought it unnecessary to figure the whole, but the annexed descriptions, with a due attention to the localities, will obviate all difficulty in determining the species.

91. Cracticus nigrogularis, *Gould* . . . . . Vol. II. Pl. 49.
Lanius robustus, Lath?

92. Cracticus picatus, *Gould* . . . . . Vol. II. Pl. 50.

93. Cracticus argenteus, *Gould* . . . . . Vol. II. Pl. 51.

94. Cracticus destructor, *Gould* . . . . . Vol. II. Pl. 52.
Lanius curvirostris, Lath.
Lanius torquatus, Lath.

95. Cracticus cinereus, *Gould*.
Vanga cinerea, Gould in Proc. of Zool. Soc., Part IV. p. 143.

Inhabits Van Diemen's Land, and may be distinguished from *C. destructor* by its much longer bill, and, when fully adult, by its grey back.

96. Cracticus leucopterus, *Gould*.

Inhabits Western Australia; is of the same size as *C. destructor*, but has the white mark on the wings much larger and more clearly defined.

97. Cracticus Quoyii . . . . . Vol. II. Pl. 53.

Genus Grallina.

Only one species of this genus is at present known. It is peculiar to Australia, over every portion of which country it is dispersed; and it may be considered one of the anomalies of the Australian ornithology, since its alliance to any group of birds with which we are acquainted is very remote.

98. Grallina Australis . . . . . Vol. II. Pl. 54.

Genus Graucalus.

The woods of every part of the Old World from India to Australia are tenanted by species of this genus, which, from their great size, their being strictly insectivorous, and individually very numerous, must tend to keep insect life in check, and consequently perform a most important part in the economy of nature.

In my description of *Graucalus melanops*, I have stated that New South Wales, Van Diemen's Land, Swan River and Port Essington, are each inhabited by *Graucali* so nearly allied to each other that it was questionable whether they were not one and the same species, and that the slight differences they present were attributable to some peculiarity in the districts they inhabit; after much attention to the

subject, I have been induced to regard the Van Diemen's Land bird as distinct, and I have therefore assigned it a name, *parvirostris*; those of the other countries appear to be local varieties or races peculiar to their respective habitats.

All the members of the group build a flat slight nest of fine short dead twigs, curiously joined together with cobwebs, on which they lay two eggs.

99. Graucalus melanops . . . . . Vol. II. Pl. 55.
Graucalus melanotis, Gould in Proc. of Zool. Soc., Part V. p. 143, and in Syn. Birds of Australia, Part IV. Young.

100. Graucalus parvirostris, *Gould.*
Graucalus parvirostris, Gould in Proc. of Zool. Soc., Part V. p. 143, and Syn. Birds of Australia, Part IV.

Forehead, sides of the face and the throat jet black; crown of the head, all the upper surface and centre of the wings delicate grey; primaries and the inner webs of the secondaries deep brownish black, the former narrowly and the latter broadly margined with greyish white; tail grey at the base, passing into deep brownish black and largely tipped with white, the grey colouring predominating on the two centre feathers, which are destitute of the white tips; chest grey, into which the black of the throat gradually passes; lower part of the abdomen, under surface of the wing and under tail-coverts white; flanks and thighs grey; bill and feet brownish black.

Total length, 12 inches; *bill*, 1⅛; *wing*, 7½; *tail*, 6; *tarsi*, 1.

Inhabits Van Diemen's Land.

101. Graucalus mentalis, *Vig. & Horsf.* . . . . Vol. II. Pl. 56.

102. Graucalus hypoleucus, *Gould* . . . . . Vol. II. Pl. 57.

103. Graucalus Swainsonii, *Gould* . . . . . Vol. II. Pl. 58.

Genus Pteropodocys.

Generic characters.

Bill small, shorter than the head, nearly cylindrical; *tomia* curved and pointing downwards; a well-defined notch at the extremity of the upper mandible; *nostrils* basal, round, and covered with the short feathers of the forehead; *wings* long and pointed, the fourth feather the longest; *tail* lengthened, the four middle and the lateral feather on each side shorter than the rest; *tarsi* long, stout; toes rather short, the inner toe longer than the outer one, hind-toe large and lengthened, the toe and nail nearly equalling in length the middle toe and nail.

The general structure of the only known species of this form resembles that of *Graucalus* and of *Campephaga*, but the bill is so small as to be quite out of proportion with the body; its lengthened wings and tarsi adapt it both for flight and for moving rapidly over the surface of the ground.

104. Pteropodocys Phasianellus . . . . . Vol. II. Pl. 59.

Inhabits the whole of the interior of Southern Australia from east to west; the extent of its range northward has not been ascertained.

It has many habits in common with the *Graucali*; but while they are destined for the trees the present bird is adapted for the ground, where it procures and feeds upon insects of various genera, particularly locusts and grasshoppers. It frequents the open plains in small companies of from three to six or eight in number, and is very animated in its actions, but at the same time most cautious and shy.

Genus Campephaga.

The members of this genus are spread over India and the Indian Islands, and the fauna of Australia comprises four species;

They are allied to the *Graucali*; but are much smaller in size, and more active among the branches.

The sexes are generally very dissimilar in colour and markings, while in *Graucalus* they are alike. The nidification and the form of the nests of the two genera are very similar.

105. Campephaga Jardinii, *Gould* . . . . . Vol. II. Pl. 60.
106. Campephaga Karu . . . . . Vol. II. Pl. 61.
107. Campephaga leucomela, *Vig. & Horsf.* . . Vol. II. Pl. 62.
108. Campephaga humeralis, *Gould* . . . . . Vol. II. Pl. 63.

Genus Pachycephala.

The *Pachycephala gutturalis* may be regarded as the type of this group of birds, which is peculiarly Australian, and comprises many species, universally distributed over the country. Their habits differ from those of most other insectivorous birds, particularly in their quiet mode of hopping about and traversing the branches of the trees in search of insects and their larvæ: caterpillars constitute a great portion of their food; but coleoptera and other insects are not rejected. The more gaily-attired species, such as *P. gutturalis*, *P. glaucura*, *P. melanura* and *P. pectoralis*, resort to the flowering *Acaciæ*, *Eucalypti* and other stately trees, while the more dull-coloured ones frequent the ground: they all build a neat, round, cup-shaped nest, and the eggs are generally four in number. Their powers of flight are not great: some of the species enjoy a wide range of habitat, while others are extremely local. The song of some is loud and rather pleasing, while others merely emit a whistling note, slowly but frequently repeated.

109. Pachycephala gutturalis . . . . . Vol. II. Pl. 64.
110. Pachycephala glaucura, *Gould* . . . . . Vol. II. Pl. 65.
111. Pachycephala melanura, *Gould* . . . . . Vol. II. Pl. 66.
112. Pachycephala pectoralis . . . . . Vol. II. Pl. 67.
Sylvia rufiventris, Lath. Ind. Om. Supp., p. liv.
Rufous-vented Warbler, Lath. Gen. Syn. Supp., vol. ii. p. 248.—Shaw, Gen. Zool., vol. x. p. 696.
Turdus prasinus, Lath.?
113. Pachycephala falcata, *Gould* . . . . . Vol. II. Pl. 68.
114. Pachycephala Lanoïdes, *Gould* . . . . . Vol. II. Pl. 69.

115. Pachycephala rufogularis, *Gould* . . . . Vol. II. Pl. 70.

116. Pachycephala Gilbertii, *Gould* . . . . . Vol. II. Pl. 71.
Pachycephala inornata, Gould in Proc. of Zool. Soc., Part VIII. p. 164. Young?

117. Pachycephala simplex, *Gould* . . . . . Vol. II. Pl. 72.

118. Pachycephala olivacea, *Vig. & Horsf.* . . . Vol. II. Pl. 73.

The two birds described by me in the Proceedings of the Zoological Society, Part V. p. 164, as *P. xanthoprocta* and *P. longirostris* are both immature birds, and are, I believe, from Norfolk Island.

Genus Colluricincla.

Like the last group, the present is strictly confined to Australia, every one of the colonies of which country, from north to south and from east to west, is inhabited by a species peculiarly and restrictedly its own. They have many characters in common with the *Pachycephalæ*, which they also resemble in their actions, food, economy and nidification. They are neither Shrikes nor Thrushes, but are most nearly allied to the former; they are insect-feeders to a very great extent, but occasionally partake of mollusks and berries. Some of them defend themselves vigorously with both bill and claws when attacked. Their voice is a loud whistle, some parts of which are not devoid of melody, particularly the loud swelling notes.

The nest is rather slightly built, round and cup-shaped in form, and is mostly placed in the hollow spout of a tree: the eggs are four in number.

119. Colluricincla harmonica . . . . . Vol. II. Pl. 74.
Certhia canescens, Lath.?
Inhabits New South Wales.

120. Colluricincla rufiventris, *Gould* . . . . . Vol. II. Pl. 75.
Inhabits Western Australia.

121. Colluricincla brunnea, *Gould* . . . . . Vol. II. Pl. 76.
Inhabits Port Essington.

122. Colluricincla Selbii, *Jard* . . . . . Vol. II. Pl. 77.
Inhabits Van Diemen's Land.

123. Colluricincla parvula, *Gould* . . . . . Vol. II. Pl. 78.
Inhabits the northern parts of the country.

124. Colluricincla rufogaster, *Gould*.
Colluricincla rufogaster, Gould in Proc. of Zool. Soc., Part XIII. p. 80.

I have assigned this name to a bird lately sent to me by Mr. Strange from the brushes of the Clarence in New South Wales; it may hereafter prove to be identical with the last-mentioned species, *C. parvula*, the form and admeasurements being precisely the same; but the bird from New South Wales has a lighter coloured bill, and the whole of the under surface washed with deep rufous.

The locality of the bird described by me in the Proceedings of the Zoological Society, Part IV. p. 6, as *Colluricincla fusca*, being still unknown, that species has not been included.

Genus Falcunculus.

The two species of this genus are not only strictly Australian, but are confined to the southern parts of the country; the *F. frontatus* inhabiting New South Wales and South Australia, and the *F. leucogaster* Western Australia. When attacked by their natural enemies or by man, both species defend themselves with their powerful bill and claws with the utmost fury; they also by the same means readily tear off pieces of rotten wood and the thin scaly bark of the *Eucalypti* in search of insects. The branches of trees are their usual place of resort, and in many of their actions and habits they closely resemble the Tits of Europe and India (genus *Parus*), while they also assimilate to the *Pachycephalæ*. They build a round, cup-shaped nest.

125. Falcunculus frontatus . . . . . Vol. II. Pl. 79.

126. Falcunculus leucogaster, *Gould*. . . . . Vol. II. Pl. 80.

Mr. Gilbert states that while staying in the Toodyay district of Western Australia in the month of October, he found the nest of this species among the topmost and weakest perpendicular branches of a Eucalyptus, at a height of at least fifty feet: it was of a deep cup-shaped form, composed of the stringy bark of the gum-tree, and lined with fine grasses, the whole matted together externally with cobwebs; the eggs, which are three or four in number, are of a glossy white with numerous minute speckles of dark olive most thickly disposed at the larger end; they are seven-eighths of an inch long by five-eighths of an inch in breadth. He adds, that under ordinary circumstances it is a somewhat shy bird, but when breeding becomes bold and familiar; as an evidence of which he adduces the fact that a flock of sheep were driven every night beneath the tree upon which the nest was being constructed without giving the least alarm to the birds.

Genus Oreoïca.

Generic characters.

Bill shorter than the head, stout, compressed laterally, and notched at the tip; *culmen* bent gradually downwards from the base; lower mandible nearly as stout as the upper; *nostrils* basal, round, and nearly covered with very fine short hair-like feathers directed forwards, among which are intermingled a few long fine hairs; *wings* rather long, the first quill short, the third the longest; tertiaries very long, and nearly equalling the primaries; *tail* short and very slightly rounded; *tarsi* moderately long and stout, entire posteriorly, and defended anteriorly with hard scuta; feet adapted for the ground; toes very short, particularly the hind one, inner toe rather shorter than the outer; *claws* short, and nearly straight.

The only species known of this form is strictly Australian, and is

a sprightly animated bird frequenting the sterile districts studded with large trees, scrubs, and open glades, where it hops about on the ground in search of insects. Notwithstanding the singularly lengthened form of its scapularies and its terrestrial habits, it appears to me to belong to the same type of form as the *Pachycephalæ*; its loud piping note and mode of nidification also favours this opinion. It lays three or four eggs in a round, cup-shaped nest, placed either in a grass tree (*Xanthorrhœa*) or in a hole or stump.

127. Oreoïca gutturalis . . . . . Vol. II. Pl. 81.

Genus Dicrurus.

A genus of which many species inhabit India and Africa, but of which only one has yet been found in Australia.

128. Dicrurus bracteatus, *Gould* . . . . . Vol. II. Pl. 82.

Family MUSCICAPIDÆ.

Genus Rhipidura.

Many species of this genus occur in India, the Indian Islands, New Guinea, and Polynesia; and five or six are comprised in the fauna of Australia, over every part of which country, including Van Diemen's Land, one or other member of the group is found to exist.

129. Rhipidura albiscapa, *Gould* . . . . . Vol. II. Pl. 83.

130. Rhipidura rufifrons . . . . . Vol. II. Pl. 84.

131. Rhipidura Dryas, *Gould.*

Inhabits the north coast. I have not figured this species because it only differs from *R. rufifrons* in being of a smaller size, and in the red colouring at the base of the tail-feathers being more extensive.

132. Rhipidura isura, *Gould* . . . . . Vol. II. Pl. 85.

133. Rhipidura Motacilloïdes, *Vig. & Horsf.* . . Vol. II. Pl. 86.

134. Rhipidura picata, *Gould.*

Not figured, being similar in colour but much smaller than *R. Motacilloïdes*; it inhabits Port Essington.

Genus Seisura.

The present genus and *Rhipidura* are mere modifications of each other; a difference of structure, however, exists of sufficient importance to justify their separation, and, as is always the case, a corresponding difference is found in the habits of the species.

The present form is restricted to Australia.

135. Seisura inquieta . . . . . Vol. II. Pl. 87.

Turdus muscicola, Lath.

——— *dubius*, Lath.

Genus Piezorhynchus.

Generic characters.

Bill longer than the head; deeper than broad, almost cylindrical; compressed on the sides, notched at the tip; *nostrils* basal, small and round; *wings* short; first primary moderate, the fourth the longest; *tail* rather short and round; *tarsi* moderately long and somewhat feeble, the inner and middle toes connected as far as the first joint, the outer one the longest.

The only species of this genus yet discovered is a native of the northern parts of Australia, from Cape York to Port Essington, where it frequents the dense beds of Mangroves.

136. Piezorhynchus nitidus, *Gould* . . . . . Vol. II. Pl. 88.

Genus Myïagra.

A group of insectivorous birds, the greater number of which inhabit the Indian Islands and Polynesia, and of which four species are found in Australia.

137. Myiagra plumbea, *Vig. & Horsf.* . . . . Vol. II. Pl. 89.

138. Myiagra concinna, *Gould* . . . . . Vol. II. Pl. 90.

139. Myiagra nitida, *Gould*. . . . . Vol. II. Pl. 91.

140. Myiagra latirostris, *Gould* . . . . . Vol. II. Pl. 92.

Genus Micrœca.

Generic characters.

Bill shorter than the head, depressed, broad at the base; *gonys* straight; curving downwards and slightly notched at the tip; *nostrils* round, placed at the base of the bill, which is beset with strong bristles; *wings* lengthened and powerful, first primary short, the third the longest; *tail* rather short and nearly square; *tarsi* moderate and feeble; *toes* feeble, the external toe much longer than the internal one.

Three species of this genus inhabit Australia, to which country they are confined.

141. Micrœca macroptera . . . . . Vol. II. Pl. 93.
Sylvia leucophœa, Lath.

142. Micrœca assimilis, *Gould*.

Micrœca assimilis, Gould in Proc. of Zool. Soc., Part VIII. p. 172.

All the upper surface brown; primaries dark brown; tail brownish black; the tips and the terminal half of the external margins of the two outer feathers white; the three next on each side also tipped with white, the extent of the white becoming less upon each feather as they approach the centre of the tail; the four middle feathers without the white tip; throat, centre of the abdomen and under tail-coverts white, passing into pale brown on the sides of the chest and flanks; irides reddish brown; bill and feet blackish brown.

Total length, $4\frac{5}{8}$ inches; *bill*, $\frac{9}{16}$; *wings*, $3\frac{3}{8}$; *tail*, $2\frac{1}{8}$; *tarsi*, $\frac{9}{16}$.

Inhabits Western Australia; and is so nearly allied to the *Micrœca*

macroptera, from which it only differs in being much less in size and in having the base of the outer tail-feather brown, that I have not considered it necessary to figure it.

143. Micrœca flavigaster . . . . . Vol. II. Pl. 94.

Genus Monarcha.

Several species of this genus occur in the Indian Islands and two in Australia. They are insectivorous birds, and procure their food by quietly hopping about among the branches of the trees.

144. Monarcha carinata . . . . . Vol. II. Pl. 95.

145. Monarcha trivirgata . . . . . Vol. II. Pl. 96.

Genus Gerygone.

Generic characters.

Bill shorter than the head, swollen, notched at the tip; commissure straight; *nostrils* basal, lateral, oval; *rictus* beset with two or three extremely fine and weak bristles; *wings* moderately long, first quill almost spurious, second long, third, fourth and fifth equal and longest; *tail* rather short and square; *tarsi* entire, slender, moderately long; *toes* extremely short and small, the lateral toes even, and united to the middle one nearly to the first joint; *claws* much curved.

The term *Psilopus* was originally proposed by me for this genus, but that name having been previously employed, *Gerygone* was substituted for it.

A group inhabiting every part of Australia, and probably New Guinea and Polynesia. Their chief food consists of insects of the most diminutive size, such as aphides, gnats and mosquitos. The more thickly-billed species may probably feed upon larger insects, and their larvæ. They mostly frequent the thick umbrageous woods, where they dart about for insects under the canopy of the dense foliage, or sally forth into the open glade like true Flycatchers. Their nests are of a domed form, with the entrance near the top, some species protecting the opening by constructing a projection above it like the eaves of a house; the eggs are generally four in number, and spotted with red like those of the *Maluri* and *Pari*.

146. Gerygone albogularis, *Gould* . . . . . Vol. II. Pl. 97.

Psilopus olivaceus, Gould in Proc. of Zool. Soc., Part V. p. 147, Young.

147. Gerygone fusca, *Gould* . . . . . Vol. II. Pl. 98.

148. Gerygone culicivorus, *Gould* . . . . . Vol. II. Pl. 99.

149. Gerygone magnirostris, *Gould* . . . . Vol. II. Pl. 100.

150. Gerygone lævigaster, *Gould* . . . . . Vol. II. Pl. 101.

151. Gerygone chloronotus, *Gould* . . . . . Vol. II. Pl. 102.

Genus Smicrornis.

Generic characters.

Bill very small and short, swollen at the sides; *nostrils* basal, oblong, and protected by an operculum; at the base of the bill a few fine hairs; *wings* moderately long, first quill very short; the first, third, fourth and fifth equal and the longest; *tail* short and square; tarsi moderate; *toes* rather short, adapted for clinging; the hinder and the middle toes equal in length.

The members of this genus are the smallest birds of the Australian fauna. I have described two species, one inhabiting New South Wales and the other Port Essington; and had I characterized the bird of this form inhabiting Western Australia as distinct, I should probably not have been in error, as it is more than probable that when the subject has been more fully investigated it will prove to be so.

152. Smicrornis brevirostris, *Gould* . . . . Vol. II. Pl. 103.

153. Smicrornis flavescens, *Gould* . . . . . Vol. II. Pl. 104.

Family SYLVIADÆ.

Subfamily SAXICOLINÆ.

Genus Erythrodryas.

Generic characters.

As in *Petroïca*, but with the *bill* shorter and more flattened at the base, where it is beset with a number of fine hairs which curve forward and overhang the nostrils; *wings* shorter and more rounded; first and second primaries much shorter than the rest; the fifth the longest; *tarsi* shorter; *toes* more lengthened; lateral toes nearly even; *claws* much sharper and more curved.

The members of the genus *Erythrodryas* are much more delicate in structure than the *Petroïcæ*, have their feeble bill strongly beset with bristles, and are more arboreal in their habits; their usual places of resort being the innermost recesses of the forest, where, in a state of quiet seclusion, they flit about in search of insects; the true *Petroïcæ*, on the other hand, frequent open plains, are more bold and vigorous, and possess a structure which adapts them for the ground over which they pass like the *Saxicolæ*.

The two species of this genus, all that are at present known, are confined to the south-eastern portions of Australia and Van Diemen's Land.

154. Erythrodryas rhodinogaster . . . . . Vol. III. Pl. 1.

155. Erythrodryas rosea, *Gould* . . . . . Vol. III. Pl. 2.

Genus Petroïca.

The birds I have retained in this genus might with propriety be

divided by separating the pied Robins from the red-breasted species. The dusky Robin of Van Diemen's Land and the white eye-browed Robin of the north-east coast of Australia would also constitute another group of equal value with *Erythrodryas*, *Drymodes* and *Eopsaltria*.

The red-breasted *Petroïcæ* are confined to the south-eastern portions of Australia, Van Diemen's Land and Norfolk Island; but I believe that the range of the pied birds extends to New Guinea.

Each of the sections I have indicated presents some difference in their nidification and in the colouring of their eggs, which tends to confirm the propriety of the view I have taken of the subject.

156. Petroïca multicolor . . . . . Vol. III. Pl. 3.

157. Petroïca erythrogastra . . . . . Vol. III. Pl. 4.

158. Petroïca Goodenovii . . . . . Vol. III. Pl. 5.

159. Petroïca phœnicea, *Gould* . . . . . Vol. III. Pl. 6.
Muscicapa erythrogaster, var., Lath.

160. Petroïca bicolor, *Swains.* . . . . . Vol. III. Pl. 7.

161. Petroïca fusca, *Gould* . . . . . Vol. III. Pl. 8.
Muscicapa vittata, Quoy et Gaim. Voy. de l'Astrolabe, pl. 3, fig. 2?

162. Petroïca superciliosa, *Gould* . . . . . Vol. III. Pl. 9.

Genus Drymodes.

Generic characters.

Bill straight, rather compressed on the sides near the tip, nearly as long as the head; a slight notch at the tip; beset at the base with a few fine bristles; *wings* moderately long, rounded, the first quill very short, the fifth the longest; *tail* rather long, slightly rounded; tarsi long slender; entire before; *toes* moderately long, the outer toe rather longer than the inner; the hind-toe and nail shorter than the middle toe and nail.

The only species of this genus yet discovered ranges over the whole of the country from Southern to Western Australia. Its form is adapted for the ground, but it occasionally resorts to low shrubby trees.

163. Drymodes brunneopygia, *Gould* . . . . Vol. III. Pl. 10.

Genus Eöpsaltria.

Three species of this genus are all that are yet known; two of these are natives of Western Australia, and the third of New South Wales.

164. Eöpsaltria Australis . . . . . Vol. III. Pl. 11.
Sylvia flavigastra, Lath.?

165. Eöpsaltria griseogularis, *Gould* . . . . Vol. III. Pl. 12.
Muscicapa Georgiana, Quoy et Gaim. Voy. de l'Astrolabe, pl. 3, fig. 4.

166. Eöpsaltria leucogaster, *Gould* . . . . Vol. III. Pl. 13.
Muscicapa gularis, Quoy et Gaim. Voy. de l'Astrolabe, pl. 4, fig. 1.

Subfamily MENURINÆ.

Genus MENURA.

It might have been expected that the various explorations which have of late years been made into the previously unknown regions of Australia would have led to the discovery of some additional species of this genus, or of some new form more nearly allied to it than those with which it is associated, but nothing of the kind has occurred.

167. Menura superba, *Dav.* . . . . . Vol. III. Pl. 14.

This remarkable bird is not only confined to Australia, but exclusively to the south-eastern part of the country. I regret to say that I have not been able to gain any further information respecting its nidification, although I have urged many persons in Australia to pay particular attention to the subject.

Genus PSOPHODES.

Among the many novelties comprised in the present work is a second species of this form, of which only one was previously known.

168. Psophodes crepitans . . . . . Vol. III. Pl. 15.
Corvus auritus, Lath.
Inhabits the south-eastern parts of Australia.

169. Psophodes nigrogularis, *Gould* . . . . Vol. III. Pl. 16.
This new species is a native of the western coast.

Genus SPHENOSTOMA.

Generic characters.

Bill very short, compressed laterally, wedge-shaped, upper mandible without a notch at the tip, two or three fine hairs at the base; *tomia* straight; *nostrils* basal, round, open; *wings* very short and round, the fourth, fifth and sixth primaries nearly equal and the longest; *tail* long and graduated; *tarsi* moderately long and strong, shielded before with several plates, entire behind; *toes* short, hind-toe strong, lateral toes unequal, the inner one the shortest.

The only known species of this genus frequents the sterile parts of the interior of Australia generally, particularly those portions of the country clothed with low shrubs and bushes.

170. Sphenostoma cristata, *Gould* . . . . . Vol. III. Pl. 17.

Genus MALURUS.

The members of this genus are among the most beautiful of the Australian birds, in no group, in fact, with the exception of the

Trochilidæ or Humming-birds, is the splendour of their plumage excelled. Their gay attire is, however, only assumed during the pairing season, and is retained for a very short period, after which the sexes are alike in colouring.

The genus is strictly an Australian one, and with one or two exceptions, all the species are confined to the southern parts of the continent and Van Diemen's Land.

171. Malurus cyaneus . . . . . Vol. III. Pl. 18.
172. Malurus longicaudus, *Gould* . . . . . Vol. III. Pl. 19.
173. Malurus melanotus, *Gould* . . . . . Vol. III. Pl. 20.
174. Malurus splendens . . . . . Vol. III. Pl. 21.
175. Malurus elegans, *Gould* . . . . . Vol. III. Pl. 22.
176. Malurus pulcherrimus, *Gould* . . . . . Vol. III. Pl. 23.
177. Malurus Lamberti, *Vig. & Horsf.* . . . Vol. III. Pl. 24.
178. Malurus leucopterus, *Quoy & Gaim.* . . Vol. III. Pl. 25.
179. Malurus melanocephalus, *Vig. & Horsf.* . Vol. III. Pl. 26.
180. Malurus Brownii, *Vig. & Horsf.* . . . Vol. III. Pl. 27.

Genus Amytis.

A form nearly allied to *Malurus*, strictly Australian, and of which three species are known, inhabiting the southern half of the country, and not occurring in Van Diemen's Land.

181. Amytis textilis . . . . . Vol. III. Pl. 28.
182. Amytis striatus . . . . . Vol. III. Pl. 29.
183. Amytis macrourus, *Gould* . . . . . Vol. III. Pl. 30.

Genus Stipiturus.

A form confined to Australia. Although some slight variation occurs in the specimens from Van Diemen's Land, Southern and Western Australia, I believe that they are all referable to one and the same species, viz —

184. Stipiturus malachurus . . . . . Vol. III. Pl. 31.

Genus Dasyornis.

A group of birds adapted for situations covered with an impenetrable vegetation, reed-beds, &c. The two species figured are all that are at present known; of these one is from the eastern and the other from the western parts of Australia.

185. Dasyornis Australis, *Vig. & Horsf.* . . Vol. III. Pl. 32.
186. Dasyornis longirostris, *Gould* . . . . Vol. III. Pl. 33.

Prior to my visit to Australia I described a bird in the 'Proceedings of the Zoological Society,' Part V. p. 150, as *D.? brunneus*, but as I have not since met with the bird in any collection from Australia I presume it is not a native of that country.

Genus ATRICHIA.

Rictus totally devoid of bristles; *bill* as long as the head, compressed laterally; the upper mandible distinctly notched at the tip; *gonys* ascending from the rictus and then following the line of the bill; *culmen* ascending high in front; *nostrils* moderately large, covered with an operculum, and placed in a groove near the base of the bill; *wings* short, round, concave, the first three primaries graduated, the fourth, fifth, sixth and seventh equal; *tail* lengthened, rounded, the stems rigid, the webs loose and decomposed; *tarsi* and feet robust, the hind-toe armed with a strong nail; outer and inner toes equal in length.

The only species of this genus yet discovered is as singular in its structure as it is shy and retiring in its habits; the total absence of vibrissæ in a bird apparently closely allied to *Dasyornis*, in which they are so much developed, renders it one of the anomalies of the Australian fauna.

187. Atrichia clamosa, *Gould* . . . . . Vol. III. Pl. 34.

Subfamily —— ?

Genus SPHENŒACUS.

A group of reed- and grass-frequenting birds, which are found not only in every part of Australia, but also in the Indian Islands and India.

188. Sphenœacus galactotes . . . . . Vol. III. Pl. 35.

189. Sphenœacus gramineus, *Gould* . . . . Vol. III. Pl. 36.

Genus ACROCEPHALUS.

Of this European and Indian form two species inhabit Australia, where they frequent the reed-beds and the dense herbage of marshy situations.

190. Acrocephalus Australis, *Gould* . . . . Vol. III. Pl. 37.

191. Acrocephalus longirostris, *Gould* . . . . Vol. III. Pl. 38.

Subfamily —— ?

Genus HYLACOLA.

Bill shorter than the head, compressed; equally broad and high at the base; *culmen* gradually declining from the base to the tip; slightly notched at the apex; *rictus* beset with a few fine hairs; *nostrils* basal, oblong, rather large and defended by an operculum; *wings* short, round and concave; first, second and third primaries graduated; the fourth, fifth and sixth equal, and the longest; *tail* rather long and round; *tarsi* moderate in size; *toes* rather lengthened, the lateral toes equal.

A genus comprising two species peculiar to the southern parts of the country, one of which enjoys an extensive range from South Australia to Moreton Bay; the other has, as yet, only been found in the Great Murray Scrub.

192. Hylacola pyrrhopygia . . . . . Vol. III. Pl. 39.

193. Hylacola cauta, *Gould* . . . . . Vol. III. Pl. 40.

When I characterized this species in the 'Proceedings of the Zoological Society of London,' I had only seen a single example; I have since received a second, proving the correctness of my view of its being quite distinct from the *H. pyrrhopygia*, a fact disputed by Mr. Strickland, who had stated it to be his opinion that my figures were referable to one and the same species, but who upon an examination of the specimens themselves acknowledged he was in error.

Subfamily ——?

Genus Cysticola.

However numerous birds of this form may be in Europe, Africa, Asia and the Indian Islands, Australia outvies them all in the number of species that frequent its grassy plains. With the exception of Van Diemen's Land, every colony is inhabited by one or more species performing there precisely similar offices to those executed by the remaining species in the other parts of the world.

194. Cysticola magna, *Gould* . . . . . Vol. III. Pl. 41.

195. Cysticola exilis . . . . . Vol. III. Pl. 42.

196. Cysticola lineocapilla, *Gould* . . . . . Vol. III. Pl. 43.

197. Cysticola isura, *Gould* . . . . . Vol. III. Pl. 44.

198. Cysticola ruficeps, *Gould* . . . . . Vol. III. Pl. 45.

Subfamily ——?

Genus Sericornis.

Generic characters.

Bill strong, straight, nearly as long as the head, compressed laterally towards and notched at the tip; *nostrils* basal, lateral, oval, and covered by an operculum; *wings* moderate, rounded, the first quill very short, the fourth, fifth and sixth nearly equal and the longest; *tail* moderate and square; *tarsi* long; hind-toe and claw strong, and nearly equal to the middle toe and claw in length; outer and inner toes equal; *plumage* soft and silky to the touch.

A group of small birds peculiar to Australia, and confined almost exclusively to the southern portion of the country. Their habits lead them to frequent the most retired parts of the forests, damp and secluded places and scrubby gullies where the herbage is thick and dense; but some species are found on the flat islands near the coast, covered with *Salsolæ* and other shrub-like trees; they usually frequent the ground, over which they pass with celerity, and when their haunts are intruded upon conceal themselves under the fallen or dried herbage. Their flight is peculiar and never protracted, and they all build domed nests like that of the common Wren (*Troglodytes Europæus*).

199. Sericornis citreogularis, *Gould* . . . . Vol. III. Pl. 46.
Muscicapa barbata, Lath.?

200. Sericornis humilis, *Gould* . . . . . Vol. III. Pl. 47.

201. Sericornis osculans, *Gould* . . . . . Vol. III. Pl. 48.

202. Sericornis frontalis . . . . . Vol. III. Pl. 49.
203. Sericornis lævigaster, *Gould* . . . . . Vol. III. Pl. 50.
204. Sericornis maculatus, *Gould* . . . . . Vol. III. Pl. 51.
205. Sericornis magnirostris, *Gould* . . . . Vol. III. Pl. 52.

Subfamily ——?

Genus Acanthiza.

With the exception of the north coast, the *Acanthizæ* are dispersed over all the wooded districts of Australia and Van Diemen's Land; some species frequenting the brushes, while others tenant the shrubs and belts of trees on the plains; others again are only found in such districts as the belts of the Murray.

Like some other large groups at present included under one generic title, the *Acanthizæ* might be divided with propriety; thus the *A. pusilla*, *A. Diemenensis*, &c., which are feeble in structure and strictly arboreal, might form one section; while the *A. chrysorrhœa*, *A. Reguloïdes*, &c., which resort to the ground, might form another. The nests of all the species that I have seen are of a domed form like that of the European Wren.

The members of this genus and the *Maluri* are frequently the foster-parents of the shining Cuckoo (*Chrysococcyx lucidus*).

206. Acanthiza pusilla . . . . . Vol. III. Pl. 53.
207. Acanthiza Diemenensis, *Gould* . . . . Vol. III. Pl. 54.
208. Acanthiza Ewingii, *Gould* . . . . . Vol. III. Pl. 55.
209. Acanthiza uropygialis, *Gould* . . . . Vol. III. Pl. 56.
210. Acanthiza apicalis, *Gould* . . . . . Vol. III. Pl. 57.
211. Acanthiza pyrrhopygia, *Gould* . . . . Vol. III. Pl. 58.
212. Acanthiza inornata, *Gould* . . . . . Vol. III. Pl. 59.
213. Acanthiza nana, *Vig. and Horsf.* . . . Vol. III. Pl. 60.
214. Acanthiza lineata, *Gould* . . . . . Vol. III. Pl. 61.
215. Acanthiza Reguloïdes, *Vig. and Horsf.* . Vol. III. Pl. 62.
216. Acanthiza chrysorrhœa . . . . . Vol. III. Pl. 63.

Genus Ephthianura.

Bill shorter than the head, nearly straight, compressed laterally, notched at the tip, gonys incurved; *nostrils* basal, linear, and covered by a membrane; *wings* long, first quill spurious, second very long, third and fourth equal and longest; *tertials* very long; *tail* short and truncate; *tarsi* entire, moderately long, slight; *toes* slender, the hinder toe and claw shorter than the middle one, the inner toe rather shorter than the outer.

Three species of this form are all that are at present known, and of these two are figured for the first time in the present work. They all inhabit the southern part of Australia, where they frequent the

open districts studded with bushes and low trees; the *E. albifrons* is occasionally found on the open plains.

217. Ephthianura albifrons . . . . . Vol. III. Pl. 64.

218. Ephthianura aurifrons, *Gould* . . . . Vol. III. Pl. 65.

219. Ephthianura tricolor, *Gould* . . . . . Vol. III. Pl. 66.

Genus Xerophila.

Generic characters.

Bill short, semiconical, robust at the base, without any notch at the tip; and provided with a few hairs at the base of the upper mandible; *nostrils* round and covered by minute feathers; *wings* moderate in size; first primary short, the third and fourth the longest; tertiaries broad and somewhat elongated; *tail* moderate, square and slightly concave; *tarsi* robust; hind-toe strong, anterior toes feeble, the exterior longer than the inner one.

A curious form, of which only one species is known, and the situation of which in the natural system is quite undetermined. It has many of the actions and manners of the *Acanthizæ*, but its robust and gibbose bill precludes its being placed with that group. It is mainly terrestrial in its habits and builds a domed nest.

220. Xerophila leucopsis, *Gould* . . . . . Vol. III. Pl. 67.

Genus Pyrrholæmus.

Generic characters.

Bill shorter than the head, slightly compressed at the sides, with a very minute notch at the tip, and beset with a few hairs at the base; *nostrils* linear and covered with an operculum; *wings* short, round, first primary rather short, the third the longest; *tail* short, round and concave, *tarsi* moderate; external toe longer than the inner one.

Another anomalous form, the structure of which does not approximate very nearly to that of any other genus, but is perhaps most nearly allied to *Acanthiza*. The only species known frequents scrubby places and thick underwood; is much on the ground, but occasionally mounts on a twig to sing.

221. Pyrrholæmus brunneus, *Gould* . . . . Vol. III. Pl. 68.

Genus Origma.

Bill nearly as long as the head, incurved, carinated, indented near the tip; *nostrils* oval, lateral, basal, and covered by an operculum; *wings* moderate, rounded, first quill short, fourth, fifth, sixth and seventh nearly equal and longest; *tail* moderate and slightly rounded; *tarsi* moderate; *toes* rather short, the outer toe much longer than the inner; *plumage* dense.

We are here again presented with another form, the structure, habits, and manners of which are all equally singular. The only species yet discovered inhabits New South Wales, where it frequents stony gullies and rocky situations in the neighbourhood of caverns,

to the roofs of which it attaches its pendent nest as shown in the Plate.

222. Origma rubricata . . . . . Vol. III. Pl. 69.

Genus Calamanthus.

Generic characters.

Bill shorter than the head, dilated at the base, compressed laterally towards the tip; *culmen* sharp and advancing upon the forehead; *nostrils* lateral, large, oval, and covered by an operculum; rictus destitute of bristles; *wings* short, round, the fourth quill the longest, the third, fifth, sixth and seventh equal; *tail* rather short and round; *tarsi* moderately long, defended anteriorly with indistinct scales; hind-toe rather long, with a long claw; lateral toes uneven, the outer one the shortest.

This group comprises two species, one inhabiting Van Diemen's Land, the other Southern and Western Australia; they are terrestrial in their habits, but occasionally perch on the smaller branches of the trees.

223. Calamanthus fuliginosus . . . . . Vol. III. Pl. 70.

224. Calamanthus campestris, *Gould* . . . . Vol. III. Pl. 71.

Genus Chthonicola.

Generic characters.

Bill short, gradually descending from the base; the upper mandible slightly notched at the tip, compressed laterally; *tomia* curving inwards; *wings* concave; the first primary very short, the third, fourth, fifth and sixth nearly equal and the longest; *tail* slightly concave, and all the feathers of an equal length; *tarsi* moderately long; *toes* short, the hinder toe somewhat longer than the middle one; front claws more curved than in the genus *Anthus*.

The single species known of this genus combines in a remarkable manner the outward appearance, habits and manners of the *Acanthizæ* and *Anthi*, but is, I believe, more nearly allied to the former than to the latter.

225. Chthonicola minima . . . . . Vol. III. Pl. 72.

Sylvia sagittata, Lath.?

Rather widely dispersed over the grassy flats of New South Wales; constructs a domed nest in a depression of the ground like the true *Sylviæ*.

Subfamily MOTACILLINÆ.

Genus Anthus.

Whether this Old World form is represented in Australia by more than a single species, is a point I have not satisfactorily determined; every part of its extra-tropical regions, including Van Diemen's Land, is inhabited by Pipits which differ somewhat in size in almost every colony; still their difference is so slight that I have hitherto regarded them as mere varieties or local races.

226. Anthus Australis, *Vig. and Horsf.* . . . Vol. III. Pl. 73.

Subfamily ——?

Genus Cincloramphus.

Bill rather shorter than the head; *culmen* slightly arched; the tip distinctly notched; the commissure slightly angulated at the base, and somewhat incurved for the remainder of its length; *nostrils*, lateral, oval; *wings* moderate, rigid, first quill very long and nearly equal to the second and third, which are the longest; tertials nearly as long as the primaries; *tail* rather small and cuneiform; *tarsi* very strong and scutellated anteriorly; *toes* long and powerful, particularly the hinder one and claw, which is articulated on the same plane with the inner toe; lateral toes nearly equal.

The members of this genus, which are three in number, are closely allied to the Indian genus *Megalurus*, and present even a greater disparity in the size of the sexes; they are all confined to Australia, where they frequent the grassy plains and open districts. The song of the males is more animated than that of any other bird inhabiting the country.

227. Cincloramphus cruralis . . . . . Vol. III. Pl. 74.

228. Cincloramphus cantillans, *Gould* . . . . Vol. III. Pl. 75.

229. Cincloramphus rufescens, *Gould* . . . . Vol. III. Pl. 76.

Subfamily ALAUDINÆ.

Genus Mirafra.

One, if not two, species of this well-defined genus inhabit Australia. At present one only has been characterized; but the bird of this form, frequenting the intertropical portions of the country, may prove to be a distinct species.

230. Mirafra Horsfieldii, *Gould* . . . . . Vol. III. Pl. 77.

Family FRINGILLIDÆ.

The Finches of Australia comprise twenty well-marked species, referable to several genera or subgenera, each of which exhibit a slight difference in structure, accompanied, as is always the case, by a difference in habit, and in the districts inhabited; thus the true *Estreldæ* frequent grassy patches in the glades of the forests, the open parts of gullies, &c.; the *Amadinæ*, the stony hills and flats; the *Poëphilæ*, the grass beds of the open plains; and the *Donacolæ*, the grasses of the marshy districts and reed-beds: of the habits of *Emblema* nothing is known; its pointed bill indicates some peculiarity in its economy differing from those of the other genera.

All the species build, I believe, large grassy nests with a spout-like opening.

The whole of those figured are peculiar to Australia.

Genus ESTRELDA.

231. Estrelda bella . . . . . Vol. III. Pl. 78.
Loxia nitida, Lath.?
232. Estrelda oculea . . . . . Vol. III. Pl. 79.
233. Estrelda Bichenovii . . . . . Vol. III. Pl. 80.
234. Estrelda annulosa, *Gould* . . . . . Vol. III. Pl. 81.
235. Estrelda temporalis . . . . . Vol. III. Pl. 82.
236. Estrelda Phaëton, *Gould* . . . . . Vol. III. Pl. 83.
237. Estrelda ruficauda, *Gould* . . . . . Vol. III. Pl. 84.
238. Estrelda modesta, *Gould*.
Amadina modesta, *Gould* . . . . . Vol. III. Pl. 85.

Genus AMADINA.

239. Amadina Lathami . . . . . Vol. III. Pl. 86.
240. Amadina castanotis, *Gould* . . . . . Vol. III. Pl. 87.

Genus POËPHILA.

Generic characters.

Bill considerably swollen at the base, rendering it nearly as deep and broad as it is long; *wings* moderately long, the first quill rudimentary, the four next equal in length; *feet* plantigrade, *toes* slender; the middle toe much longer than the lateral ones, which are equal in length; hind-toe much shorter than the middle one; *tail* strictly cuneiform, the two middle feathers much produced.

241. Poëphila Gouldiæ.
Amadina Gouldiæ, *Gould* . . . . . Vol. III. Pl. 88.
242. Poëphila mirabilis, *Homb. et Jacq.* . . . . Vol. III. Pl. 89.
243. Poëphila acuticauda, *Gould* . . . . . Vol. III. Pl. 90.
244. Poëphila personata, *Gould* . . . . . Vol. III. Pl. 91.
245. Poëphila leucotis, *Gould* . . . . . Vol. III. Pl. 92.
246. Poëphila cincta, *Gould* . . . . . Vol. III. Pl. 93.

Genus DONACOLA.

Generic characters.

As in the genus *Amadina* but with the *bill* much more developed and gibbose at the base, with the *culmen* elevated and the lower mandible retiring backward on the face; *wings* shorter and rounder; feet more adapted for clinging, and remarkable for the greater development of the hind-toe and nail; *tail*-feathers rigid.

247. Donacola castaneothorax, *Gould* . . . Vol. III. Pl. 94.
248. Donacola pectoralis, *Gould* . . . . . Vol. III. Pl. 95.
249. Donacola flaviprymna, *Gould* . . . . Vol. III. Pl. 96.

Genus Emblema.

Generic characters.

Bill nearly as long as the head, conical, and much resembling that of the genus *Ploceus*; *wings* moderately long as compared with the body; first quill rudimentary, the four next equal in length; *tertiaries* much lengthened; *tail* moderately long and nearly square, or slightly rounded; feet plantigrade; *toes* extremely slender, the middle toe much longer than the lateral ones, which are equal in length.

250. Emblema picta, *Gould* . . . . . Vol. III. Pl. 97.

The single example of this beautiful bird, which was procured and presented to me by B. Bynoe, Esq., is I believe all that has ever been seen; I regret to say it no longer graces my collection, having been stolen therefrom, together with some other valuable birds, in the year 1846.

Family MERULIDÆ.

Genus Pitta.

The members of this genus extend from tropical India throughout the islands of the Indian Archipelago to Australia; one or two species also occur in Africa. Of the three inhabiting Australia the *Pitta Iris* is figured for the first time in the present work, and is one of the very finest species of this lovely group of birds.

251. Pitta strepitans, *Temm.* . . . . . Vol. IV. Pl. 1.

Since my account of this species was printed I have received its nest and eggs, accompanied by the following notes from Mr. Strange of Sydney:—

"I never saw any bird whose actions are more graceful than those of the *Pitta strepitans*, when seen in its native brushes, where its presence is indicated by its singular call, resembling the words '*want a watch*,' by imitating which you can call it close to the muzzle of your gun; no sooner, however, does it commence breeding than it becomes shy and retiring, keeping out of sight in the most artful manner, moving about from place to place, and occasionally uttering its cry until it has drawn you away from the nest. The nests I have seen were placed in the spur of a fig-tree near the ground, and were of a domed form, outwardly constructed of sticks and lined with moss, leaves and fine pieces of bark; the eggs are four in number," of a pale creamy-white marked all over with irregularly-shaped blotches of brown and deep vinous grey, the latter appearing as if beneath the surface of the shell; they are one inch and a quarter in length by seven-eighths of an inch in breadth.

252. Pitta Vigorsii, *Gould* . . . . . Vol. IV. Pl. 2.

I regret to say that up to the present time I have not been able to obtain any information respecting this species, the specimen of which, in the Linnean Society's Collection, is the only evidence we

have of its occurring in Australia; I believe New Guinea to be its true habitat.

253. Pitta Iris, *Gould* . . . . . Vol. IV. Pl. 3.

Genus Cinclosoma.

Among the novelties comprised in the present work, there are none more important than the additional members of this genus; three well-defined species being described and figured, of which only one was previously known. The form is peculiar to Australia, and is, I believe, closely allied to my genus *Ianthocincla*, a group of birds confined to India.

254. Cinclosoma punctatum, *Vig. & Horsf.* . . Vol. IV. Pl. 4.

255. Cinclosoma castanotus, *Gould* . . . . . Vol. IV. Pl. 5.

256. Cinclosoma cinnamomeus, *Gould* . . . . Vol. IV. Pl. 6.

When my drawing of this species was made, I had only seen the male; since then Captain Sturt has presented me with a female, which differs from the opposite sex in the absence of the black markings of the throat, breast and wings, which parts are brownish grey.

Genus Oreocincla.

Bill as long, or longer than the head, slightly incurved, compressed laterally; the tip of the upper mandible overhanging the under; notch considerably removed from the tip; *tomia* or cutting edges sharp; *nostrils* basal, oval; *rictus* beset with a few short hairs; *wings* moderately long and rigid, first quill very short, the fourth and fifth nearly equal, and the longest; *tail* rather short and square, the feathers rigid, and running to a point exteriorly; *tarsi* moderate, scales entire; *toes* slender, particularly the hinder one; later toes nearly equal, but the inner one rather the shortest; *general plumage* silky to the touch; the *rump-feathers* spinous, as in *Ceblepyris* and *Graucalus*.

Species of this genus inhabit India, the Indian Islands and Australia, in which latter country, although much difference in size is observable in specimens from different localities, I believe only one exists. It is decidedly a brush bird, and has many habits in common with the typical Thrushes, but is more shy and retiring.

257. Oreocincla lunulata . . . . . Vol. IV. Pl. 7.

Family PARADISEIDÆ.

I certainly consider the accounts I have given of the extraordinary habits of the *Chlamyderæ* and *Ptilonorhynchi* as some of the most valuable and interesting portions of my work, and however incredible they may appear I am happy to say they have been fully confirmed by other observers.

Genus Chlamydera.

Generic characters.

Bill moderate, culmen elevated, and arched to the tip which is emarginated, compressed on the sides; *gonys* slightly advancing upwards; *nostrils* basal, lateral, exposed, rounded, and pierced in a membrane; *wings* long and pointed, first primary short, second primary shorter than the third and fourth, which are equal, and the longest; *tail* long and slightly rounded; *tarsi* robust, defended anteriorly with broad scuta; *toes* long and strong; outer toe longer than the inner, hind-toe long and robust; *claws* long, curved, and acute.

258. Chlamydera maculata, *Gould*. . . . . Vol. IV. Pl. 8.

Inhabits South Australia, New South Wales, and according to Mr. Gilbert's Journal of his overland journey to Port Essington, the intertropical regions of the east coast.

In one of Mr. Gilbert's many interesting letters received since the account above referred to was printed, he says, "the question as to the nidification of *Chlamydera* is now settled by Mr. C. Coxen having found a nest in December with three young birds; in form it was very similar to that of the common Thrush of Europe, being of a cup shape, constructed of dried sticks with a slight lining of feathers, and fine grass, and was placed among the smaller branches of an Acacia overhanging a pool of water."

259. Chlamydera nuchalis . . . . . Vol. IV. Pl. 9.

"I found matter for conjecture," says Captain Stokes, "in noticing a number of twigs with their ends stuck in the ground, which was strewed over with shells, and their tops brought together so as to form a small bower; this was 2½ feet long, 1½ foot wide at either end. It was not until my next visit to Port Essington that I thought this anything but some Australian mother's toy to amuse her child; there I was asked, one day, to go and see the 'birds' playhouse,' when I immediately recognised the same kind of construction I had seen at the Victoria River; the bird (*Chlamydera nuchalis* of Mr. Gould's work) was amusing itself by flying backwards and forwards, taking a shell alternately from each side, and carrying it through the archway in its mouth."—*Discoveries in Australia*, vol. ii. p. 97.

Genus Ptilonorhynchus.

260. Ptilonorhynchus holosericeus, *Kuhl* . . . Vol. IV. Pl. 10.

That this bird continues its singular habits under the disadvantages of captivity, I learn from the following passage in a letter lately received from Mr. Strange of Sydney.

"My aviary is now tenanted by a pair of Satin Birds, which I had hoped would have bred, as for the last two months they have been constantly engaged in constructing bowers, which I find are built for the express purpose of courting the female in. Both sexes assist in their erection, but the male is the principal workman. At times the male will chase the female all over the aviary, then go to the bower,

pick up a gay feather or a large leaf, utter a curious kind of noise, set all his feathers erect, and run round the bower, into which at length the female proceeds, when he becomes so excited that his eyes appear ready to start from his head, and he continues opening first one wing and then the other, uttering a low whistling note, and like the common Cock, seems to be picking up something from the ground, until at last the female goes gently towards him, when, after two turns round her, he suddenly makes a dash and the scene ends." This pair of birds was sent to England by Mr. Strange for the Earl of Derby, and had they not unfortunately died from cold when rounding Cape Horn, they would doubtless have continued their singular habits in his lordship's magnificent aviary at Knowsley.

The habitat of this species appears to be confined to the south-eastern part of New South Wales, for it has not as yet been found in any other portion of the country.

261. Ptilonorhynchus Smithii, *Vig. & Horsf.* . . Vol. IV. Pl. 11.

Genus Sericulus.

A single species only of this form has yet been discovered.

262. Sericulus chrysocephalus . . . . . Vol. IV. Pl. 12.

Sericulus magnirostris, Gould in Proc. of Zool. Soc., Part V. p. 145; and in Syn. Birds of Australia, Part IV. Young.

The brushes of the south-eastern part of Australia is the only locality in which this bird has yet been found.

Family ——?

Subfamily ORIOLINÆ.

Genus Oriolus.

The typical *Orioles* are widely distributed over Europe, Africa, Asia, the Indian Islands, and Australia, but no species has yet been discovered in Polynesia or America.

Three species inhabit Australia, two of which are figured, the third from the northern part of the country is so nearly allied to the *O. viridis*, that a description alone will be sufficient.

263. Oriolus viridis . . . . . Vol. IV. Pl. 13.

264. Oriolus affinis, *Gould.*

Inhabits the neighbourhood of Port Essington, and only differs from the preceding species in having a smaller body, a shorter wing, a much larger bill, and in the white spots at the tip of the lateral tail-feathers being much smaller in extent.

265. Oriolus flavocinctus . . . . . Vol. IV. Pl. 14.

Genus Sphecotheres.

Australia presents us with a single species only of this genus;

others inhabit New Guinea and the neighbouring islands; but as yet we have no evidence of the form occurring on the continent of India.

266. Sphecotheres Australis, *Swains.* . . . . Vol. IV. Pl. 15.
Turdus maxillaris, Lath.?

Nothing whatever is known of the nidification of this bird; in all probability it will prove to be very similar to that of the *Orioles*.

Family ——?

Genus Corcorax.

A genus containing only one species which possesses many singular habits, both as regards its progression over the ground and its nidification. So far as is yet known, it is confined to Australia.

267. Corcorax leucopterus . . . . . Vol. IV. Pl. 16.

Family ——?

Genus Struthidea.

Generic characters.

Bill shorter than the head, robust, swollen, arched above, deeper than broad; *gonys* angular; *nostrils* basal, lateral, round and open; *wings* moderate, round, first primary short, the fourth and fifth the longest; secondaries long and broad; *tarsi* scutellated in front, plain behind; *toes* long and strong, the outer one longer than the inner one; *claws* strong, compressed and much curved.

The only known species of this form is confined to the interior of the southern and eastern parts of Australia, where it inhabits stony ridges, and is mostly observed on the *Callitris*.

268. Struthidea cinerea, *Gould* . . . . . Vol. IV. Pl. 17.

In my account of this species, I have stated that its actions are very similar to those of the *Corcorax leucopterus*, and the following extract from Mr. Gilbert's Journal of his overland journey to Port Essington, shows that the two birds assimilate still more closely in their nidification.

"Oct. 19.—Strolled about in search of novelties, and was amply repaid by finding the eggs of *Struthidea cinerea*. I disturbed the bird several times from a rosewood-tree growing in a small patch of scrub, and felt assured it had a nest, but could only find one, which I considered to be that of a *Grallina*; determined, if possible, to solve the difficulty, I lay down at a short distance within full view of the tree, and was not a little surprised at seeing the bird take possession of, as I believed, the *Grallina's* nest; I immediately climbed the tree and found four eggs, the medium length of which was one inch and a quarter by seven-eighths of an inch in breadth; their colour was white, with blotches, principally at the larger end of reddish brown, purplish gray and greenish gray; some of the blotches appearing as if they had been laid on with a soft brush. From the appearance of the nest I should say it was an old one of *Grallina*, particularly as it contained a much greater quantity of grass for a

lining than I ever observed in the nest of a *Grallina* while that bird had possession of it; if this be not the case, then the nest of *Struthidea* is precisely similar, being like a great basin of mud, and placed in the same kind of situation, on a horizontal branch.

"Oct. 21.—In the evening I again met with the *Struthidea*, which I disturbed from a nest like the one above described, and from the new appearance of the structure I am inclined to believe it to be constructed by the bird itself, although it does so closely resemble that of *Grallina*, especially as in this case the nest was placed in a situation far from water, and there were no *Grallinæ* in the neighbourhood. This nest, like the last, had a very thick lining of fine grass, and appeared as if just finished for the reception of the eggs."

There is no doubt that the nests above described by Mr. Gilbert were those of *Struthidea*; those of *Corcorax* and *Grallina* are precisely similar; and we now know that all three birds build the same kind of mud nests.

Family CORVIDÆ.

Genus Corvus.

It is exceedingly interesting to trace the range of the members of this genus or the true Crows; not so much on account of their wide distribution, as from the circumstance of the form being non-existent in some countries which appear admirably adapted for their well-being; thus while the species are widely distributed over the whole of Europe, Asia, Africa, North America, the Indian Islands and Australia, none are to be found in South America, Polynesia or New Zealand.

269. Corvus Coronoïdes, *Vig. & Horsf.* . . . Vol. IV. Pl. 18.

This is the only species that has yet been discovered in Australia.

Family ——?

Genus Neomorpha.

This form is strictly Polynesian, and the species confined to New Zealand.

270. Neomorpha Gouldii, *G. R. Gray* . . . . Vol. IV. Pl. 19.

Genus Pomatorhinus.

The members of this genus range from India throughout all the islands to Australia, but are not found in Africa or Polynesia; three species are comprised in the fauna of Australia.

Much diversity of opinion exists among ornithologists as to the place this group should occupy in the natural system; by most writers they have been placed with the *Meliphagidæ*, but having had ample opportunities of observing the Australian species in a state of nature, I am enabled to affirm that they do not assimilate

in any degree with those birds either in their habits, actions, economy or nidification, in all which particulars they differ from every group of birds that has come under my notice.

271. Pomatorhinus temporalis . . . . . Vol. IV. Pl. 20.
Turdus frivolus, Lath.?

272. Pomatorhinus rubeculus, *Gould* . . . . Vol. IV. Pl. 21.

273. Pomatorhinus superciliosus, *Vig. & Horsf.* Vol. IV. Pl. 22.

Family MELIPHAGIDÆ.

By far the greater and most prominent portion of the botany of Australia consisting of only two or three genera of trees—the *Eucalypti*, *Banksiæ*, &c.—we should naturally expect its ornithology to comprise some great groups of birds destined to dwell thereon, and such we find to be the case, the true Honey-eaters and the Honey-feeding Parrakeets being remarkably numerous; the former tribe of birds comprise many species which appear to be arranged by nature into minor groups, each characterized by some modification of structure; although the whole are truly insectivorous, the pollen and the honey in the flower-cups of the *Eucalypti* are largely partaken of, and for procuring which their lengthened tongue terminating in filaments assuming the form of a brush is most admirably adapted, combined with which is a remarkably narrow gape and an incapacious stomach.

Australia is the great nursery of this tribe of birds, its fauna comprising no less than fifty-eight species; a few others are found in New Guinea and some of the Polynesian islands.

Genus MELIPHAGA.

No example of this genus has yet been discovered in the northern or intertropical regions of Australia, all the species known being confined to the southern parts of the continent, the islands in Bass's Straits and Van Diemen's Land. The members of this group feed principally upon the pollen and honey of the flowers, but occasionally upon insects; in disposition they are tame and familiar; and they frequent the *Banksiæ* in preference to other trees.

The sexes are alike in plumage, and the young assume the adult plumage at an early period of their existence.

274. Meliphaga Novæ-Hollandiæ . . . . . Vol. IV. Pl. 23.

275. Meliphaga longirostris, *Gould* . . . . Vol. IV. Pl. 24.

276. Meliphaga sericea, *Gould* . . . . . Vol. IV. Pl. 25.

277. Meliphaga mystacalis, *Gould* . . . . . Vol. IV. Pl. 26.

278. Meliphaga Australasiana . . . . . Vol. IV. Pl. 27.
Certhia pyrrhoptera, Lath.?

Genus GLYCIPHILA.

The members of this genus resort to higher trees than the *Meli-*

phagæ, are more shy in disposition, possess considerable power of flight, and partake more exclusively of insect food. Of the four Australian species, two, *G. fulvifrons* and *G. albifrons*, inhabit the southern parts of the country, the *G. fasciata* the northern portion, and the little *G. ocularis* is universally distributed over the country, and if I mistake not, is also found in New Guinea and Timor.

The young of *G. fulvifrons* and *G. albifrons* differ considerably from the adult in their markings.

279. Glyciphila fulvifrons . . . . . Vol. IV. Pl. 28.
Certhia melanops, Lath. ?

280. Glyciphila albifrons, *Gould* . . . . . Vol. IV. Pl. 29.

281. Glyciphila fasciata, *Gould* . . . . . Vol. IV. Pl. 30.

282. Glyciphila ocularis, *Gould* . . . . . Vol. IV. Pl. 31.

Genus Ptilotis.

The species of this group are not only more numerous than those of any other division of the *Meliphagidæ*, but they also comprise some of the most beautiful and gaily-coloured members of the family. Nearly all the species are either prettily marked about the face, or have the ear-coverts largely developed and characterized by a colouring different from that of the other parts of the plumage. The *Eucalypti* and *Acaciæ* are the trees upon which they are usually found; the species with olive-green backs, such as *P. flavigula* and *P. leucotis*, frequent the dwarf or thickly-leaved kinds, the general colour of which assimilates to that of their plumage; the more gaily-attired species with bright yellow cheeks and ear-coverts, such as *P. ornatus* and *P. plumulus*, are most frequently found among the flowering *Acaciæ*; some species, particularly *P. penicillata*, descend from the trees and seek Coleoptera and other insects on the ground; the *Casuarinæ* are the favourite trees of *P. sonorus* and *P. versicolor*; while the *P. chrysotis*, *P. chrysops* and *P. fusca* are almost entirely confined to the brushes and seek their food among the *Eucalypti*, the hanging festoons of *Tecoma* and other beautiful brush creepers and shrubs. The members of this group are principally Australian, but I believe that some species inhabit New Guinea; they mainly subsist upon insects, to which berries are sometimes added.

The sexes are alike in plumage, but the females are smaller than the males, and the young assume the adult livery from the nest.

283. Ptilotis chrysotis . . . . . Vol. IV. Pl. 32.
Ptilotis Lewinii, Swains. ?

284. Ptilotis sonorus, *Gould* . . . . . Vol. IV. Pl. 33.

285. Ptilotis versicolor, *Gould* . . . . . Vol. IV. Pl. 34.

286. Ptilotis flavigula, *Gould* . . . . . Vol. IV. Pl. 35.

287. Ptilotis leucotis . . . . . Vol. IV. Pl. 36.

288. Ptilotis auricomis . . . . . Vol. IV. Pl. 37.

289. Ptilotis cratitius, *Gould* . . . . . Vol. IV. Pl. 38.

290. Ptilotis ornatus, *Gould* . . . . . Vol. IV. Pl. 39.
291. Ptilotis plumulus, *Gould* . . . . . Vol. IV. Pl. 40.
292. Ptilotis flavescens, *Gould* . . . . . Vol. IV. Pl. 41.
293. Ptilotis flava, *Gould* . . . . . Vol. IV. Pl. 42.
294. Ptilotis penicillatus, *Gould*. . . . . Vol. IV. Pl. 43.
295. Ptilotis fusca, *Gould* . . . . . Vol. IV. Pl. 44.
296. Ptilotis chrysops . . . . . Vol. IV. Pl. 45.
297. Ptilotis unicolor, *Gould* . . . . . Vol. IV. Pl. 46.

Genus Plectorhyncha.

Generic characters.

Bill shorter than the head, slightly arched, very pointed, almost conical and acute; *nostrils* basal and partly covered by an operculum; an obsolete notch near the tip of the upper mandible; *wings* moderate, the first feather short, the third and fourth the longest; *tail* moderate and square; *tarsi* strong; hind-toe and claw long, powerful and longer than the middle toe and claw; lateral toes unequal; the outer one the longest, and united to the middle one nearly to the first joint.

Of this singular form only one species has yet been discovered. It inhabits the plains of the eastern portion of Australia, where it dwells among the *Eucalypti* and *Acaciæ*; and is a very noisy garrulous bird.

The sexes are alike in plumage, and the young assume the adult plumage at a very early age.

298. Plectorhyncha lanceolata, *Gould* . . . Vol. IV. Pl. 47.

Genus Xanthomyza.

One species only of this genus is known.

299. Xanthomyza Phrygia . . . . . Vol. IV. Pl. 48.

The habitat of this bird appears to be confined to the south-eastern portion of Australia. In its disposition it is bold and extremely pugnacious, and it generally frequents the highest branches of the lofty *Eucalypti*, both of the brushes and of the plains, but is most abundant in the districts near the coast.

The sexes are alike in plumage, and but little difference is observable between nestling and adult birds.

The nests I saw were round and cup-shaped, and were mostly placed in the fork of a tree.

Genus Melicophila.

Generic characters.

Bill as long as the head, curving downwards from the base, nearly cylindrical and very pointed; *nostrils* basal and covered with an operculum; *wings* rather lengthened, the first primary short, the third the longest; *tail* moderately long, and nearly square; *tarsi* long and stout.

A genus containing only a single species, which so far as we yet know is confined to Southern and Western Australia. It possesses many singular habits, and differs from most other species of the *Meliphagidæ* in the totally different colouring of the sexes; as well as in assembling in vast flocks, which continue soaring about during the greater portion of the day.

300. Melicophila picata, *Gould* . . . . . Vol. IV. Pl. 49.

I was not aware until after my drawing was made that this bird has a small fleshy appendage beneath the eye of an ashy-grey colour. The nest and eggs are said to be very similar to those of *Petroica multicolor*, and to be placed in similar situations.

Genus Entomophila.

Generic characters.

Bill nearly as long as the head, somewhat broad at the base, becoming compressed and pointed at the tip; *tomia* of the upper mandible arched and slightly notched at the tip; *nostrils* basal, oval, pierced in a membrane and protected by an operculum; *wings* rather long, first quill spurious, the second nearly as long as the third, which is the longest; *tail* short and nearly square; *tarsi* short and rather feeble; hind-toe short and stout; lateral toes unequal, the inner one being rather the shortest.

301. Entomophila picta, *Gould* . . . . . Vol. IV. Pl. 50.

The long pointed wings and short square tail of the specimens of this form I had seen prior to my visit to Australia, had led me to infer that its habits were more aërial than those of the other members of the family, and such proved to be the case; for while they are continually clinging to and creeping about the branches, the present bird is constantly flying about the trees, capturing insects and displaying the beautiful yellow of its wings and the white markings of its outspread tail.

Its frail cup-shaped nest is sometimes suspended among the drooping leaves of the *Acacia pendula*.

302. Entomophila albogularis, *Gould* . . . . Vol. IV. Pl. 51.

303. Entomophila rufogularis, *Gould* . . . . Vol. IV. Pl. 52.

I fear I have committed an error in referring the birds from the north coast (*E. albogularis* and *E. rufogularis*) to the present genus, for upon further consideration I believe they will prove to be sufficiently different from every other form yet characterized to justify their being separated into a distinct genus.

Genus Acanthogenys.

Generic characters.

Bill equalling the head, compressed, slightly arched, acute at the tip; *nostrils* sub-basal, the edges of the upper mandible notched near the tip, and delicately serrated; from the base of the mandible a naked stripe runs below the eyes, and below this the cheeks are covered with stiff spines; *wings* moderate, the first quill-feather very

short, third, fourth and fifth longest and equal; *tail* moderate, nearly equal; *feet* robust, hind-toe strong and longer than the middle one, outer toe united at its base to the middle toe; *claws* hooked.

The genus *Acanthogenys*, of which only one species is known, presents us with a form intermediate in size and in structure between the smaller Honey-eaters (*Meliphagæ*, *Ptiloti*, &c.) on the one hand, and the larger kinds (*Anthochæræ*) on the other.

304. Acanthogenys rufogularis, *Gould* . . . . Vol. IV. Pl. 53.

This species is widely distributed over the interior of the southern portion of Australia, from east to west; the sexes are alike in plumage, and the young are very similar, but are destitute of the spines on the cheek, which are scarcely assumed during the first year. The *Banksiæ* are the trees mostly frequented by this bird, the presence of which is indicative of sterile sandy districts.

Genus Anthochæra.

A genus peculiarly Australian, three species of which are exclusively confined to the southern or extra-tropical parts of the country, and one to Van Diemen's Land.

These four birds might with propriety be separated into two genera, those with auricular appendages, *A. inauris* and *A. carunculata*, having many characters differing from those of the *A. mellivora* and *A. lunulata*.

305. Anthochæra inauris, *Gould* . . . . . Vol. IV. Pl. 54.

306. Anthochæra carunculata. . . . . Vol. IV. Pl. 55.

307. Anthochæra mellivora . . . . . Vol. IV. Pl. 56.

308. Anthochæra lunulata, *Gould* . . . . . Vol. IV. Pl. 57.

Genus Tropidorhynchus.

The law of representation in Australia appears to be chiefly confined to the species inhabiting the eastern and western coasts, but in this case it takes the opposite direction, or north and south, for a more singular and perfect representation cannot be found than the *T. corniculatus* and *T. citreogularis* of the south-eastern parts of the country, are of the *T. argenticeps* and *T. sordidus* of the north-western. Extra Australian species inhabit New Guinea and the neighbouring countries.

309. Tropidorhynchus corniculatus . . . . Vol. IV. Pl. 58.

310. Tropidorhynchus argenticeps, *Gould* . . Vol. IV. Pl. 59.

311. Tropidorhynchus citreogularis, *Gould* . . Vol. IV. Pl. 60.

312. Tropidorhynchus sordidus.

Inhabits the Cobourg Peninsula, and is precisely similar to *T. citreogularis*, but is smaller in all its admeasurements except in the bill, which is more developed.

Genus Acanthorhynchus.

Bill elongated, slender and acute, compressed on the sides; *tomia* incurved, *culmen* acute and elevated; *nostrils* basal, elongated, and covered with an operculum; *wings* moderate in size, semi-rotund; first and fifth primaries equal; the third and fourth nearly equal in length, and the longest; *tail* moderate in size and slightly forked; *tarsi* lengthened and strong; middle toe long and robust, external toe exceeding the inner one in length.

This genus, like many others of the family, may be regarded as strictly Australian: it comprises two, if not three, well-marked species, each of which is confined to a particular part of the country; the *A. tenuirostris* dwelling in the eastern coast, and the *A. superciliosus* in the western; both inhabit countries precisely in the same degree of latitude, and form beautiful representatives of each other. Van Diemen's Land is the native habitat of the species I have named *A. dubius*, which, as will be seen, I had made synonymous with *A. tenuirostris*, but which I am now inclined to consider distinct, an opinion in which Mr. Blyth coincides.

313. Acanthorhynchus tenuirostris . . . . Vol. IV. Pl. 61.

314. Acanthorhynchus dubius, *Gould*.

315. Acanthorhynchus superciliosus, *Gould* . . Vol. IV. Pl. 62.

Genus Myzomela.

Five well-marked species of this genus are distributed over Australia; numerous others are found in New Guinea and the neighbouring islands; the form also occurs in the Polynesian Islands, but is not found in Van Diemen's Land.

316. Myzomela sanguineolenta . . . . . Vol. IV. Pl. 63.

317. Myzomela erythrocephala, *Gould* . . . Vol. IV. Pl. 64.

318. Myzomela pectoralis, *Gould* . . . . . Vol. IV. Pl. 65.

319. Myzomela nigra, *Gould* . . . . . Vol. IV. Pl. 66.

320. Myzomela obscura, *Gould* . . . . . Vol. IV. Pl. 67.

Genus Entomyza.

Two species of this well-defined genus are comprised in the Australian fauna, one of which inhabits the south-eastern parts of the country, or New South Wales; the other, which so far as we yet know is strictly confined to the north-eastern coast, is very plentiful at Port Essington and in the neighbouring districts.

The form appears to be confined to Australia, for I have never seen it from any other country.

321. Entomyza cyanotis . . . . . Vol. IV. Pl. 68.

This bird has the habit—a somewhat remarkable circumstance

among the Honey-eaters—of selecting the nest of *Pomatorhinus temporalis* for the reception of its eggs.

322. Entomyza albipennis, *Gould* . . . . . Vol. IV. Pl. 69.

Genus Melithreptus.

No one group of birds is more universally distributed over Australia than the *Melithrepti*, for, like the *Eucalypti*, a genus of trees upon which they are almost exclusively found, their range extends from Van Diemen's Land on the extreme south to the most northern part of the continent, and in an equal degree from east to west, each part of country being inhabited by a species peculiarly its own. I believe the form is unknown out of Australia.

323. Melithreptus validirostris, *Gould* . . . Vol. IV. Pl. 70.
324. Melithreptus gularis, *Gould* . . . . . Vol. IV. Pl. 71.
325. Melithreptus lunulatus . . . . . Vol. IV. Pl. 72.
326. Melithreptus chloropsis, *Gould* . . . . Vol. IV. Pl. 73.
327. Melithreptus albogularis, *Gould* . . . . Vol. IV. Pl. 74.
328. Melithreptus melanocephalus, *Gould* . . Vol. IV. Pl. 75.
Certhia agilis, Lath.

Genus Myzantha.

During the progress of this work three have been added to the two previously known species of this genus, one from the districts of the interior of New South Wales, one from Swan River, and one from the north-west coast; it is consequently a genus the members of which are widely distributed over nearly every part of Australia.

329. Myzantha garrula . . . . . Vol. IV. Pl. 76.
330. Myzantha obscura, *Gould* . . . . . Vol. IV. Pl. 77.
331. Myzantha lutea, *Gould* . . . . . Vol. IV. Pl. 78.
332. Myzantha flavigula, *Gould* . . . . . Vol. IV. Pl. 79.
333. Myzantha melanophrys . . . . . Vol. IV. Pl. 80.

Family ——?

Genus Zosterops.

The members of this genus are very widely dispersed; three well-defined species inhabit the continent of Australia and Van Diemen's Land; two are found on Norfolk Island, and numerous others inhabit the Indian Islands and the continent of India even to the Himalaya Mountains.

In placing this group next to the Honey-eaters, I have been influenced by their approximation to those birds both in form and habits, and to which they exhibit a further degree of affinity in the

form and structure of their nest, but not in the colouring of their eggs, which are always blue in colour.

334. Zosterops dorsalis, *Vig. & Horsf.* . . . . Vol. IV. Pl. 81.

335. Zosterops chloronotus, *Gould* . . . . . Vol. IV. Pl. 82.

336. Zosterops luteus, *Gould* . . . . . Vol. IV. Pl. 83.

Family CUCULIDÆ.

The family *Cuculidæ* is very fairly represented in Australia, since we there find species belonging to the greater number of the Old World genera, and one, *Scythrops*, which has not hitherto, I believe, been found elsewhere; each of which, with the exception of *Centropus* and *Eudynamys*, like their prototypes, are parasitic in their nidification, and depend upon other birds for the hatching of their eggs and the feeding of their offspring.

Genus Cuculus.

337. Cuculus optatus, *Gould* . . . . . Vol. IV. Pl. 84.

Since my description of this species was printed I have seen specimens from India, with the name of *Cuculus micropterus* attached to them; should this name have been published prior to the one I have assigned to it, my name must sink into a synonym.

338. Cuculus inornatus, *Vig. & Horsf.* . . . Vol. IV. Pl. 85.
Columba pallida, Lath.

339. Cuculus cineraceus, *Vig. & Horsf.* . . . Vol. IV. Pl. 86.

340. Cuculus insperatus, *Gould* . . . . . Vol. IV. Pl. 87.

341. Cuculus dumetorum, *Gould.*

This species, which inhabits the north-western coast, differs from *C. insperatus* in being of a much smaller size and in the whole of the plumage being browner.

Genus Chrysococcyx.

The members of this genus are distributed over most parts of the Old World; two species occur in Australia.

342. Chrysococcyx osculans.
Chalcites osculans, *Gould* . . . . . Vol. IV. Pl. 88.

343. Chrysococcyx lucidus . . . . . Vol. IV. Pl. 89.
Sylvia versicolor, Lath.

Genus Scythrops.

The only known species of this remarkable form inhabits the eastern parts of Australia, and according to the information gained from the notes made by Mr. Gilbert during Dr. Leichardt's Expedition, extends its range northward from thence to within the tropics.

I have recently had a young specimen presented to me by Lady Dowling, one of two taken from a branch of a tree while being fed by birds not of its own species, an important fact as showing the parasitic habits of the bird.

344. Scythrops Novæ-Hollandiæ, *Lath.* . . . Vol. IV. Pl. 90.

Genus Eudynamys.

One species only of this form inhabits Australia; other species are found in the Indian Islands and on the continent of India.

345. Eudynamys Flindersii . . . . . Vol. IV. Pl. 91.

Genus Centropus.

On reference to my account of the *Centropus Phasianus*, it will be seen I have stated that some difference occurs in specimens from different localities, intimated a belief of there being more than one species, and remarked that should such prove to be the case, the term *macrourus* might be applied to the Port Essington birds, and *melanurus* to those from the north-west coast; and these names are provisionally retained until future research has proved whether they be or be not distinct.

346. Centropus Phasianus . . . . . Vol. IV. Pl. 92.

347. Centropus macrourus.

348. Centropus melanurus.

Family CERTHIADÆ.

Genus Climacteris.

Great additions have been made to the species of this well-defined and singular group of Australian birds, two out of the six now known being all that had been described prior to the publication of the present work. With the exception of Van Diemen's Land and the Cobourg Peninsula, every colony is inhabited by one or other of the following species:—

349. Climacteris scandens, *Temm.* . . . . . Vol. IV. Pl. 93.

340. Climacteris rufa, *Gould* . . . . . Vol. IV. Pl. 94.

351. Climacteris erythrops, *Gould* . . . . . Vol. IV. Pl. 95.

352. Climacteris melanotus, *Gould* . . . . . Vol. IV. Pl. 96.

353. Climacteris melanura, *Gould* . . . . . Vol. IV. Pl. 97.

354. Climacteris picumnus, *Temm.* . . . . . Vol. IV. Pl. 98.
Certhia leucophæa, Lath.

Genus Orthonyx.

Much difference of opinion has arisen among ornithologists respecting the situation of this bird in the natural system, and as to

what genus it is most nearly allied; I regret to say that not having seen much of the bird in its native wilds, I am unable to clear up these disputed points. The form is strictly Australian, and the single species known is confined to the south-eastern part of the country.

355. Orthonyx spinicaudus, *Temm.* . . . . Vol. IV. Pl. 99.

M. Jules Verreaux, who has written a highly interesting account of this bird, states that it is strictly terrestrial, and scratches among the detritus and fallen leaves for its food, throwing back the earth like the *Gallinaceæ*. It never climbs, as was formerly supposed, but runs over fallen trunks of trees;—is rather a solitary bird, seldom more than two being seen together. Its often-repeated cry of *cri-cri-cri-crite* betrays its presence, when its native haunts, the most retired parts of the forest, are visited. Its chief food consists of insects, their larvæ, and wood-bugs. It builds a large domed nest, of slender mosses; the entrance being by a lateral hole near the bottom. The eggs are white and disproportionately large. The situation of the nest is the side of a slanting rock or large stone, the entrance-hole being level with the surface.—*Revue Zoologique*, July 1847.

Genus Ptiloris.

In placing this beautiful bird near the *Climacteri*, I am influenced in the first place by the great similarity of its structure, and in the next by the account I have received of its actions in a state of nature; I allude more particularly to its mode of ascending the trees, which precisely resembles that of the tree Creepers. One species only of this form is found in Australia, many representatives of which, in nearly allied genera, *Promerops*, &c., inhabit New Guinea and the neighbouring islands.

356. Ptiloris paradiseus, *Swains.* . . . . . Vol. IV. Pl. 100.

That the range of this species extends from the eastern parts of Australia to within the tropics, is proved by Mr. Gilbert's having once seen it during his last Expedition.

Genus Sittella.

Numerous additions have also been made to this strictly Australian form. The *Sittella chrysoptera* was the only one known to previous writers; to this has been added one from Southern and Western Australia, another from Moreton Bay, and a third from the north coast.

The form does not exist in Van Diemen's Land.

357. Sittella chrysoptera . . . . . Vol. IV. Pl. 101.

358. Sittella leucocephala, *Gould* . . . . . Vol. IV. Pl. 102.

359. Sittella leucoptera, *Gould* . . . . . Vol. IV. Pl. 103.

360. Sittella pileata, *Gould* . . . . . Vol. IV. Pl. 104.

Family PSITTACIDÆ.

No one group of birds gives to Australia so tropical and foreign an air as the numerous species of this great family, by which it is tenanted, each and all of which are individually very abundant. Immense flocks of white Cockatoos are sometimes seen perched among the green foliage of the *Eucalypti*; the brilliant scarlet breasts of the Rose-hills blaze forth from the yellow flowering *Acaciæ*; the *Trichoglossi* or Honey-eating Parrakeets enliven the flowering branches of the larger *Eucalypti* with their beauty and their lively actions; the little grass Parrakeets rise from the plains of the interior and render these solitary spots a world of animation; nay the very towns, particularly Hobart Town and Adelaide, are constantly visited by flights of this beautiful tribe of birds, which traverse the streets with arrow-like swiftness, and chase each other precisely after the manner the Swifts are seen to do in our own islands. In the public roads of Van Diemen's Land the beautiful *Platycerci* may be constantly seen in small companies, performing precisely the same offices as the Sparrow in England. I have also seen flocks of from fifty to a hundred, like tame pigeons at the barn-doors in the farm-yards of the settlers, to which they descend for the refuse grain thrown out with the straw by the threshers. As might naturally be expected, the agriculturist is often sadly annoyed by the destruction certain species effect among his newly-sown and ripening corn, particularly where the land has been recently cleared and is adjacent to the brushes. Fifty-five well-defined species of this great family are figured and described in the present work. They appear to constitute four great groups, each comprising several genera, nearly the whole of which are strictly and peculiarly Australian; for instance, neither *Calyptorhynchus*, *Platycercus*, *Euphema*, *Psephotus*, *Melopsittacus*, or *Nymphicus* have been found in any other country; and whether we consider the elegance of their forms or the beauty of their plumage, they may vie with the members of this extensive family from any part of the world.

Genus CACATUA.

Australia, the Molucca and Philippine Islands and New Guinea are the great nurseries of the members of this genus. They incubate in holes of trees or in rocks, and lay two eggs.

361. Cacatua galerita . . . . . Vol. V. Pl. 1.

There are evidently several varieties or races of this species in Australia, each possessing a modification in the form of the bill doubtless given for some specific purpose; the Van Diemen's Land bird is the largest, and has the upper mandible attenuated, while the Port Essington bird is altogether smaller, and has a much more arched bill.

362. Cacatua Leadbeaterii . . . . . Vol. V. Pl. 2.

This species ranges over all the southern portions of Australia between the 20th and 30th degrees of S. latitude. I have never seen

a specimen from the north coast, and I believe it does not inhabit that part of the country; its true habitat appears to be the interior, for it is never found near the coast.

363. Cacatua sanguinea, *Gould* . . . . . Vol. V. Pl. 3.

This species has been found on the north coast, and was observed by Captain Sturt at the Depôt in Central Australia; we may hence infer that its range extends over all the intermediate country.

364. Cacatua Eos . . . . . Vol. V. Pl. 4.

This fine bird, which is strictly Australian, is distributed over all parts of the interior of the country, and is as abundant on the north as it is on the south coast; it was also observed by Captain Sturt at the Depôt.

The specimens from the north are of a larger size and have the orbits more denuded than those from the south.

Genus Licmetis.

The two species forming the genus *Licmetis* are not only confined to Australia, but, so far as we yet know, to the southern portions of that continent, one inhabiting the western and the other the eastern part of the country. Their singularly formed bill being admirably adapted for procuring their food on the ground, they are more terrestrial in their habits than the other members of the family.

365. Licmetis nasicus . . . . . Vol. V. Pl. 5.

366. Licmetis pastinator, *Gould.*
Licmetis pastinator, Gould in Proc. of Zool. Soc., Part VIII. p. 175.

Lores scarlet; general plumage white; the base of the feathers of the head and front of the neck scarlet, showing through and giving those parts a stained appearance; the basal half of the inner webs of the primaries, the inner webs of all the other feathers of the wing, and the inner webs of the tail-feathers beautiful brimstone-yellow; naked space round the eye greenish blue; irides light brown; bill white; feet dull olive-grey.

Inhabits Western Australia.

Differs from *L. nasicus* in being of a much larger size; but the colouring being similar, I have not thought it necessary to figure it.

Genus Nestor.

Of this genus two species are known, one of which is exclusively confined to Phillip Island, and the other to New Zealand; they are evidently the remains of a race, all the other members of which are probably extinct.

367. Nestor productus, *Gould* . . . . . Vol. V. Pl. 6.

The few examples of this species that may exist in captivity are all that survive, none remaining on Phillip Island, their native habitat.

Genus Calyptorhynchus.

The members of this genus are strictly arboreal, and are evidently formed to live upon the seeds of the *Banksiæ*, *Eucalypti*, and other trees peculiar to the country they inhabit; they diversify their food by occasionally devouring large caterpillars; they can scarcely be considered gregarious, but move about in small companies. Their flight is rather powerful, but at the same time laboured and heavy; and their voice is a low crying call, totally different from the harsh screaming notes of the *Cacatuæ*. Each division of the country, from the north coast of the continent to Van Diemen's Land, is inhabited by its own peculiar species.

I have never seen a member of this genus from any other country than Australia, but I have heard that an extraordinary Parrot, said to be larger than any at present in our collections, inhabits New Guinea, and which, from the description given of it, will probably be of this form. The *Calyptorhynchi* lay from two to four eggs in the holes of trees.

368. Calyptorhynchus Banksii . . . . . Vol. V. Pl. 7.

369. Calyptorhynchus macrorhynchus, *Gould* . . Vol. V. Pl. 8.

Inhabits the north coast, where it represents the *C. Banksii* of the eastern and the *C. naso* of the western coasts.

370. Calyptorhynchus naso, *Gould* . . . . . Vol. V. Pl. 9.

This species, which is confined to Western Australia, is rendered conspicuous by the small size of its crest, and by its bill being nearly as large as that of *C. macrorhynchus*, while its wings are much shorter than those of that species.

371. Calyptorhynchus Leachii . . . . . Vol. V. Pl. 10.

Banksianus Australis, Less. Traité d'Orn. p. 180, Atlas, pl. 18, fig. 2, fem.

Inhabits the south-eastern parts of the continent, and differs from all the others in its smaller size, the gibbose form of its bill, and in the paucity of its crest.

372. Calyptorhynchus funereus . . . . . Vol. V. Pl. 11.

Confined, I believe, to New South Wales, and South Australia?

373. Calyptorhynchus xanthonotus, *Gould* . . Vol. V. Pl. 12.

The true habitat of this species is Van Diemen's Land, but I have lately received a specimen from Port Lincoln, which proves that its range extends to South Australia. It is distinguished from *C. funereus* by its much smaller size, and by the uniformity of the yellow colouring of the tail.

374. Calyptorhynchus Baudinii, *Vig.* . . . . Vol. V. Pl. 13.

Inhabits Western Australia, and is distinguished by its small size and by the white marks on the tail.

Genus Callocephalon.

Of this form only a single species is known.

375. Callocephalon galeatum . . . . . Vol. V. Pl. 14.

Inhabits the southern coast of Australia and Van Diemen's Land.

Genus Polytelis.

This genus comprises two species, both of which are peculiar to the southern portions of Australia. They have many characters common to, and resemble in appearance the *Palæorni* of India.

376. Polytelis Barrabandi . . . . . Vol. V. Pl. 15.

377. Polytelis melanura . . . . . Vol. V. Pl. 16.

Genus Aprosmictus.

Generic characters.

As in *Platycercus*, but the *bill* more feeble; *cere* and *nostrils* covered with fine hair-like feathers; *wings* longer and less concave; *tail* more square; *tarsi* shorter and *toes* longer than in that genus.

Two, if not three species of this form inhabit Australia, and others are found in New Guinea and the neighbouring islands. They are distinguished from the *Platycerci* by the possession of a well-developed *os furcatorium*, a bone which is entirely wanting in the members of that genus; in their habits they are mainly arboreal, and in their disposition are morose and sullen.

378. Aprosmictus scapulatus . . . . . Vol. V. Pl. 17.

This species appears to be confined to New South Wales.

379. Aprosmictus erythropterus . . . . . Vol. V. Pl. 18.

The red-winged Parrakeets from the north coast are nearly a third smaller than those inhabiting the Liverpool plains and similar districts of the south coast; are they varieties of each other or distinct species?

Genus Platycercus.

In my opinion the New Zealand birds that have been placed in this genus are not true *Platycerci*, all the known species of which are confined to Australia; they comprise fourteen species which appear to be naturally divisible into minor groups, to which generic appellations may hereafter be given; for instance the *P. semitorquatus*, *P. Baueri*, and *P. Barnardi* form one; the *P. Adelaidiæ*, *P. Pennantii*, *P. flaveolus*, and *P. flaviventris* form another, and are the types of the genus *Platycercus*; *P. eximius*, *P. splendidus*, and *P. icterotis* form a third; and *P. pileatus* a fourth.

The members of this and the two next genera lay from seven to ten eggs in the holes of trees.

380. Platycercus semitorquatus . . . . . Vol. V. Pl. 19.

381. Platycercus Baueri . . . . . Vol. V. Pl. 20.

382. Platycercus Barnardii, *Vig. & Horsf.* . . . Vol. V. Pl. 21.
383. Platycercus Adelaidiæ, *Gould* . . . . . Vol. V. Pl. 22.
384. Platycercus Pennantii . . . . . Vol. V. Pl. 23.
385. Platycercus flaviventris . . . . . Vol. V. Pl. 24.
386. Platycercus flaveolus, *Gould* . . . . . Vol. V. Pl. 25.
387. Platycercus palliceps, *Vig.* . . . . . Vol. V. Pl. 26.
388. Platycercus eximius . . . . . Vol. V. Pl. 27.
389. Platycercus splendidus, *Gould* . . . . . Vol. V. Pl. 28.
390. Platycercus icterotis . . . . . Vol. V. Pl. 29.
391. Platycercus ignitus, *Leadb.* . . . . . Vol. V. Pl. 30.
392. Platycercus Brownii . . . . . Vol. V. Pl. 31.
393. Platycercus pileatus, *Vig.* . . . . . Vol. V. Pl. 32.

Genus Psephotus.

Generic characters.

As in *Euphema*, but the *cere*, in which the nostrils are placed, more swollen or developed; *wings* rather short and the *tail* much lengthened; the lateral feathers short and not so regularly graduated; *feet* more adapted for terrestrial progression.

All the members of this genus are confined to Australia, and hold an intermediate station between the *Platycerci* on the one hand and the *Euphemæ* on the other. They pass much of their time on the ground, where the principal part of their food is procured; inhabit the interior rather than the country near the coast, and are adapted for the open plains, where they often assemble in vast flocks.

I have figured four species, and I have seen a drawing in the possession of Mr. Brown, made by Ferdinand Bauer from a bird said to have been found near the Gulf of Carpentaria, which will probably form a fifth.

394. Psephotus hæmatogaster, *Gould* . . . . Vol. V. Pl. 33.

This species differs from all the other members of the genus, as well as from those of the allied genera, in the pointed form of the tips of its primaries.

I think there are two birds confounded under this name, one with yellow and the other with scarlet under tail-coverts; but it will be necessary to see other examples before deciding that they are distinct. Captain Sturt brought specimens with yellow under tail-coverts from the Depôt in the interior of South Australia.

395. Psephotus pulcherrimus, *Gould* . . . . Vol. V. Pl. 34.
396. Psephotus multicolor . . . . . Vol. V. Pl. 35.
397. Psephotus hæmatonotus, *Gould* . . . . Vol. V. Pl. 36.

Genus Euphema.

The members of this genus are exclusively Australian and appear to be confined to the extra-tropical parts of the country, no species

having yet been seen from the north coast, while the seven species known are abundantly distributed over the southern portions of the continent, and two of them over Van Diemen's Land. Our knowledge of this group has been extended from three to seven species.

398. Euphema chrysostoma . . . . . Vol. V. Pl. 37.

399. Euphema elegans, *Gould* . . . . . Vol. V. Pl. 38.

400. Euphema aurantia, *Gould* . . . . . Vol. V. Pl. 39.

401. Euphema petrophila, *Gould* . . . . . Vol. V. Pl. 40.

402. Euphema pulchella . . . . . Vol. V. Pl. 41.

403. Euphema splendida, *Gould* . . . . . Vol. V. Pl. 42.

Captain Sturt procured a single male example of this beautiful bird during his journey into the interior of South Australia.

404. Euphema Bourkii . . . . . Vol. V. Pl. 43.

Captain Sturt found this species in abundance at the Depôt in Central Australia.

Genus Melopsittacus.

Generic characters.

Bill moderate; *culmen* arched; *tomia* descending at the base, then ascending and curving downwards to the tip; *nostrils* basal, lateral, open, and seated in a broad swollen cere; *wings* rather long, pointed, first primary very long, the second the longest; *tail* long and much graduated; *tarsi* moderate and covered with minute scales; *toes* slender, the outer toe much longer than the inner one.

The only known species of this form is strictly gregarious, assembles in vast flocks, and is admirably adapted for plains and downs covered with grasses, upon the seeds of which it entirely subsists. In all probability the species will be found to be universally dispersed over all the interior parts of the country, since independently of its previously known range from Swan River on the west, to New South Wales on the east, Mr. Gilbert, during his overland journey with Dr. Leichardt, observed it in every part of the country between Moreton Bay and the Gulf of Carpentaria.

405. Melopsittacus undulatus . . . . . Vol. V. Pl. 44.

Genus Nymphicus.

As of *Melopsittacus*, there is only one species known of this genus. It is strictly Australian, and will doubtless hereafter be found to be universally distributed over that vast country; it is equally adapted for the plains, and the two birds are frequently found associated.

406. Nymphicus Novæ-Hollandiæ . . . . . Vol. V. Pl. 45.

There are two distinct varieties of this species, one having a much darker colouring than the other.

Genus Pezoporus.

Of this terrestrial form but one species is known, which is very generally distributed over the temperate portions of Australia, the islands in Bass's Straits and Van Diemen's Land. The eggs are laid on the bare ground.

407. Pezoporus formosus . . . . . Vol. V. Pl. 46.

Genus Lathamus.

Of this form only a single species is known to exist in Australia, and that species had been assigned to a different genus by almost every recent writer on ornithology, Messrs. Vigors and Horsfield placing it in their genus *Nanodes*, Wagler in his genus *Euphema*, &c., until M. Lesson, perceiving that it did not belong to either of those forms, made it the type of his genus *Lathamus*, giving it at the same time the specific appellation of *rubrifrons*, which must of course give place to that of *discolor*, long before applied to it by Latham.

Having had ample opportunities of observing this bird in a state of nature, I concur in the propriety of M. Lesson's views in separating it into a distinct genus, at the same time I must remark that in its habits, nidification, food and whole economy, it is most closely allied to the *Trichoglossi* or honey-eating Parrakeets, and in no degree related to the *Euphemæ*.

408. Lathamus discolor . . . . . Vol. V. Pl. 47.

Genus Trichoglossus.

The arboreal group of *Trichoglossi* or honey-eating Parrakeets, if not so numerous in species as the grass-feeding Parrakeets, whose habits lead them to frequent the ground, are individually much more abundant and are more universally dispersed, being found in every part of the country yet visited, but from circumstances not easily to be accounted for, not more than one species is found in Western Australia. Other members of the genus are found in New Guinea and the Moluccas, but Australia is the great nursery for the birds of this form.

In their structure, habits and mode of nidification, and in their economy, no two groups of the same family can be more widely different than the *Trichoglossi* and the *Platycerci*; the pencilled tongue, diminutive stomach, thick skin, tough flesh, and fœtid odour of the former presenting a decided contrast to the simple tongue, capacious crop and stomach, thin skin, delicate flesh and freedom from odour of the latter; besides which the *Trichoglossi* possess a strong *os furcatorium*, which organ is wanting in the *Platycerci*; hence while the *Trichoglossi* are powerful, swift and arrow-like in their flight, the *Platycerci* are feeble, pass through the air in a succession of undulations near the ground, and never fly to any great distance. The mode in which the two groups approach and alight upon and quit the trees is also remarkably different; the *Tricho-*

glossi dashing among and alighting upon the branches simultaneously, and with the utmost rapidity, and quitting them in like manner, leaving the deafening sound of their thousand voices echoing through the woods; while the *Platycerci* rise to the branch after their undulating flight and leave them again in the like quiet manner, no sound being heard but their inward piping note.

The eggs of the *Trichoglossi* are from two to four in number.

409. Trichoglossus Swainsonii, *Jard. & Selb.* . . Vol. V. Pl. 48.

410. Trichoglossus rubritorquis, *Vig. & Horf.* . Vol. V. Pl. 49.

"Procured at Port Molle on the north-east coast, previously only found at Port Essington."—J. M'Gillivray.

411. Trichoglossus chlorolepidotus . . . . . Vol. V. Pl. 50.

412. Trichoglossus versicolor, *Vig.* . . . . . Vol. V. Pl. 51.

413. Trichoglossus concinnus . . . . . Vol. V. Pl. 52.

414. Trichoglossus porphyrocephalus, *Diet.* . . Vol. V. Pl. 53.

415. Trichoglossus pusillus . . . . . Vol. V. Pl. 54.

Order RASORES.

Family COLUMBIDÆ.

The members of this important family are distributed over every portion of the globe, in no part of which are they more numerous than in Australia, since that country is inhabited by no less than twenty-one species, which, like the Parrakeets, comprise several well-marked and distinct genera, and appear to be naturally divided into two great groups, the one arboreal, the other terrestrial; the *Ptilionopi*, *Carpophagæ* and *Lopholaimus*, with their expansive gullets and broad hand-like feet forming part of the former, and the *Phaps*, *Geophaps* and *Geopeliæ* the latter. The *Ptilinopi* and other allied forms are, in consequence of the peculiar character of the vegetation, confined, without a single exception, to the eastern and northern coasts.

The species of the genus *Phaps*, a form which I believe to be confined to Australia, are more widely dispersed than those of any other section of the family, being universally distributed over the entire country from north to south and from east to west; even the parched deserts of the interior are visited by them if a supply of water sufficient for their existence be within reach of their evening flight, which is performed with the most extraordinary rapidity and power.

Genus PTILINOPUS.

The species of this genus, the most brilliant and highly-coloured of the *Columbidæ*, range over Australia, New Guinea, Malacca, the Celebes, and Polynesia; two of the three Australian species are I believe confined to that country.

416. Ptilinopus Swainsonii, *Gould* . . . . Vol. V. Pl. 55.

417. Ptilinopus Ewingii, *Gould* . . . . . Vol. V. Pl. 56.

418. Ptilinopus superbus . . . . . Vol. V. Pl. 57.

Ptilinopus superbus, Steph. cont. of Shaw's Gen. Zool., vol. xiv. p. 279.

Genus Carpophaga.

The species of this genus are widely dispersed over Australia, New Guinea, Malacca, the Celebes and Polynesia. Strictly arboreal in their habits and feeding entirely upon fruits, berries and seeds, they frequent the towering fig-trees when their fruit is ripe, and the lofty palms for the sake of their large round seeds. I have frequently observed large flocks moving about from one part of the forest to another, consequently they may be considered a gregarious race; their short tarsi and dilated feet are ill-adapted for the ground, and I have never seen them descend from the trees, not even for water.

419. Carpophaga magnifica . . . . . Vol. V. Pl. 58.

420. Carpophaga leucomela . . . . . Vol. V. Pl. 59.

421. Carpophaga luctuosa . . . . . Vol. V. Pl. 60.

Genus Lopholaimus.

The single species of this genus is strictly a fruit-eating Pigeon, and is confined, so far as we yet know, to the brushes of New South Wales, where it moves about in large flocks and feeds upon the wild figs and other fruits and berries which the trees of the brushes afford.

422. Lopholaimus Antarcticus . . . . . Vol. V. Pl. 61.

A noble bird ornamented with a large occipital crest.

Genus Chalcophaps.

Generic characters.

"*Bill* slender, moderate and straight, the tip vaulted and rather arched; *nostrils* lateral, membranous and swollen, with the opening in the middle of the bill; *wings* long, second and third primaries nearly equal and the longest; *tail* moderate and much rounded; *tarsi* rather shorter than the middle toe, robust and covered with transverse scales; *toes* long, the lateral and the hind-toes nearly as long as the outer; *claws* moderate and curved."—Gray and Mitchell's Genera, Art. Gourinæ.

A genus of Brush Pigeons, which seek their food on the ground and live on the fallen seeds and berries they find there. Two species inhabit Australia, one of which is confined to the eastern and the other to the northern coast; other species are found in Java, Sumatra, and on the continent of India, the whole forming a group well-worthy of investigation by the scientific ornithologist.

423. Chalcophaps chrysochlora . . . . . Vol. V. Pl. 62.

The bird of this form inhabiting the country in the neighbourhood of Port Essington differs from those inhabiting New South

Wales in the much greater length of the mandibles, and is altogether a much finer bird; consequently I am induced to believe that it is distinct from its southern prototype, I would therefore provisionally name it,—

424. Chalcophaps longirostris.

I have not figured it, inasmuch as the colouring is similar, but more brilliant, and has the bands across the rump more distinct, than in *C. chrysochlora*.

Genus Leucosarcia.

Generic characters.

Bill lengthened, almost cylindrical, fleshy for two-thirds of its length from the base; *nostrils* lateral and covered by an oval swollen operculum; *wings* very short and concave; *tail* short; *tarsi* lengthened and defended in front by large distinct scuta; *toes* rather short, hind-toe situated high upon the tarsus.

A genus proposed by me for the reception of the Wonga-Wonga Pigeon of the Australian Brushes, a bird having many peculiar habits, but which, being mainly terrestrial, lead it to frequent the ground in the midst of the dense forests, where it moves about in pairs, feeding upon seeds and berries. Its flesh being remarkably white and extremely delicate, it is one of the best birds for the table inhabiting Australia, or indeed any other country.

The colour of the flesh suggested the generic term I have assigned to it.

425. Leucosarcia picata . . . . . Vol. V. Pl. 63.

Genus Phaps.

The members of this genus, generally known by the name of Bronze-wings, not only form an excellent viand for the settlers, but one of the greatest boons bestowed upon the explorer, since they not only furnish him with a supply of nutritious food, but direct him by their straight and arrow-like evening flight to the situations where he may find water, that element without which man cannot exist.

426. Phaps chalcoptera.
Peristera chalcoptera . . . . . Vol. V. Pl. 64.

427. Phaps elegans.
Peristera elegans . . . . . Vol. V. Pl. 65.

428. Phaps histrionica.
Peristera histrionica, *Gould* . . . . . Vol. V. Pl. 66.

"This beautiful pigeon," says Captain Sturt, "is an inhabitant of the interior. It lays its eggs in February, depositing them under any low bush in the middle of the open plains. In the end of March and the beginning of April they collect in large flocks and live on the seed of the rice-grass, which the natives also collect for food. During the short period this harvest lasts the flavour of this pigeon is most delicious, but at other times it is indifferent. It flies to water at sunset, but like the Bronze-wing only wets the bill. It is

astonishing indeed that so small a quantity as a bare mouthful should be sufficient to quench its thirst in the burning deserts it inhabits. It left us in the beginning of May, and I think migrated to the N.E., for the further we went to the westward the fewer did we see of it."

Mr. Gilbert observed this species in vast flocks on the plains in latitude 19° S.

Genus Geophaps.

Generic characters.

Bill very short and robust; *eyes* surrounded with a bare skin; *wings* very short and rounded; *tertiaries* long, and broad at their ends; *tarsi* moderately long; *toes* shorter than the tarsus, the inner toe rather the longest.

The members of this genus are peculiar to Australia; are more terrestrial in their habits than any other form of pigeons inhabiting that country; incubate on the ground; squat like the partridges when their haunts are intruded upon; inhabit the plains and open downs; have white pectoral muscles; are excellent food for man; run with great rapidity; fly swiftly for short distances; and when disturbed either perch on the larger branches, on which they squat lengthwise, or descend to the ground and run off after the manner of the true *Gallinaceæ*.

429. Geophaps scripta . . . . . Vol. V. Pl. 67.

430. Geophaps Smithii . . . . . Vol. V. Pl. 68.

431. Geophaps plumifera, *Gould* . . . . . Vol. V. Pl. 69.

"Lat. 17° 30′, March 6. I was fortunate enough to kill for the first time *Geophaps plumifera*, a species hitherto only known from a single specimen sent home by Mr. Bynoe of H.M.S. Beagle. The irides are bright orange, the naked skin before and surrounding the eyes bright crimson; the bill dark greenish grey; the scales of the legs and toes greenish grey; skin between scales light ashy grey. Its flight and actions on the ground are precisely similar to those of the other species of the genus. I only saw the specimen I killed, but afterwards learnt that one of my companions had seen a flock rise precisely like *Geophaps scripta*."—*Gilbert's Journal.*

"It was on the return of my party from the eastern extremity of Cooper's Creek," says Captain Sturt, "that we first saw and procured specimens of this beautiful little bird. Its locality was entirely confined to about thirty miles along the banks of the creek in question; it was generally perched on some rock fully exposed to the sun's rays, and evidently taking a pleasure in basking in the tremendous heat. It was very wild and took wing on hearing the least noise, but its flight was short and rapid. In the afternoon this little pigeon was seen running in the grass on the creek side, and could hardly be distinguished from a quail. It never perched on the trees; when it dropped after rising from the ground, it could seldom be flushed again, but ran with such speed through the grass as to elude our search."

Genus Ocyphaps.

Generic characters.

Head furnished with a lengthened occipital crest; *wings* rather short, the third primary gradually narrowed to a point; *tail* rather long and much rounded; *tarsi* as long as the middle toe; the inner *toe* shorter than the outer.

A genus consisting of a single species whose natural habitat is the basin of the interior of Australia, over the vast expanse of which its long pointed wings enables it to pass at pleasure from one district to another whenever a scarcity of food prompts it so to do: although mainly terrestrial in its habits, it is more frequently seen on the trees than the members of the genus *Phaps*; its food consists of small seeds and berries.

432. Ocyphaps Lophotes . . . . . Vol. V. Pl. 70.

Genus Petrophassa.

Generic characters.

As in *Ocyphaps*, but with the wings shorter, more rounded and destitute of the bronzy lustre; and with a more rounded tail.

So little is known respecting the single species of this Australian genus that I am unable to say more than that it inhabits rocky situations near the sea-coast.

433. Petrophassa albipennis, *Gould* . . . . . Vol. V. Pl. 71.

Genus Geopelia.

A form of Ground Doves very generally distributed over the Indian Islands and Australia, and of which three or four species are peculiar to the latter country; grassy hills, flats and extensive plains are the situations these birds affect, consequently in Australia they are almost exclusively confined to the interior; they pass over the ground in a quiet and peaceful manner; and when disturbed fly to some neighbouring tree, descend again almost immediately and search about for the minute seeds of annuals and other plants, upon which they principally subsist.

434. Geopelia humeralis . . . . . Vol. V. Pl. 72.

435. Geopelia tranquilla, *Gould* . . . . . Vol. V. Pl. 73.

436. Geopelia placida, *Gould*.

Inhabits the neighbourhood of Port Essington, is much smaller than *G. tranquilla*, but in colour and marking is precisely similar to that species.

437. Geopelia cuneata . . . . . Vol. V. Pl. 74.

"All that we read or imagine of the softness and innocence of the dove," says Captain Sturt, "is realized in this beautiful and delicate little bird; it is common on the Murray and the Darling, and was met with in various parts of the interior. Two remained with us at the Depôt in latitude 29° 40′, longitude 142°, during a great part of the winter, and on one occasion roosted on the tent-

ropes near the fire. Its note is exceedingly plaintive, similar to, but softer than, that of the turtle-dove of Europe."

Genus MACROPYGIA.

A genus the members of which are distributed over India, Java, New Guinea, Ceram, the Moluccas, Australia, &c. Only one species, *M. Phasianella*, has yet been found in the last-mentioned country, but others may be discovered when its eastern and northern parts have been more fully explored.

438. Macropygia Phasianella . . . . . Vol. V. Pl. 75.

The interior of the dense brushes are the favourite haunts of this bird, but it occasionally resorts to the crowns of the low hills and the open glades of the forest, where it searches for its food on the ground; on being disturbed it flies to the branches of the nearest tree, spreading out its broad tail at the moment of alighting.

Genus DIDUNCULUS.

Since I drew and described this most anomalous form, under the name assigned to it by Sir William Jardine, two important facts have been ascertained respecting it, viz. that it is identical with the bird described by Mr. Titian Peale of America under the name of *Didunculus*, and that the Samoan Islands and not Australia is its true habitat.

Didunculus strigirostris.

439. Gnathodon strigirostris, *Jard.* . . . . . Vol. V. Pl. 76.

Family MEGAPODIDÆ.

The genera *Talegalla*, *Leipoa* and *Megapodius* form part of a great family of birds inhabiting Australia, New Guinea, the Celebes, and the Philippine Islands, whose habits and economy are most singular and differ from those of every other group of birds which now exists upon the surface of our globe. In their structure they are most nearly allied to the *Gallinaceæ*, while in some of their actions and in their mode of flight they much resemble the *Rallidæ*; the small size of their brain, coupled with the extraordinary means employed for the incubation of their eggs, indicates an extremely low degree of organization.

The three species of the family inhabiting Australia, although referable to three distinct genera, have many habits in common, particularly in their mode of nidification—each and all depositing their eggs in mounds of earth and leaves, which, becoming heated either by the fermentation of the vegetable matter, or by the sun's rays, form a kind of natural hatching-apparatus, from which the young at length emerge fully feathered, and capable of sustaining life by their own unaided efforts.

Genus TALEGALLA.

440. Talegalla Lathami . . . . . Vol. V. Pl. 77.

Inhabits all the brushes and scrubby forests of the eastern parts of Australia. Mr. M'Gillivray informs me, in a letter lately received from him, dated on board H.M.S. "Rattlesnake," February 6th, 1848, "At Port Molle I shot in the brushes both *Megapodius* and *Talegalla*," which proves that the range of the latter bird is much greater than I have stated.

Genus Leipoa.

The only species of this form that has yet been discovered is strictly confined to Australia.

441. Leipoa ocellata, *Gould* . . . . . Vol. V. Pl. 78.

Since I wrote my account of this bird, it has been found to be abundantly dispersed over all parts of the Murray Scrub in South Australia.

The following highly interesting account has been forwarded to me by His Excellency Captain Sir George Grey, being the result of his observations of the bird made while Governor of South Australia:—

"Government House, Adelaide, December 12th, 1842.

"My dear Mr. Gould,—I have lately returned from the Murray, where I have been studying the habits and manners of the *Leipoa ocellata*, which is very plentiful in the sandy districts of the Scrub. The eyes of the living bird are of a bright, light hazel; its legs and feet dark brown, but not so dark as shown in your Plate; whilst the bare parts on the head and face are of a very delicate and clear blue. The gizzard is very large and muscular; the inner coats peculiarly horny and hard. Its food consists chiefly of insects, such as *Phasmidæ* and a species of *Cimex*; it also feeds on the seeds of various shrubs. The entire lungs and intestines of the one which I dissected were full of *Tænioïdes*. I have never seen any other animal infested with them to anything like the same extent, and yet the bird was perfectly healthy. It possesses the power of running with extraordinary rapidity; it roosts at night on trees, and never flies if it can avoid so doing;—the male bird weighs about four pounds and a half.

"The mounds they construct are from 12 to 13 yards in circumference at the base, and from 2 to 3 feet in height; the general form being that of a dome. The sand and grass is sometimes scraped up for a distance of from 15 to 16 feet from its outer edge.

"The mound appears to be constructed as follows: a nearly circular hole of about 18 inches in diameter, is scratched in the ground to the depth of 7 or 8 inches, and filled with dead leaves, dead grass and similar materials; and a large mass of the same substances is placed all round it upon the ground. Over this first layer a large mound of sand, mixed with dried grass, &c., is thrown, and finally the whole assumes the form of a dome, as I have before stated.

"When an egg is to be deposited, the top is laid open and a hole scraped in its centre to within 2 or 3 inches of the bottom of the layer of dead leaves. The egg is placed in the sand just at the

edge of the hole, in a vertical position, with the smaller end downwards. The sand is then thrown in again, and the mound left in its original form. The egg which has been thus deposited is therefore completely surrounded and enveloped in soft sand, having from 4 to 6 inches of sand between the lower end of the egg and the layer of dead leaves. When a second egg is laid it is deposited in precisely the same plane as the first, but at the opposite side of the hole before alluded to. When a third egg is laid it is placed in the same plane as the others, but, as it were, at the third corner of a square. When the fourth egg is laid, it is still placed in the same plane; but in the fourth corner of the square, or rather of the lozenge, the figure being of this form, ∘ ∘ ∘ ∘; the next four eggs in succession are placed in the interstices, but always in the same plane, so that at last there is a circle of eight eggs all standing upright in the sand with several inches of sand intervening between each. The male bird assists the female in opening and covering up the mound; and provided the birds are not themselves disturbed, the female continues to lay in the same mound, even after it has been several times robbed. The natives say that the females lay an egg every day.

"Eight is the greatest number I have heard of from good authority as having been found in one nest; but I opened a mound which had been previously robbed of several eggs, and found that two had been laid opposite to each other in the same plane in the usual manner; and a third deposited in a plane parallel to that in which the other two were placed, but 4½ inches below them. This circumstance led me to imagine it was possible that there might be sometimes successive circles of eggs in different planes.

"I enclose three sketches which will convey to you a complete idea of the form of the mound, and of the manner in which the eggs are placed in it. These sketches were drawn by Mr. Knight, from a rude one of mine, and are very accurate.

"One of the mounds of these birds which had been robbed of its eggs on the 11th November, some of which were quite fresh, had two fresh eggs laid in it on the 27th of the same month, and the birds were seen at the nest on the morning of the 28th, apparently for the purpose of laying, when the male bird was shot.

"Sometimes several of these mounds are constructed close to one another. I found two within 200 or 300 yards; and have seen five within the distance of four or five miles. They were built in precisely the same situations that I have seen them in other parts of the continent, that is, in a sandy, scrubby country, the site of the mound being in some little open glade, in the very thickest part of the scrub.

"The eggs are of a light pink, the colour being brightest and most uniform when freshly laid. As the time of hatching approaches, they become discoloured and marked in places with dark spots.

The greatest length of these eggs is about	.	$3\frac{6}{10}$ inches.
„ breadth „	.	$2\frac{2}{10}$ „
Circumference in direction of length	.	10 „
„ „ breadth	.	$7\frac{3}{10}$ „

" The temperature of the nests I have examined has always been warm; not so much so, however, as I should have thought necessary for the purpose of hatching eggs.

" There are two great peculiarities about these eggs; the first is, that both ends are of nearly the same size; which form is peculiarly adapted to the position in which they are always placed; the egg being compressed in every part as nearly as possible towards the axis, in which the centre of gravity lies, there is the least possible tendency to its equilibrium being destroyed when it is placed in a vertical position. A second peculiarity is the extreme thinness of the shell, and its consequent fragility. This is so great, that, unless the egg is handled with the greatest care, it is sure to be broken, and every effort which has been made to hatch these eggs under domestic fowls has failed, the egg having in every instance been broken by the bird under which it was placed.

" The native name for the bird on the Murray River is *Marrak-ko* or *Marra-ko*; in Western Austraulia the name of the bird is *Ngow-o* or *Ngow*. The name in Western Australia is given from the tuft on its head, *Ngoweer* meaning a tuft of feathers.

" I have found this bird in different parts of that portion of Australia included between the 26th and 36th parallels of south latitude, and the 113th and 141st parallels of east longitude, and I think that there is every probability that it inhabits a much wider range. It is found in all the scrubby districts of South Australia.

" Yours truly,

" G. Grey."

" December 14th.

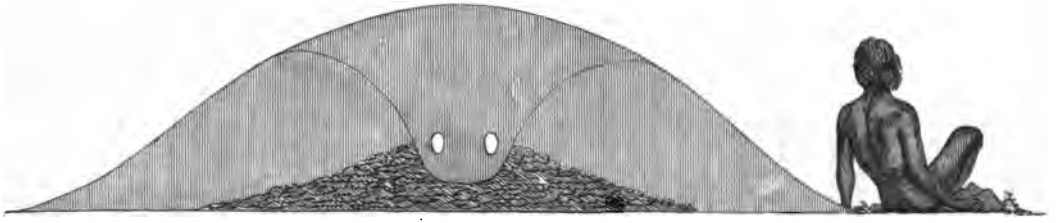
" P.S.—I have, by cross examination of several natives, elicited the following account of this bird, and I am quite satisfied of its truth.

" There is only one male and one female to each nest: they repair an old nest, and do not build a new one; both assist in scratching the sand to the nest. The female commences laying about the beginning of September, or when the spear-grass begins to shoot. Both sexes approach the nest together when the female is about to lay, and they take an equal share in the labour of covering and uncovering the mound. After every sunrise the female lays an egg, and lays altogether from eight to ten. If the natives rob the nest the female will lay again in the same nest, but she will only lay the full number of eggs twice in one summer. From the commencement of building, until the last eggs are hatched, four moons elapse (this would give a very long period of time before the eggs were hatched). The young one scratches its way out alone; the mother does not assist it. They usually come out one at a time;

No. 1.

This sketch represents a section through the mound in its undisturbed state; the pale tint indicates the portion of sand, the darker tint the leaves, &c.

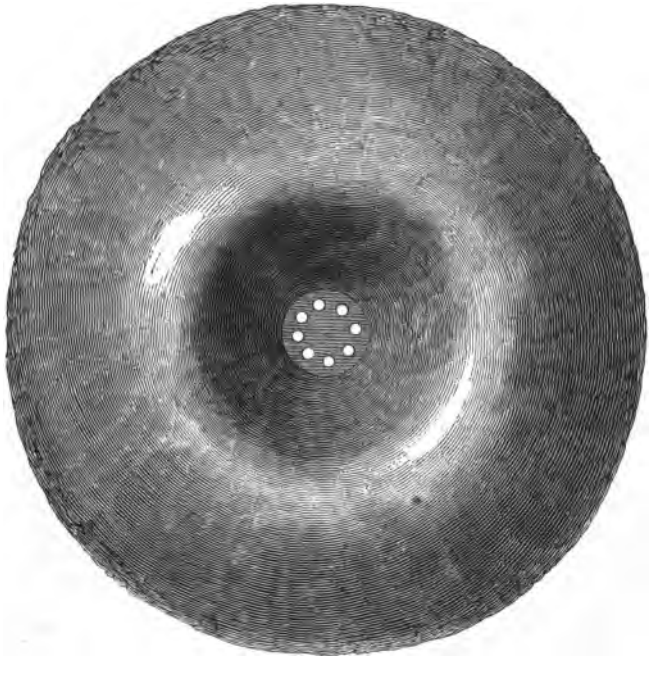
No. 2.



This sketch represents a section through the mound after the sand has been cleared out in such a manner that the eggs could all be removed, and the bottom of the nest of leaves be laid bare. It shows the form of the opening the natives make in the mound when they rob it of its eggs; this opening has however been continued below where the eggs are placed, in order to show the form of the interior nest.

The pale tint represents that portion which is made of sand; the darker tint the part which is made of leaves, &c.

No. 3.



This sketch shows a bird's eye view of the mound, as seen from above; the sand is supposed to have been so far thrown out as to leave the tops of the eggs exposed, and to show them standing upright in their relative positions.

occasionally a pair appear together. The mother, who is feeding in the scrub in the vicinity, hears its call and runs to it. She then takes care of the young one as a European hen does of its chick. When the young are all hatched the mother is accompanied by eight or ten young ones, who remain with her until they are more than half-grown. The male bird does not accompany them. The two sexes have different calls: that of the female is constantly uttered while she walks about in the scrub with her young ones.

"The natives frequently find the eggs and nests, but they seldom see the old birds, which are very timid and quick-sighted. They run very fast, like the Emu, roost on trees, and live for a long time without water, but drink when it rains. The natives state that the *Entozoæ* which I found in the bird mentioned above were unusual, and that it must have been in ill health.

"It is a remarkably stout, compact bird, and appears, when alive, to have as large a body as the female turkey, but it is shorter on the legs."

To this valuable account I may add the following, furnished by Mr. Gilbert:—

"Wongan Hills, Western Australia, September 28, 1842.

"This morning I had the good fortune to penetrate into the dense thicket I had been so long anxious to visit in search of the Leipoa's eggs, and had not proceeded far before the native who was with me told me to keep a good look-out, as we were among the *Ngou-oo's* hillocks, and in half an hour after we found one, around which the brush was so thick that we were almost running over before seeing it; so anxious was I to see the hidden treasures within that in my haste I threw aside the black fellow and began scraping off the upper part of the mound; this did not at all please him and he became very indignant, at the same time making me understand 'that as I had never seen this nest before I had better trust to him to get out the eggs, or I should, in my haste and impatience, certainly break them.' I therefore let him have his own way, and he began scraping off the earth very carefully from the centre, throwing it over the side, so that the mound very soon presented the appearance of a huge basin; about two feet in depth of earth was in this way thrown off, when the large ends of two eggs met my anxious gaze; both these eggs were resting on their smaller apex, and the earth around them had to be very carefully removed to avoid breaking the shell, which is extremely fragile when first exposed to the atmosphere; this mound was about three feet in height and seven to nine feet in circumference; the form, as left by the bird, was in outline the segment of a circle. About a hundred yards from this first nest we came upon a second, rather larger, of the same external form and appearance; it contained three eggs. Although we saw seven or eight more mounds, only these two contained eggs; we were too early; a week later and we should doubtless have found many more. To give you an idea of the place these birds choose for its remarkable mode of rearing its young, I will describe it as nearly as I can:—The Wongan Hills are about thirteen hundred feet above

the level of the sea, in a north-north-east direction from Drummond's house in the Toodgay: their sides are thickly clothed with a dense forest of *Eucalypti*; and at their base is a thicket, extending for several miles, of upright-growing and thick bushy plants, so high in most parts that we could not see over their tops, and so dense, that if we separated only for a few yards, we were obliged to cooey, to prevent our straying from each other; this thicket is again shadowed by a very curious species of dwarf *Eucalyptus* bearing yellow blossoms and growing from fifteen to thirty feet in height, known to the natives as the spear-wood, and of which they make their spears, digging sticks, dowaks, &c.; the whole formation is a fine reddish ironstone gravel, and this the Leipoa scratches up from several yards around, and thus forms its mound, to be afterwards converted into a hot-bed for the reproduction of its offspring. The interior of the mounds is composed of the finer particles of the gravel mixed with vegetable matter, the fermentation of which produces a warmth sufficient for the purpose of hatching. Mr. Drummond, who had been for years accustomed to hot-beds in England, gave it as his opinion that the heat around the eggs was about 80°. In both the nests with eggs the White Ant was very numerous, making its little covered galleries of earth around and attached to the shell, thus showing a beautiful provision of Nature in preparing the necessary tender food for the young bird when emerging from the shell; one of the eggs I have preserved shows the White Ant's tracks most beautifully; the largest mound I saw, and which appeared as if in a state of preparation for eggs, measured forty-five feet in circumference, and if rounded in proportion on the top would have been full five feet in height. I remarked in all the nests not ready for the reception of eggs the inside or vegetable portion was always wet and cold, and I imagine, from the state of others, that the bird turns out the whole of the materials to dry before depositing its eggs and covering them up with the soil; in both cases where I found eggs the upper part of the mound was perfectly and smoothly rounded over, so that any one passing it without knowing the singular habit of the bird might very readily suppose it to be an ant-hill: mounds in this state always contain eggs within, while those without eggs are not only *not* rounded over, but have the centres so scooped out that they form a hollow. The eggs are deposited in a very different manner from those of the Megapodius; instead of each being placed in a separate excavation in different parts of the mound, they are laid directly in the centre, all at the same depth, separated only by about three inches of earth, and so placed as to form a circle. I regret we were so early; had we been a week later the probability is I should have found the circle of eggs complete. Is it not singular that all the eggs were equally fresh, as if their development was arrested until the full number was deposited, so that the young might all appear about the same time? No one considering the immense size of the egg can for a moment suppose the bird capable of laying more than one without at least the intermission of a day, and perhaps even more. The average weight of the egg is eight ounces,

and four of them on being blown yielded nearly a pint and a half. Like those of the Megapodius they are covered with an epidermis-like coating, and are certainly as large, being three inches and three quarters in length, by two and a half in breadth; they vary in colour from a very light brown to a light salmon. During the whole day we did not succeed in obtaining sight of the bird, although we saw numerous tracks of its feet, and many places where it had been scratching; we also saw its tracks on the sand when crossing the dried beds of the swamps at least two miles from the breeding thicket, which proves that the bird, in procuring its food, does not confine itself to the brushes around its nest, but merely resorts to them for the purpose of incubating. The native informed us that the only chance of procuring the bird was by stationing ourselves in sight of the mound at a little distance, and remaining quiet and immoveable till it made its appearance at sun-down; this I attempted, and, with the native, encamped within twenty yards of the mound about an hour before sunset, taking the precaution to conceal ourselves well with bushes from the quick eye of the bird, but leaving just a sufficient opening to get a fair sight with my gun; in a half-sitting, half-crouching position I thus remained in breathless anxiety for the approach of the bird I have so long wished to see, not daring to move a muscle, for fear of moving a branch or making a noise by crushing a dead leaf, till I was so cramped I could scarcely bear the pain in my limbs; the bird did not however make its appearance, and the native, with the fear of wading through the thicket in darkness (for there was no moon), became so impatient, that he started up and began to talk so loud and make so much noise, that I was compelled to give up all hopes of seeing the bird that night; however, just as we were passing the mound we started the bird from the opposite side, but from the denseness of the thicket and the darkness closing around us, I had no chance of getting a shot at it. Mr. Roe, the Surveyor-general, who examined several mounds during his expedition to the interior in the year 1836, found the eggs nearly ready to hatch in the month of November, and invariably seven or eight in number; while another authority has informed me of an instance of fourteen being taken from one mound."

In a subsequent letter Mr. Gilbert states that the flavour of the egg is very similar to that of the Tortoise or Turtle, and that when mixed with tea its similarity to the peculiar roughness and earthy flavour of that of the Hawk's-bill Turtle is very remarkable.

Genus Megapodius.

The members of this genus inhabit all the Indian and Philippine islands and Australia. Mr. G. R. Gray informs me that "the females of some species associate together in bands during the night and deposit their eggs in a cavity which they dig to the depth of two or three feet; that the successive deposits of eggs amount to a hundred or more and are left to be hatched by the solar rays; that some cover them with sand and others with the remains of plants;

and that the eggs are extremely large for the size of the birds, and are generally of a cinnamon colour."

442. Megapodius tumulus, *Gould* . . . . . Vol. V. Pl. 79.

The following interesting account of the breeding-places of this remarkable bird has been transmitted to me by Mr. John M'Gillivray as the result of his observations on Nogo or Megapodius Island in Endeavour Straits. It will be seen that its range is more extensive than I had assigned to it:—

"The most southern locality known to me for this singular bird is Haggerston Island (in lat. 12° 3′ south), where I observed several of its mounds of very large size, but did not see any of the birds. During the survey of Endeavour Straits in H.M.S. Bramble, I was more fortunate, having succeeded in procuring both male and female on the island marked 'Nogo' upon the chart, where I resided for several days for that sole purpose. On this small island, not more than half a mile in length, rising at one extremity into a low rounded hill densely covered with jungle (or what in New South Wales would be called 'brush'), three mounds, one of them apparently deserted before completion, were found. The two others were examined by Mr. Jukes and myself. The most recent, judging from the smoothness of its sides and the want of vegetable matter, was situated upon the crest of the hill, and measured 8 feet in height (or 13½ from the base of the slope to the summit) and 77 feet in circumference. In this mound, after several hours' hard digging into a well-packed mass of earth, stones, decaying branches and leaves and other vegetable matter, and the living roots of trees, we found numerous fragments of eggs, besides one broken egg containing a dead and putrid chick, and another whole one, which proved to be addled. All were imbedded at a depth of *six feet* from the nearest part of the surface, at which place the heat produced by the fermentation of the mass was considerable. The egg, 3¼ by 2⅛ inches, was dirty brown, covered with a kind of epidermis, which easily chipped off, exposing a pure white surface beneath. Another mound, situated at the foot of the hill close to the beach, measured no less than 150 feet in circumference, and to form this immense accumulation of materials the ground in the vicinity had been scraped quite bare by the birds, and numerous shallow excavations pointed out whence the materials had been derived. Its form was an irregular oval, the flattened summit not being central as in the first instance, but situated nearer the larger end, which was elevated 14 feet from the ground, the slope measuring in various directions 18, 21½, and 24 feet. At Port Lihou, in a small bay a few miles to the westward, at Cape York and at Port Essington, I found other mounds which were comparatively low, and appeared to have been dug into by the natives. The great size the tumuli (which are probably the work of several generations) have attained on Haggerston and Nogo Islands arises doubtless from those places being seldom visited by the Aborigines. I found several eggs of large size in the ovarium of a female shot in August, while the condition of the

oviduct showed that an egg had very recently passed; hence it is probable that, in spite of their great comparative size, one bird lays several; but whether each mound is resorted to by more than one pair, I had not the means of ascertaining.

"Few birds are more wary and less easily procured than the *Megapodius*: it inhabits the belts of brush along the coast, and I never found the tumulus at a greater distance from the sea than a few hundred yards. When disturbed it seldom rises at once, unless on the margin of a thicket, but runs off to some distance and then takes to wing, flying heavily, but without any of the whirring noise of the true *Gallinaceæ*. It seldom takes a long flight, and usually perches on a tree, remaining there in a crouching attitude with outstretched neck, but flying off again upon observing any motion made by its pursuer; and it is only by cautiously sneaking up under cover of the largest trees that it can be approached within gunshot. As an example of its shyness, I may mention that a party of three persons, scattered about in a small jungle on Nogo Island, for the purpose of shooting the *Megapodius*, did not see a single bird, although they put up several, one of which came towards me and perched, unconscious of my presence, within 20 yards. At Port Essington I have shot this bird among mangroves, the roots of which were washed by the sea at high water; and Capt. F. P. Blackwood killed one while running on the mud in a similar locality, in both instances close to a mound. I never witnessed the escape of the young from the mound; but one, as large as a quail, and covered with feathers, was brought to Lieut. Ince by a native, who affirmed that he had dug it out along with several eggs.

"Iris yellowish brown; stomach a complete gizzard, being thick and muscular, containing small quartz pebbles, small shells (*Helix* and *Bulimus*), and black seeds; intestine 34 inches in length, of the size of a goose-quill, and nearly uniform in thickness, much twisted and contracted at intervals; cæcum, slender, dilated at the extremity, and 4⅝ inches in length."

Family TINAMIDÆ?

Subfamily TURNICINÆ.

Genus Pedionomus.

Generic characters.

Bill nearly as long as the head, straight, compressed towards the tip; nostrils basal, placed in a groove, and protected by an operculum; *wings* short and concave, first, second and third primaries equal in length; tertiaries longer than the primaries; *tail* nearly obsolete; *tarsi* elongated and defended in front with transverse scales; toes four in number, the hinder one feeble and placed high on the tarsus.

Few of the discoveries I made in Australia interested me more than that of the species forming the subject of the present genus, and of which during my sojourn in the country I only obtained a

male. Subsequently Mr. Strange sent me another example, which, from its much larger size and the circumstance of its neck being adorned with a beautiful collar of mingled black and white feathers, I considered a distinct species and characterized it as such, under the name of *P. torquatus*, and assigned that of *microurus* to the males or birds destitute of the collar, an error which the observations of Sir George Grey and Mr. Strange have enabled me to rectify, and which shows that this bird is another of the anomalies so often met with in Australia, since, contrary to the general rule, the female is a far finer and more conspicuously-coloured bird than her mate.

"You ask me," says Sir George Grey, "to tell you something about *Pedionomus*. There is but one species; you have described two, *P. torquatus* and *P. microurus*; the former is the female and the latter is the male. We have now three of these birds in confinement, all similar to your *P. torquatus*. We had four; the fourth, which died, was like your *P. microurus*; and was certainly a male; they were all caught in the same net, hence I infer that several females associate with one male.

"We have had several of these birds in confinement at different times; they eat pounded wheat, raw and boiled rice, bread and flies; the latter appear to be their favourite food. They soon become perfectly tame; the three now in our possession we have had for upwards of four months.

"These birds are migratory; they appear at Adelaide in June, and disappear about January; where they go has not yet been ascertained. They never fly if they can avoid so doing, and are often caught by dogs; when disturbed, they crouch down and endeavour to hide themselves in a tuft of grass. When running about they are in the habit of raising themselves in a nearly perpendicular position on the extremities of their toes, so that the hinder part of the foot does not touch the ground, and of taking a wide survey around them. The Emu sometimes stands in a similar position. I have not yet ascertained anything respecting their nests, eggs or time of breeding. The call of those we have in confinement precisely resembles that of the Emu, not the whistle, but the hollow-sounding noise like that produced by tapping on a cask, which the Emu utters, but is of course much fainter."

The plate therefore represents two females, and the appellation of *microurus* given to the male bird should be the one adopted. As the male has not been figured, the following description of that sex is given :—

Crown of the head, back and upper surface mottled with black, brown and fawn-colour, the latter occupying the external edge of the feathers, and the black and brown forming alternate circular markings on each feather; throat, neck, chest and flanks dull fawn-colour, the feathers of the neck and chest blotched with brown; flanks marked with the same colour, assuming the form of bars; tail-feathers almost invisible; centre of the abdomen and under tail-

coverts buffy-white, without spots or markings; irides straw-yellow, passing into black at the point; feet greenish yellow.

Total length, 4½ inches; *bill*, $\frac{11}{16}$; *wing*, 3¼; tarsi, $\frac{7}{8}$.

Independently of the plains of South Australia formerly given as the restricted habitat of this species, I have lately received a letter from Mr. Strange of Sydney, in which he states a female had been procured in the neighbourhood of Botany Bay. I am also in possession of an egg of this bird, which in general character resembles that of *Turnix*; it is somewhat suddenly contracted at the smaller end, the ground-colour is stone-white, sprinkled with small blotches of umber-brown and vinous-grey, the latter colour appearing as if beneath the surface of the shell, the sprinkled markings predominating at the larger end; the length of the egg is 1 inch and one-eighth by seven-eighths in breadth.

443. Pedionomus torquatus, *Gould*, female . . Vol. V. Pl. 80.
——————— microurus, *Gould*, male.

Genus Turnix.

However widely the members of this genus are dispersed, inhabiting as one or other of them do all quarters of the Old World, Australia is the great nursery of the race, since it is in that country that we find the species more numerous than elsewhere; they not only inhabit every part of the continent that has yet been explored, but they extend their range to the islands adjacent to the coast and even to Van Diemen's Land; some species enjoy a wide range across the continent from east to west, while others are very local; grassy plains and stony ridges thickly interspersed with scrubs and grasses are the situations they frequent; their eggs are invariably four in number, pointed in form, and very like those of the Sandpipers; their only nest is a few grasses placed in a hollow on the ground; in their habits and actions they differ considerably from the Quails and Partridges, and, strange as it may appear, approach more closely to the *Tringæ*, particularly to those species with the more attenuated form of bill; when rising from almost beneath your feet, they fly, especially the smaller species, straight and with arrow-like swiftness to the distance of one or two hundred yards, and then suddenly pitch to the ground. Their flesh, although eatable, is dry and deficient in flavour when compared with that of the Quails and Partridges.

444. Turnix melanogaster.
Hemipodius melanogaster, *Gould* . . . . Vol. V. Pl. 81.

445. Turnix varius.
Hemipodius varius . . . . . Vol. V. Pl. 82.

446. Turnix scintillans.

447. Hemipodius scintillans, *Gould* . . . . . Vol. V. Pl. 83.

448. Turnix melanotus.
Hemipodius melanotus, *Gould* . . . . . Vol. V. Pl. 84.

449. Turnix castanotus.

Hemipodius castanotus, *Gould* . . . . . Vol. V. Pl. 85.

450. Turnix pyrrhothorax.

Hemipodius pyrrhothorax, *Gould* . . . . Vol. V. Pl. 86.

451. Turnix velox.

Hemipodius velox, *Gould* . . . . . Vol. V. Pl. 87.

Family TETRAONIDÆ.

Genus Coturnix.

One true Quail is all that has yet been described as inhabiting Australia; as might be expected, it is a denizen of the plains, as well as of all the open districts of any extent where grass-lands occur; it also resorts to the arable districts in great abundance. A difference exists in specimens from the western and eastern coasts, the former having a deep fawn or light rufous tint pervading the under surface; and it is possible that this difference of colouring may be characteristic of a second and distinct species.

452. Coturnix pectoralis, *Gould* . . . . . Vol. V. Pl. 88.

Genus Synoïcus.

Generic characters.

As in *Perdix*, but with no spur on the tarsi, and the tail almost obsolete.

The great paucity of the *Gallinaceæ* in Australia is very remarkable, the members of the present genus being almost the only representatives of that group of birds inhabiting the country. The similarity of the habits and economy of these birds to those of the true Partridges, particularly to our own well-known species the *Perdix cinerea*, allies them more nearly to those birds than to the Quails.

Low, flat, grassy meads, the sides of rushy creeks, and districts clothed with dense herbage, are the favourite resorts of these birds, which move about in small coveys, and when flushed fly but a short distance before they again alight. As an article of food they are all that can be wished.

Every part of the country, from Port Essington on the north to Van Diemen's Land on the south, is inhabited by one or other species of the genus, which are, I doubt not, more numerous than I have represented, for I feel confident that the bird found at Port Essington is quite distinct from those of the south coast.

453. Synoïcus Australis . . . . . Vol. V. Pl. 89.

454. Synoïcus Diemenensis, *Gould* . . . . . Vol. V. Pl. 90.

455. Synoïcus sordidus, *Gould* . . . . . Vol. V. Pl. 91.

456. Synoïcus? Chinensis . . . . . Vol. V. Pl. 92.

Order GRALLATORES.

Family STRUTHIONIDÆ.

Genus Dromaius.

I formerly entertained an opinion that there were two species of Emu inhabiting Australia, but I have not had sufficient proofs that such is the case. The small specimens in the possession of the Linnean Society of London and in the Jardin des Plantes at Paris, may only be stunted birds which had been kept in captivity, but as some doubt still remains in my mind the subject should be kept in view.

457. Dromaius Novæ-Hollandiæ . . . . . Vol. VI. Pl. 1.

Genus Apteryx.

New Zealand is the only country wherein the members of this genus now exist; but they doubtless formerly ranged over that continent of which the greater part is submerged beneath the surface of the ocean, and of which a few isolated spots—New Zealand, Norfolk and Phillip islands among others—alone remain.

458. Apteryx Australis, *Shaw* . . . . . Vol. VI. Pl. 2.

459. Apteryx Owenii, *Gould* . . . . . Vol. VI. Pl. 3.

Genus Otis.

A country better adapted than Australia for the members of this genus can scarcely be imagined, yet singularly enough only one species has yet been found there. Africa may be considered the cradle of the race, and it is in that continent that they are most numerous; Europe and India are also inhabited by various species. The *Otis nigriceps* of the plains of Upper India, and the *O. Australis* are beautiful representatives of each other in the respective countries they inhabit.

460. Otis Australis, *Gray*.

Otis Australis, Gray in Griff. An. King., vol. iii. p. 305.

Otis Australasianus, *Gould* . . . . . Vol. VI. Pl. 4.

Both Dr. Leichardt and Mr. Gilbert observed this bird within the tropical portion of Australia, and Captain Sturt found it in the desert interior; its range over the country is probably universal.

Family CHARADRIADÆ.

Genus Œdicnemus.

This form occurs in Europe, Africa, Asia and Australia, in which latter country one if not two species exist that are not found elsewhere.

461. Œdicnemus grallarius . . . . . Vol. VI. Pl. 5.

The birds of this form inhabiting the northern coast have longer legs and shorter wings, and I have no doubt are distinct; but I have not seen a sufficient number of specimens to enable me to affirm that such is actually the case.

Genus Esacus.

The genera *Œdicnemus* and *Esacus* are merely modifications of the same form; the variation in that of the bill being expressly adapted for procuring the kinds of food upon which they respectively subsist; the *Œdicnemus* frequenting the stony deserts of the interior of the country feeds upon insects of various kinds, and the tender shoots of herbage; while the *Esacus*, resorting to the salt-marshes and the shores of the sea, lives upon crabs, mollusks and other marine animals.

462. Esacus magnirostris . . . . . Vol. VI. Pl. 6.

So far as our knowledge extends, the present bird is confined to the shores of the northern and north-western parts of Australia. It is beautifully represented in India by the *E. recurvirostris*, and these two species are all that are known to ornithologists.

Genus Hæmatopus.

I believe that there is no country in the world of any extent the shores of which are not inhabited by one or other of the numerous species of this genus; but it would seem that all those which exist in the southern hemisphere are totally different from those of the northern.

Two species inhabit Australia, viz.

463. Hæmatopus longirostris, *Vieill.* . . . . . Vol. VI. Pl. 7.

464. Hæmatopus fuliginosus, *Gould* . . . . . Vol. VI. Pl. 8.

Genus Lobivanellus.

Two species of this beautiful form inhabit Australia, one the northern and the other the southern parts of the country; I believe they are both confined to this portion of the globe. Other species are found in India and Africa.

465. Lobivanellus lobatus . . . . . Vol. VI. Pl. 9.

466. Lobivanellus personatus, *Gould* . . . . Vol. VI. Pl. 10.

Genus Sarciophorus.

A genus nearly allied to the last, and of which a single species inhabits Australia; like *Lobivanellus*, it is an Old World form.

467. Sarciophorus pectoralis . . . . . Vol. VI. Pl. 11.

Genus Squatarola.

The single species of this genus inhabits Europe, Asia, North America and Australia.

468. Squatarola Helvetica . . . . . Vol. VI. Pl. 12.

Genus Charadrius.

The Australian fauna comprises two species of this genus, of which one, the *Charadrius veredus*, might, perhaps, with propriety be separated or placed in that of *Eudromias*.

469. Charadrius xanthocheilus, *Wagl.* . . . . . Vol. VI. Pl. 13.

470. Charadrius veredus, *Gould* . . . . . Vol. VI. Pl. 14.

Genus Eudromias.

Of this genus of upland Plovers two species at least are known, viz. the *E. morinellus* of Europe and the *E. Australis* of Australia.

471. Eudromias Australis, *Gould* . . . . . Vol. VI. Pl. 15.

This bird inhabits the low hills and plains of the interior of Australia, a kind of habitat precisely similar to that of its European prototype.

Since my account of this species was written some additional information has been acquired respecting it.

"This singular bird," says Captain Sturt, in the Appendix to his Account of his recent expedition into the interior of South Australia, "made its appearance in 1841 suddenly on the plains of Adelaide, seeming to have come from the north. It occupied the sand-hills at the edge of the Mangrove swamps and fed round the puddles of water on the plains. This bird afforded my friend, Mr. Torrens, an abundant harvest, as it was numerous round his house; but although some few have visited South Australia every subsequent year, they have never appeared in such numbers as on the first occasion. It runs very fast along the ground. Mr. Browne and I met or rather crossed several flights of these birds in August of 1845, going south. They were on the large open plains and were very wild."

Genus Hiaticula.

Five species of this genus inhabit Australia, and others occur in New Zealand, the Indian islands, India, Europe, Africa and America, consequently few genera have their members more widely dispersed. Almost all the species found in Australia are peculiar to the country, and are more numerous on the southern than they are on the northern parts of that continent; shingly beaches and low flat shores are their principal places of resort.

472. Hiaticula bicincta . . . . . Vol. VI. Pl. 16.

473. Hiaticula ruficapilla . . . . . Vol. VI. Pl. 17.

474. Hiaticula monacha . . . . . Vol. VI. Pl. 18.

475. Hiaticula inornata, *Gould* . . . . . Vol. VI. Pl. 19.

476. Hiaticula nigrifrons . . . . . Vol. VI. Pl. 20.

Genus Erythrogonys, *Gould.*

Generic characters.

Bill longer than the head, straight, rather depressed; *nostrils*

basal, linear; *wings* long and powerful, the first feather the longest; tertiaries nearly as long as the primaries; *tail* short and nearly square; *legs* long; *toes* four in number, slender, the hind-toe extremely diminutive and free, the outer toe united to the middle one nearly to the first joint; thighs naked above the knee.

The single species of this genus appears to be strictly Australian, for I have never seen examples from any other country.

477. Erythrogonys cinctus, *Gould* . . . . . Vol. VI. Pl. 21.

In structure, actions and economy this elegantly formed bird is very nearly allied to the *Hiaticulæ* on the one hand, and the *Schœnicli* on the other.

Genus Glareola.

I have for many years questioned the propriety of placing the Pratincoles in the same group with the Plovers, or even in the same order, believing them as I do to be a terrestrial form of the Fissirostral birds. Linnæus placed them near the Swallows, and I think he was right in so doing; and Mr. Blyth, one of the most philosophical of ornithologists, entertains, I believe, the same opinion; but as nearly all other writers have placed them with the *Charadriadæ*, I have adopted their view of the subject, and have accordingly placed them in that group.

Species of this genus inhabit India, the Indian Islands, Europe and Africa.

478. Glareola grallaria, *Temm.* . . . . . Vol. VI. Pl. 22.

479. Glareola Orientalis, *Leach* . . . . . Vol. VI. Pl. 23.

Family SCOLOPACIDÆ.

Genus Himantopus.

Europe, India and Africa are inhabited by one, North America by a second, South America by a third and perhaps a fourth, New Zealand by a fifth, and Australia by a sixth species of this elegant but singular genus; the Australian bird, which is more abundant in the southern than in the northern parts of the country, is perhaps the finest and most ornamental of the whole.

480. Himantopus leucocephalus, *Gould* . . . Vol. VI. Pl. 24.

481. Himantopus Novæ-Zealandiæ, *Gould* . . Vol. VI. Pl. 25.

Genus Chladorhynchus.

The only known species of this form is peculiar to Australia.

482. Chladorhynchus pectoralis . . . . . Vol. VI. Pl. 26.

Observed in great numbers by Captain Sturt, during his journey into the interior, in the Appendix to which he says,—"This singular bird, with legs so admirably adapted by their length for wading into the shallow lakes and sheets of water, near which it is found, was seen in large flocks. It was very abundant on Lepson's Lake to the northward of Cooper's Creek; and on Strzelecki's Creek it

was sitting on the water with other wild fowl making a singular plaintive whistle."

Genus Recurvirostra.

This form, like that of *Himantopus*, is widely distributed over the globe, since species inhabit America, Africa, Europe, India and Australia, in which latter country, as in Europe, only one species is found, viz.

483. Recurvirostra rubricollis, *Temm* . . . . Vol. VI. Pl. 27.

Genus Limosa.

Two very distinct species of this genus inhabit Australia, one the southern and the other the northern divisions of the country; others occur in Java, Sumatra, India, Africa, Europe and North America.

484. Limosa Melanuroïdes, *Gould* . . . . . Vol. VI. Pl. 28.

485. Limosa uropygialis, *Gould* . . . . . Vol. VI. Pl. 29.

Genus Schœniclus.

I have figured four species of this genus as inhabiting Australia, not more than one, or at most two, of which, however, is or are peculiar to that country. The species of this genus range over many degrees of latitude, and occur in America as well as in most parts of the Old World.

486. Schœniclus Australis . . . . . Vol. VI. Pl. 30.

487. Schœniclus albescens . . . . . Vol. VI. Pl. 31.

488. Schœniclus subarquatus . . . . . Vol. VI. Pl. 32.

489. Schœniclus magnus, *Gould* . . . . . Vol. VI. Pl. 33.

This species, I believe, also inhabits India and Japan.

Genus Terekia.

The only known species of this form inhabits Java, Sumatra, India and Europe, and as I killed a specimen in Australia it enjoys a most extensive range.

490. Terekia cinerea . . . . . Vol. VI. Pl. 34.

Genus Actitis.

One species of this genus inhabits Australia, where it represents the *Actitis hypoleucus* of Europe and *Actitis macularius* of America.

491. Actitis empusa, *Gould* . . . . . Vol. VI. Pl. 35.

Genus Glottis.

The only species of this genus found in Australia appears to me to be identical with the *Glottis Glottoïdes* of India.

492. Glottis Glottoïdes . . . . . Vol. VI. Pl. 36.

Genus Totanus.

Of this genus two species are all that have yet been discovered in Australia; of these I have regarded one as identical with the *Totanus stagnatilis* of Europe, and if this view be correct, then the range of the species will extend from Asia to Australia; certain it is that I have seen specimens from all the intermediate countries which are strictly identical with the European bird. The second species is an inhabitant of the north coast, and is allied to the *T. calidris.*

493. Totanus stagnatilis . . . . . Vol. VI. Pl. 37.

494. Totanus griseopygius, *Gould* . . . . Vol. VI. Pl. 38.

Genus Strepsilas.

If any bird may be regarded as a Cosmopolite it is the Turnstone, for it inhabits the sea-shores of every part of the globe.

495. Strepsilas Interpres . . . . . Vol. VI. Pl. 39.

Genus Scolopax.

If the slight difference which occurs in the Snipes from Port Essington on the north and from Van Diemen's Land on the south be regarded as mere local variations, then only one species of this form exists in Australia.

496. Scolopax Australis, *Lath.* . . . . . Vol. VI. Pl. 40.

Captain Sturt informs us that this Snipe is common in South Australia, but scarce in the interior of the country; that it breeds in great numbers in the valley of Mypunga, but is only to be found in those localities where the ground is constantly soft.

Genus Rhynchæa.

The few species comprised in this genus are widely dispersed over the face of the globe; one inhabits the southernmost parts of America, another South Africa, a third India, and a fourth Australia. They affect different situations from those resorted to by the true Snipes, usually selecting drier ground and knolls under low bushes contiguous to marshy lands, where they can readily procure food and water.

497. Rhynchæa Australis, *Gould* . . . . . Vol. VI. Pl. 41.

"This beautiful bird," says Captain Sturt, "was very scarce in the interior, and indeed is not a common bird anywhere. Some three or four couples visit my residence at Grange yearly, and remain in the high reeds at the bottom of the creek, among which they doubtless breed, but we never found one of their nests. They lay basking in the shade of a tree on the sand-hills during the day, and separate when alarmed."

Genus Numenius.

Three species of this form are found in Australia, to which part of the globe they are confined, and wherein they represent the species

inhabiting the northern hemisphere, and with which their habits, actions and economy are strictly in accordance.

498. Numenius Australis, *Gould* . . . . . Vol. VI. Pl. 42.

499. Numenius uropygialis, *Gould* . . . . Vol. VI. Pl. 43.

500. Numenius minutus, *Gould* . . . . . Vol. VI. Pl. 44.

Family ARDEIDÆ.

Subfamily TANTALINÆ.

Genus Geronticus.

The three species of *Ibises* inhabiting Australia are referable to as many genera, at least they have been so separated by ornithologists, and the difference which exists in their habits and economy tends to prove the propriety of their subdivision; for while the *Geronticus* congregates in flocks of thousands and mainly subsists upon caterpillars, grasshoppers and locusts, a kind of food which it readily obtains on the heated plains, the *Threskiornis* assembles in small companies of from four to six in number and resorts to the rushy banks of the lagoons and other humid situations, and feeds upon newts, frogs, lizards, snakes and fish, and the *Falcinellus* resorts to similar situations, but I have had no opportunity of observing its habits.

501. Geronticus spinicollis . . . . . Vol. VI. Pl. 45.

I have never seen examples of this species from any other country than Australia, which would therefore appear to be its restricted habitat.

Genus Threskiornis.

502. Threskiornis strictipennis . . . . . Vol. VI. Pl. 46.

Found in most parts of Eastern Australia during wet seasons.

503. Falcinellus igneus . . . . . Vol. VI. Pl. 47.

This species is scarce in southern, but is more common in the northern and eastern districts of Australia, whence its range extends throughout the whole of the islands to India and Europe.

Subfamily GRUINÆ.

Genus Grus.

Species of this genus inhabit Europe, Asia, Africa, North America and Australia.

504. Grus Australasianus, *Gould* . . . . . Vol. VI. Pl. 48.

The Australian Crane is a noble bird, and is deservedly admired both by the Aborigines and Europeans. The eastern and northern parts of the country are the only localities yet known to be inhabited by this fine bird; future research may however find that it possesses a wider range.

Subfamily PLATALEINÆ.

Genus PLATALEA.

Two species of this genus inhabit Australia, both of which are, I believe, peculiar to that country, where they perform precisely the same offices that their prototypes do in Europe, Asia, Africa and America.

505. Platalea flavipes, *Gould* . . . . . Vol. VI. Pl. 49.

506. Platalea regia, *Gould* . . . . . Vol. VI. Pl. 50.

Subfamily CICONINÆ.

Genus MYCTERIA.

The noble species of this genus inhabiting Australia is, I believe, identical with the bird of the same form inhabiting India, and if such be the case, then the species enjoys a wide range of habitat. Africa and America are inhabited by species belonging to this or a very nearly allied genus.

507. Mycteria Australis, *Lath.* . . . . . Vol. VI. Pl. 51.

Subfamily ARDEINÆ.

Genus ARDEA.

The Herons range over every part of the globe. The sixteen species inhabiting Australia include examples of the genera *Ardea*, *Herodias*, *Nycticorax*, *Botaurus* and *Ardetta*, and I think they should be still further divided, the Reef Herons, *Herodias jugularis*, *H. Greyii*, *&c.* differing considerably both in structure and habits from the other members of the genus; the *Ardea pacifica* and *A. Novæ-Hollandiæ* too, are not typical *Ardeæ*, but fill a station intermediate between the true Herons and the Egrets.

508. Ardea pacifica, *Lath.* . . . . . Vol. VI. Pl. 52.

Numerous in the southern but rare within the tropical parts of Australia.

509. Ardea Novæ-Hollandiæ, *Lath* . . . . Vol. VI. Pl. 53.

Frequents the whole of the southern coasts of Australia and Van Diemen's Land.

510. Ardea rectirostris, *Gould* . . . . . Vol. VI. Pl. 54.

Found on the north coast of Australia, and I believe also in the Indian Islands.

511. Ardea leucophæa, *Gould* . . . . . Vol. VI. Pl. 55.

The range of this species, which is very rare in Australia, appears to extend to the southern parts of India.

Genus HERODIAS.

Nearly every part of the globe is tenanted by members of this genus. Those inhabiting Australia are very nearly allied to, but I

believe are quite distinct from, the species found in India, Europe and America, and of which they are the Australian representatives.

512. Herodias syrmatophorus, *Gould* . . . . Vol. VI. Pl. 56.

513. Herodias plumiferus, *Gould* . . . . . Vol. VI. Pl. 57.

514. Herodias immaculata, *Gould* . . . . . Vol. VI. Pl. 58.

515. Herodias pannosus, *Gould* . . . . . Vol. VI. Pl. 59.

516. Herodias jugularis . . . . . Vol. VI. Pl. 60.

517. Herodias Greyii . . . . . Vol. VI. Pl. 61.

518. Herodias picata, *Gould* . . . . . Vol. VI. Pl. 62.

Genus Nycticorax.

The single Australian species of this well-defined genus cannot by any possibility be confounded with either of those inhabiting any other part of the world; the cinnamon colour of its back rendering it conspicuously different from all known species.

Europe, Africa and America are all inhabited by Night Herons, consequently it is one of the most widely-distributed sections of the family.

519. Nycticorax Caledonicus . . . . . Vol. VI. Pl. 63.

Ardea Sparrmanni, Wagl. Syst. Ar. Ardea, sp. 32?

"Shot at Cape York and Port Essington, in which latter place it is rather abundant. *Yangko* of the Cape York aborigines, *Alăwool* of the Port Essington natives."—J. M'Gillivray.

Genus Botaurus.

520. Botaurus Australis, *Gould* . . . . . Vol. VI. Pl. 64.

The Australian Bittern is very similar to the European species *B. stellaris*.

Genus Ardetta.

The members of this genus of Mangrove Bitterns usually frequent the extensive belts of mangroves and low dells covered with reed-beds and dense herbage.

Africa and America are each inhabited by birds of this form, one species of which is also found in Europe, several in India and the adjacent islands, and three in Australia, viz.—

521. Ardetta flavicollis . . . . . Vol. VI. Pl. 65.

This species is said to inhabit Java and India, and although I have figured it under the name assigned to the Indian and Javanese bird, I am still inclined to believe that it is distinct.

522. Ardetta macrorhyncha, *Gould* . . . . Vol. VI. Pl. 66.

523. Ardetta stagnatilis, *Gould* . . . . . Vol. VI. Pl. 67.

524. Ardetta pusilla . . . . . Vol. VI. Pl. 68.

This species, with the little Bittern of the British Islands and several others inhabiting Africa and America, would admit of being separated into a distinct genus.

Family RALLIDÆ.

Of this family no less than sixteen species inhabit Australia, and are comprised in the following genera, viz. *Porphyrio*, *Fulica*, *Gallinula*, *Rallus* and *Porzana*, all of which are European forms; and *Parra*, *Eulabeornis* and *Tribonyx*: of the latter, the first is common to India and the Indian Islands, and the other two are confined, so far as we know, to Australia.

Genus PORPHYRIO.

525. Porphyrio melanotus, *Temm.* . . . . . Vol. VI. Pl. 69.

526. Porphyrio bellus, *Gould* . . . . . Vol. VI. Pl. 70.

Genus TRIBONYX.

527. Tribonyx Mortieri, *DuBus* . . . . . Vol. VI. Pl. 71.

Inhabits the southern parts of Australia and Van Diemen's Land.

528. Tribonyx ventralis, *Gould* . . . . . Vol. VI. Pl. 72.

Inhabits the interior of Australia.

"This bird," says Captain Sturt, "appeared suddenly in South Australia in 1840. It came from the north, fresh flights coming up and pushing on those which had preceded them. It was moreover evident that they had been unaccustomed to the sight of man, for they dropped in great numbers in the streets and gardens of Adelaide, and ran about like fowls. At last they increased so much in number as to swarm on all the waters and creeks, doing great damage to the crops in their neighbourhood. They took the entire possession of the creek near my house, and broke down and wholly destroyed about an acre and a quarter of wheat as if cattle had bedded on it. They made their first appearance in November, and left in the beginning of March, gradually retiring northwards as they had advanced."

Genus GALLINULA.

The true *Gallinulæ* are very numerous, and are found in nearly every part of the world. Australia is inhabited by a species peculiarly its own, distributed over all the southern parts of the continent.

529. Gallinula tenebrosa, *Gould* . . . . . Vol. VI. Pl. 73.

Nearly allied to, and a representative of, the Water-Hen of Europe, *Gallinula chloropus*.

Genus FULICA.

Fulicæ are found in nearly every part of the great continents of Europe, Asia, Africa and America, and one species in Australia.

530. Fulica Australis, *Gould* . . . . . Vol. VI. Pl. 74.

This bird, which is strictly confined to Australia, is rather smaller than its European ally.

Genus PARRA.

A tropical form, the structure of which is admirably adapted for progression over the aquatic plants and floating leaves of the lagoons and inland waters it frequents and over which it passes with facility; its expansive feet, spreading over a large surface of fallen grasses and leaves, readily sustaining it, which they would not do were they of the ordinary form.

Species of this form are found in India, Africa and America.

531. Parra gallinacea, *Temm.* . . . . . Vol. VI. Pl. 75.

Inhabits the northern parts of Australia and New Guinea.

Genus RALLUS.

We have here again a genus of birds the range of the species of which is most extensive, for there is no country in which one or other of them is not to be found.

532. Rallus pectoralis, *Cuv.* . . . . . Vol. VI. Pl. 76.

533. Rallus Lewinii, *Swains.* . . . . . Vol. VI. Pl. 77.

Genus EULABEORNIS.

Generic characters.

Bill longer than the head, nearly straight, but slightly curved downwards; compressed laterally; *nostril* long and open, situated in a large groove which runs along the upper mandible for nearly two-thirds of its length from the base; *wings* rather short and feeble, very much rounded; *tertiaries* long, nearly reaching to the end of the wing; *legs* rather long, more powerful than in the genus *Rallus*; *toes* not so much lengthened as in that genus; *tail* long cuneiform; the *webs* loose and of a decomposed character.

A genus established for the reception of a singular species of Rail inhabiting the north coast of Australia, and in which Mr. G. R. Gray has since placed four other species from different localities.

534. Eulabeornis castaneoventris, *Gould* . . . Vol. VI. Pl. 78.

Genus PORZANA.

The *Porzanæ* inhabit Europe, Africa, India and Australia; the four species inhabiting the latter country are generally distributed, even within the tropics.

535. Porzana fluminea, *Gould* . . . . . Vol. VI. Pl. 79.

536. Porzana palustris, *Gould* . . . . . Vol. VI. Pl. 80.

537. Porzana leucophrys, *Gould* . . . . . Vol. VI. Pl. 81.

538. Porzana immaculata . . . . . Vol. VI. Pl. 82.

Order NATATORES.

Upon taking a general view of the birds of this order inhabiting Europe and Australia, our attention cannot fail to be arrested by some remarkable contrasts which present themselves to our notice.

I allude to the great excess in the number of species of some of the principal groups, and the paucity of others; for instance, of the true *Anatidæ* or Ducks, exclusive of the Mergansers, the European fauna comprises at least forty species, while eighteen are all that are known in Australia; of the *Laridæ* or Gulls, exclusive of the Terns, twenty species inhabit Europe, while three are all that are known in Australia; on the other hand, sixteen species of Terns frequent the shores of Australia, while only twelve resort to those of Europe; of the family *Procellaridæ* or Petrels, nearly forty species enliven the Australian seas, while seven are all that are known to inhabit the seas of Europe; of the Puffins and Guillemots of our hemisphere no species is found in Australia or in any other part of the south seas; on the other hand, the Penguins of those seas are unknown in Europe; while the Grebes and Cormorants are about equal in number in both hemispheres.

Family ANATIDÆ.

Genus Cereopsis.

But one species of this singular and strictly Australian form has yet been discovered.

539. Cereopsis Novæ-Hollandiæ, *Lath.* . . . Vol. VII. Pl. 1.

Genus Anseranas.

Like *Cereopsis*, this genus contains but a single species, which is equally confined to Australia.

540. Anseranas melanoleuca . . . . . Vol. VII. Pl. 2.

Genus Bernicla.

The Australian bird hitherto referred to this genus should certainly receive a new generic appellation, since it does not agree either in form or habits with the true *Berniclæ*.

541. Bernicla jubata . . . . . Vol. VII. Pl. 3.

Genus Nettapus.

Of this beautiful genus of Pygmy Geese there are now at least four species known; one inhabiting Africa, one India, and two Australia.

542. Nettapus pulchellus, *Gould* . . . . . Vol. VII. Pl. 4.

543. Nettapus albipennis, *Gould.*

Nettapus Coromandelianus . . . . . Vol. VII. Pl. 5.

I feel confident that the Australian bird which I have figured under the name of *N. Coromandelianus*, is quite distinct from the Indian bird, and I have therefore assigned it a new name.

My figures are stated to be of the natural size, but this is an error: they are considerably smaller.

Genus Cygnus.

Only one species, the *C. atratus*, is, I believe, found south of the line; for the Black-necked Swan of Chili will doubtless prove to be generically distinct.

544. Cygnus atratus . . . . . Vol. VII. Pl. 6.

This "rara avis in terris" is not only strictly confined to Australia, of which country it forms one of the most ornamental of its feathered tribes, but is so exclusively an inhabitant of the southern districts, that no notice has been recorded of its having been seen in Torres' Straits, or on any part of the north coast.

Genus Casarca.

This ornamental section of the *Anatidæ* is not very numerous in species.

545. Casarca Tadornoïdes . . . . . Vol. VII. Pl. 7.

A beautiful representative of the *C. rutila* of Europe.

Genus Tadorna.

546. Tadorna Radjah . . . . . Vol. VII. Pl. 8.

An equally beautiful representative of the *T. Vulpanser*.

Genus Anas.

Of true Ducks three species are found in Australia.

547. Anas superciliosa, *Gmel.* . . . . . Vol. VII. Pl. 9.

This bird assimilates very closely in its structure and in its economy to the *Anas Boschas* of Europe, but in its plumage it is very different.

548. Anas nævosa, *Gould* . . . . . Vol. VII. Pl. 10.

A very singular Duck, perhaps more nearly allied to *Chaulelasmus* than to *Anas*. It is a very rare bird, and has only yet been seen on the western and southern coasts of Australia; it probably inhabits the distant interior.

549. Anas punctata, *Cuv.* . . . . . Vol. VII. Pl. 11.

This species has much the appearance of the Teal (genus *Querquedula*), but in its structure is nearly allied to the true ducks (genus *Anas*), with which I have provisionally placed it.

Genus Spatula.

The great continents of America, Africa, Asia and Australia, are each inhabited by one or more species of this restricted genus.

550. Spatula Rhynchotis . . . . . Vol. VII. Pl. 12.

This bird is, I believe, peculiar to Australia.

Genus Malacorhynchus.

A very delicate form, of which the single species, confined to Australia, is the only one known.

551. Malacorhynchus membranaceus . . . Vol. VII. Pl. 13.

Genus Dendrocygna.

This form is found in India, Africa, America and Australia; the bird I have separated into a distinct genus, under the appellation of *Leptotarsis*, should be included in this genus, the difference which it presents being too slight to warrant their separation.

552. Dendrocygna arcuata . . . . . Vol. VII. Pl. 14.

553. Dendrocygna Eytoni.

Leptotarsis Eytoni, *Gould* . . . . . Vol. VII. Pl. 15.

"Many of the reaches," says Captain Stokes, when speaking of the river Adelaide of the north-western part of Australia, "swarmed with wild fowl, consisting almost wholly of ducks, which, from a habit of perching on the trees, have received the name of Wood Ducks. Their singularly long legs, with the web very much arched near the toes, gives great pliability to the foot and a power of grasping, which enables them to perch on trees. When on the wing they make a peculiar pleasing, whistling sound, that can be heard at a great distance, and which changes as they alight into a sort of chatter. Their perching on trees is performed in a very clumsy manner, swinging and pitching to and fro. We subsequently often found them on the rivers of the north coast, but not within some miles of their mouths or near their upper waters, from which it would appear that they inhabit certain reaches of the rivers only; we never found them in swamps. The farthest south they were met with was on the Albert River, in the Gulf of Carpentaria, in lat. 18° S., which gives them a range of six and a half degrees of latitude over the northern part of the continent. These ducks are the *Leptotarsis Eytoni* of Mr. Gould."

Genus Nyroca.

Two species at least of this genus are known, one inhabiting Europe and India and the other Australia: both have the irides white.

554. Nyroca Australis, *Gould* . . . . . Vol. VII. Pl. 16.

Genus Erismatura.

The members of this genus, although but few in number, are found in Europe, Asia, Africa, America and Australia.

555. Erismatura Australis . . . . . Vol. VII. Pl. 17.

This species, the only one of the genus inhabiting Australia, is, I believe, strictly confined to the western parts of the country, as hitherto it has not been seen elsewhere.

Genus Biziura.

A genus of which only a single species is known to exist, and which is singularly different from every other member of the family. It is

strictly Australian, and may be regarded as one of the anomalies of its fauna.

556. Biziura lobata . . . . . Vol. VII. Pl. 18.

Family LARIDÆ.

Genus LARUS.

The members of this genus are distributed over the sea-shores of every part of the globe. Only one species inhabits Australia, to which country it is confined, and where it represents the *Larus marinus* of Europe and America.

557. Larus Pacificus . . . . . Vol. VII. Pl. 19.

Genus XEMA.

A genus of Gulls, the members of which are delicate in their structure, elegant in their appearance, and graceful in all their actions. Many species are found in Europe and America, and others inhabit Africa; one species only has been characterized as Australian, but I believe that another will be found in Torres' Straits very similar to, but much larger than, the *X. Jamesonii* of the southern parts of that continent.

558. Xema Jamesonii . . . . . Vol. VII. Pl. 20.

Subfamily ——?

Genus LESTRIS.

The high latitudes of both the northern and southern hemispheres are frequented by parasitic Gulls.

One species of this form has been found in the Australian Seas, and another has been discovered within the Antarctic circle.

559. Lestris Catarractes . . . . . Vol. VII. Pl. 21.

Although I have figured and described this Australian bird as identical with the Skua Gull of Europe, it is likely that hereafter reasons may be found for separating them.

In a letter just arrived from Mr. J. M'Gillivray, dated on board H.M.S. Rattlesnake, Feb. 6, 1848, that gentleman says, "The *Lestris Catarractes* was noticed on various occasions in different parts of the South Indian Ocean; while off the Cape of Good Hope a solitary individual and subsequently two in company were seen. I have observed it following and hovering over a bait towing astern, and once saw it chase a Cape Petrel and force it to alight on the water. This bird seldom remained with us for more than half an hour at a time, during which it made a few circular flights about the ship."

Subfamily STERNINÆ.

The members of this family inhabiting Australia and Europe are nearly equal in number, and in each country examples of the same

forms are found to exist; the Australian fauna has also a *Gygis* and an *Onychoprion*, neither of which inhabit the European seas, and four species of *Anoüs*, of which only one frequents the northern hemisphere.

Genus Sylochelidon.

560. Sylochelidon strenuus . . . . . Vol. VII. Pl. 22.

A representative of the *S. Caspius* of Europe.

Genus Thalasseus.

The members of this genus, the type of which is the *T. Cantiacus* of the British Islands, are widely dispersed over most parts of the Old World, and three distinct species inhabit Australia.

561. Thalasseus Pelecanoïdes . . . . . Vol. VII. Pl. 23.

562. Thalasseus poliocercus, *Gould* . . . . Vol. VII. Pl. 24.

563. Thalasseus Torresii, *Gould* . . . . . Vol. VII. Pl. 25.

Since my account of this species was printed I have seen adult specimens from Southern India, which country is in all probability its true habitat.

Genus Sterna.

The members of this genus, as now restricted, enjoy so wide a range over the globe, that they may be said to be universally dispersed: three species are found in Australia.

564. Sterna melanorhyncha, *Gould* . . . . . Vol. VII. Pl. 26.

565. Sterna gracilis, *Gould* . . . . . Vol. VII. Pl. 27.

566. Sterna melanauchen, *Temm.* . . . . Vol. VII. Pl. 28.

"This beautiful bird," says Mr. M'Gillivray, "is very local in its breeding-places, the only one known to me being one of the 'three sand-banks' near Sir Charles Hardy's Islands. The eggs are two in number, deposited in a slight hollow in the sand. I have seen this bird on another neighbouring sand-bank, also on Solitary Island, near Cape York, and in Endeavour Straits, but was unable to procure a specimen from any of the three last-mentioned localities, on account of its excessive shyness. It is one of the most noisy of the Terns, and I generally saw it in small parties of half-a-dozen, or thereabouts. The fully-fledged young of the year differs from the adult in having the black on the head dark brown mottled with white, and the whole of the upper surface and wings variegated with dark brownish grey."

Genus Sternula.

Europe and Australia are both tenanted by little Terns, the specific distinctness of which cannot be questioned, however much that of the large Terns (genus *Sylochelidon*) may be: ought we not then to infer that some peculiar law prevails, and that if one be distinct the other is also? However that may be, it is certain that birds re-

garded as identically the same because no external difference is perceptible, breed at opposite seasons in the two hemispheres, and that if the birds of one hemisphere be brought and retained in the other, they continue to moult their feathers and to breed at the same period that they would have done had they remained in their native country.

567. Sternula Nereis, *Gould* . . . . . Vol. VII. Pl. 29.

Genus Gelochelidon.

It would be strange if this form did not exist in Australia, when all the other European genera of Terns are found there; still I have no other evidence of such being the case, than that of a specimen in the collection of King's College, London, which is said to be from Van Diemen's Land, and to which in the year 1837 I gave the name of *Sterna macrotarsa*.

568. Gelochelidon macrotarsus, *Gould*.
Sterna macrotarsa, Gould in Proc. of Zool. Soc., Part V. p. 26; and in Syn. Birds of Australia, Part II.

Crown of the head and back of the neck black; all the upper surface and primaries light silvery-grey; remainder of the plumage white; bill and feet black.

As I did not meet with this bird myself either in Van Diemen's Land or in any other of the Australian regions, I have not figured it.

Genus Gygis.

One species of this Polynesian genus of Terns is found in Australia.

569. Gygis candida . . . . . Vol. VII. Pl. 30.

Genus Hydrochelidon.

The value of minor genera or subgenera, as naturalists may choose to designate them, is much strengthened, when species, which have been assigned to either of them from countries so distant from each other as Australia and Europe, are found to possess similar habits, but differing from those of the other members of the family. Thus the members of the present little group inhabit the inland waters and marshes of both countries; make their nests among the rushes, and lay thickly-marked eggs, in both of which particulars they differ from the other Terns; the generality of which deposit their eggs on the shingles of the sea-shore, while others, the *Gygis candida* for instance, lay their single egg on the horizontal branch of a tree, so totally unprotected that how it is retained in its position during windy weather is a perfect mystery; others again, such as the Noddies, bring together large masses of sea-weed, which they either pile upon the swinging branch of a Mangrove or on the jutting point of a rock. All these facts should be studied by ornithologists before they discard subgenera proposed by their fellow labourers, and replace the species they may have so divided in the genera of the older writers, who not necessarily have known less of the subject; for

wherever a difference occurs in the habits of the members of any great family a variation more or less marked will be found in their structure. So far as my own observations go, and they have not been few, if I have read the great book of nature aright, the genera, instead of being reduced, might with propriety be multiplied without the risk of our being burthened with a genus for every species, as some writers affect to fear would then be the case.

570. Hydrochelidon fluviatilis, *Gould* . . . Vol. VII. Pl. 31.

A fine marsh Tern differing from its European prototypes *H. nigra*, *H. leucoptera*, and *H. leucopareia*.

Genus Onychoprion.

Of this form two species frequent the Australian seas.

571. Onychoprion fuliginosus . . . . . Vol. VII. Pl. 32.

Although I have figured one of the two Australian birds of this genus under the above appellation, rather than run the risk of unnecessarily adding to the number of species, I have no doubt it will prove to be distinct from the American bird.

Found breeding in prodigious numbers on Raine's Islet and Bramble Key in May and June, associated with Noddies (*Anoüs stolidus*). The Sooty Tern deposits its solitary egg in a slight excavation in the sand without lining of any kind. The egg varies considerably in its markings. After the party employed in building the beacon on Raine's Islet had been on shore about ten days, and the Terns had had their nests robbed repeatedly, the birds collected into two or three large flocks and laid their eggs in company, shifting their quarters repeatedly on finding themselves continually molested; for new-laid eggs were much in request among people who had for some time been living upon ship's fare. By sitting down and keeping quiet I have seen the poor birds dropping their eggs within two yards of where I sat, apparently glad to get rid of their burthen at all hazards. During the month of June 1844 about 1500 dozen of eggs were procured by the party upon the island. About the 20th of June nearly one half of the young birds (hatched twenty-five or thirty days previously) were able to fly, and many were quite strong upon the wing. Great numbers of young birds unable to fly were killed for the pot;—in one mess of twenty-two men the average number consumed daily in June was fifty, and supposing the convicts (twenty in number) to have consumed as many, 3000 young birds must have been killed in one month; yet I could observe no sensible diminution of the number of young, a circumstance which will give the reader some idea of the vast numbers of birds of this species congregated on a mere vegetated sand-bank like Raine's Islet.

572. Onychoprion Panaya . . . . . Vol. VII. Pl. 33.

Genus Anoüs.

Unlike other Terns which frequent the sea-shores and rivers, the Noddies inhabit the wide ocean, far remote from land, and which,

like the Petrels, they seldom quit, except at the breeding season, when they congregate in vast multitudes on small islands suited to the purpose. Great nurseries of this kind are to be found in every ocean; in the North Atlantic, one of the Tortugas, called Noddy Key, is a favourite resort, and the Bahama Islands are another; in the South Pacific and Indian Oceans, beside other situations, the Houtmann's Abrolhos, off the western coast of Australia, are resorted to in such immense numbers that Mr. Gilbert was perfectly astonished at the multitudes with which he found himself surrounded, upon landing on those remote and little explored islands.

573. Anoüs stolidus . . . . . Vol. VII. Pl. 34.

" The large Noddy," says Mr. M'Gillivray, " is abundantly distributed over Torres' Straits, but I never met with it to the southward of Raine's Islet, on which, as at Bramble Key, it was found breeding in prodigious numbers. Unlike its constant associate, the Sooty Tern, it constructs a shallow nest of small twigs arranged in a slovenly manner, over which are strewed about a handful of fragments of coral from the beach, shells, and occasionally portions of tortoise-shell and bones of turtle. The nest, sometimes placed upon the ground, but more usually upon tufts of grass and other herbage, at about a foot from the ground."

574. Anoüs melanops, *Gould* . . . . . Vol. VII. Pl. 35.

575. Anoüs leucocapillus, *Gould* . . . . . Vol. VII. Pl. 36.

576. Anoüs cinereus, *Gould* . . . . . Vol. VII. Pl. 37.

Family PROCELLARIDÆ.

There is perhaps no group of birds respecting which so much confusion exists, and the extent of whose range over the ocean is so little known, as that forming the present family.

Having, as I have before stated, paid much attention to these birds during my voyages to and from Australia and in its neighbourhood, my researches were rewarded by my obtaining a knowledge of at least forty different species, nearly all of which are peculiar to the seas of the southern hemisphere. The powers of flight with which these birds are endowed are perfectly astonishing, and they appear to be constantly performing migrations round the globe from west to east; and Australia lying in their tract, all the species may be found near its shores at one or other season of the year.

It is but natural to suppose that this great group of birds has been created for some especial purpose, and may we not infer that they have been placed in the Southern Ocean to prevent an undue increase of the myriads of mollusks and other low marine animals with which those seas abound, and upon which all the *Procellaridæ* mainly subsist?

Genus Diomedea.

Of this genus, which comprises among its members the largest of the Oceanic birds, three species range over the North Pacific Ocean; and six others fly to the southward of the equator.

577. Diomedea exulans, *Linn.* . . . . . Vol. VII. Pl. 38.

The weight of this species varies from seventeen to twenty pounds, and the expanse of its extended wings averages the enormous breadth of 11 feet.

578. Diomedea brachyura, *Temm.* . . . . Vol. VII. Pl. 39.

579. Diomedea cauta, *Gould* . . . . . Vol. VII. Pl. 40.

580. Diomedea culminata, *Gould* . . . . Vol. VII. Pl. 41.

581. Diomedea chlororhynchos, *Lath.* . . . Vol. VII. Pl. 42.

582. Diomedea melanophrys, *Temm.* . . . Vol. VII. Pl. 43.

583. Diomedea fuliginosa . . . . . Vol. VII. Pl. 44.

584. Diomedea gibbosa, *Gould.*

Diomedea gibbosa, Gould in Ann. and Mag. of Nat. Hist., vol. xiii. p. 361.

Face, ear-coverts, chin, abdomen, upper and under tail-coverts white; the remainder of the plumage very dark brown, approaching on the occiput, back of the neck and wings to black; bill yellowish horn-colour, becoming darker at the tip and at the base; feet in the specimen dark brown, but doubtless of a bluish gray, inclining to flesh-colour in the living bird.

The above is the description of a specimen in the collection of the Zoological Society of London, to which it was presented by F. Debell Bennett, Esq., who had procured it in the North Pacific. It differs from every other that has come under my notice in the peculiar swollen and raised form of the base of the upper mandible, which moreover rises high upon the forehead.

585. Diomedea olivaceorhyncha, *Gould.*

Diomedea olivaceorhyncha, Gould in Ann. and Mag. of Nat. Hist., vol. xiii. p. 361.

I propose this name for a species, examples of which are wanting to our collections, and of which a bill only has as yet come under my notice. It is in the possession of Sir Wm. Jardine, Bart., is 3 inches and $\frac{3}{8}$ths long from the gape to the tip, of a uniform olive-green, and in form more slender and elegant than that of the other members of the genus. The locality in which it was procured is not known, but it is supposed to have been obtained in the China seas.

The two last species were not seen by me in the Australian seas, but are given in order to complete a monograph of the *Diomedeæ*.

Genus Procellaria.

Of the fifteen species I have placed in this genus as now restricted, figures of only eight have been given.

586. Procellaria gigantea . . . . . Vol. VII. Pl. 45.

587. Procellaria Æquinoctialis.

588. Procellaria conspicillata, *Gould* . . . Vol. VII. Pl. 46.

589. Procellaria hasitata, *Kuhl* . . . . . Vol. VII. Pl. 47.

590. Procellaria Atlantica, *Gould.*

Procellaria Atlantica, Gould in Ann. and Mag. of Nat. Hist., vol. xiii. p. 362.

Male: the whole of the plumage deep chocolate-black; bill and feet jet-black.

This is one of the commonest species inhabiting the Atlantic, and no ship passes between our shores and the Cape of Good Hope without encountering it; it is a species respecting which very considerable confusion exists in the writings of nearly all the older authors. It is the *P. fuliginosa* of Forster's Drawings, No. 93 B, and the *P. fuliginosa* of Lichtenstein's edition of Forster's MSS. p. 23, which term cannot be retained, as it had already been applied by Latham to a very different bird from Otaheite; it is the *P. grisea* of Kuhl but not of Linnæus, who has given the term to another species, consequently *grisea* cannot be retained for it; and hence I have been induced to give it a new appellation, and thereby prevent misapprehension for the future.

591. Procellaria macroptera, *Smith.*

Procellaria macroptera, Smith, Zool. of South Africa, Aves, pl. 52.

I think that a bird I killed in the seas off Van Diemen's Land, where it was tolerably abundant, and which differs from the last in being of a larger size, having much longer wings and a greyer face, may be identical with the *P. macroptera* of Smith, and I therefore retain it under that appellation, in preference to assigning it a new name.

592. Procellaria Solandri, *Gould.*

Procellaria Solandri, Gould in Proc. of Zool. Soc., Part XII. p. 57; and in Ann. and Mag. of Nat. Hist., vol. xiii. p. 363.

Head, back of the neck, shoulders, primaries and tail dark brown; back, wing-coverts and upper tail-coverts slate-grey, each feather margined with dark brown; face and all the under surface brown, washed with grey on the abdomen; bill, tarsi, toes and membranes black.

This is a remarkably robust and compact bird. I shot a single individual in Bass's Straits on the 13th of March 1839. M. Natterer thought that it might possibly be identical with the bird figured in Banks's drawings, and to which Dr. Solander has affixed the term *melanopus*, an opinion in which I cannot concur; I have therefore named it in honour of that celebrated botanist. The specimen above described may possibly prove to be not fully adult, as the dark colouring of the under surface only occupies the extreme tips of the feathers, the basal portions of which are snow-white.

593. Procellaria Glacialoides, *Smith* . . . . Vol. VII. Pl. 48.

594. Procellaria Lessonii, *Garn.* . . . . . Vol. VII. Pl. 49.

595. Procellaria mollis, *Gould* . . . . . Vol. VII. Pl. 50.

596. Procellaria Cookii, *G. R. Gray* . . . Vol. VII. Pl. 51.

597. Procellaria cœrulea, *Gmel.* . . . . . Vol. VII. Pl. 52.

598. Procellaria flavirostris, *Gould.*

Procellaria flavirostris, Gould in Ann. and Mag. of Nat. Hist., vol. xiii. p. 365.

Feathers of the head and all the upper surface brown with pearl edges, fading into white on the tips of the upper tail-coverts; wings and tail deep blackish brown; all the under surface pure white; the feathers of the under surface of the shoulder with a streak of brown down the centre; bill yellow, passing into dark horn-colour at the tip; tarsi and feet fleshy white.

This fine species was procured off the Cape of Good Hope, in lat. 36° 39′ S., long. 10° 3′ E., by His Excellency Governor Grey, on his passage to South Australia. It is distinguished from its congeners by its much larger size, and by the yellow colouring of the bill. The female is somewhat smaller than her mate.

This bird so nearly approaches in form the members of the genus *Puffinus*, that it is almost questionable whether it should not be included in that group.

599. Procellaria nivea, *Gmel.*

600. Procellaria Antarctica, *Gmel.*

Genus Daption.

A genus established for the reception of the *Procellaria Capensis* of Linnæus, a species abounding in all the temperate latitudes of the southern seas.

601. Daption Capensis . . . . . Vol. VII. Pl. 53.

Genus Prion.

A genus of fairy-like Petrels confined to the southern hemisphere: much confusion exists respecting these birds, and they are so puzzling that I regret to say I have not been able to throw any light upon the subject.

Of the following species two only have been figured:—

602. Prion Turtur . . . . . Vol. VII. Pl. 54.

603. Prion vittatus . . . . . Vol. VII. Pl. 55.

604. Prion Banksii.

Pachyptila Banksii, Smith, Zool. of South Africa, Aves, pl. 55.

Prion Banksii, Gould in Ann. and Mag. of Nat. Hist., vol. xiii. p. 366.

Found in the temperate latitudes of the Atlantic and Pacific, and I believe in similar latitudes all round the globe.

605. Prion Ariel, *Gould.*

Prion Ariel, Gould in Ann. and Mag. of Nat. Hist., vol. xiii. p. 366.

I killed this species in Bass's Straits, where it was rather numerous.

Genus Puffinus.

The members of this genus inhabit the seas of both the northern and southern hemisphere, but are nowhere more abundant than round Australia, the fauna of which country comprises four species, all of which make one or other of the groups of islands lying off the coast their great nurseries or breeding-places.

606. Puffinus brevicaudus, *Brandt* . . . . Vol. VII. Pl. 56.

It will be seen that I have alluded in forcible terms to the great abundance of this species, in confirmation of which I annex the following extract from Flinders' Voyage, vol. i. p. 170:—

"A large flock of Gannets was observed at daylight, and they were followed by such a number of the sooty petrels as we had never seen equalled. There was a stream of from fifty to eighty yards in depth, and of three hundred yards or more in breadth; the birds were not scattered, but were flying as compactly as a free movement of their wings seemed to allow; and during a full *hour and a half* this stream of Petrels continued to pass without interruption, at a rate little inferior to the swiftness of the Pigeon. On the lowest computation I think the number could not have been less than a hundred millions. Taking the stream to have been fifty yards deep by three hundred in width, and that it moved at the rate of thirty miles an hour, and allowing nine cubic yards of space to each bird, the number would amount to 151,500,000. The burrows required to lodge this quantity of birds would be 75,750,000; and allowing a square yard to each burrow, they would cover something more than 18½ geographic square miles of ground."

607. Puffinus carneipes, *Gould* . . . . . Vol. VII. Pl. 57.

608. Puffinus sphenurus, *Gould* . . . . . Vol. VII. Pl. 58.

609. Puffinus assimilis, *Gould* . . . . . Vol. VII. Pl. 59.

Genus Puffinuria.

One species of this genus inhabits the Australian seas.

610. Puffinuria Urinatrix . . . . . Vol. VII. Pl. 60.

Genus Thalassidroma.

The little tenants of the ocean belonging to this genus are so universally dispersed, that they are found in all the seas except those of the very high latitudes of both hemispheres. The Australian fauna is particularly rich in birds of this form, inasmuch as no less than five distinct species frequent the seas which wash the shores of that country.

611. Thalassidroma marina, *Less.* . . . . Vol. VII. Pl. 61.

612. Thalassidroma melanogaster, *Gould* . . Vol. VII. Pl. 62.

613. Thalassidroma leucogaster, *Gould* . . . Vol. VII. Pl. 63.
Thalassidroma Tropica, *Gould.*

Thalassidroma Tropica, Gould in Ann. and Mag. of Nat. Hist., vol. xiii. p. 366.

Head, back, wings, tail and breast dark sooty black; chin, under coverts of the wings, abdomen, flanks, under tail-coverts, and a broad crescent-shaped band across the upper tail-coverts snow-white; bill, feet and legs black.

I observed this species in the Atlantic, where it is confined to the equatorial regions, being most abundant in the vicinity of the line. It is the largest member of the genus with which I am acquainted, and is rendered very conspicuous by the white mark on its throat.

614. Thalassidroma Nereis, *Gould* . . . . Vol. VII. Pl. 64.

615. Thalassidroma Wilsonii, *Bonap.* . . . Vol. VII. Pl. 65.

Family PELECANIDÆ.

Genus Phalacrocorax.

The great family of the Cormorants, whose range is universal, are well represented in Australia, since five species inhabit and are peculiar to that country, where they perform precisely the same offices as the other species of the genus do in Europe and America.

616. Phalacrocorax Carboïdes, *Gould* . . . Vol. VII. Pl. 66.

617. Phalacrocorax sulcirostris . . . . . Vol. VII. Pl. 67.

618. Phalacrocorax hypoleucus . . . . . Vol. VII. Pl. 68.

619. Phalacrocorax leucogaster, *Gould* . . . Vol. VII. Pl. 69.

620. Phalacrocorax melanoleucus, *Vieill.* . . Vol. VII. Pl. 70.

This species, besides feeding upon fish, devours newts and insects, to procure which it resorts to the shallow lagoons of the interior of the country.

621. Phalacrocorax punctatus . . . . . Vol. VII. Pl. 71.

Genus Attagen.

Although I have figured but one, there are evidently two if not three species of this genus in Australia; but I have not had sufficient opportunities to investigate the subject satisfactorily.

622. Attagen Ariel, *Gould* . . . . . Vol. VII. Pl. 72.

623. Attagen Aquila ?

Genus Phaëton.

The beautiful species of this form which graces the fauna of Australia, ranges over the greater part of the Pacific Ocean, and among other places retires to Norfolk Island and Raine's Islet for the purpose of breeding.

624. Phaëton phœnicurus . . . . . Vol. VII. Pl. 73.

Genus Pelecanus.

The members of this genus are very widely dispersed, since every great country has one or more species assigned to it.

The species inhabiting Australia is as fine and as beautifully marked as any one member of the family.

625. Pelecanus conspicillatus, *Temm.* . . . Vol. VII. Pl. 74.

Genus Plotus.

Asia, Africa, America and Australia are each tenanted by a species

of this genus, the members of which are but few in number, and the specific differences of which are not well understood or easily decyphered.

626. Plotus Novæ-Hollandiæ, *Gould* . . . Vol. VII. Pl. 75.

Genus Sula.

Four fine species of this genus appertain to the Australian fauna, since they not only frequent the seas adjacent to the shores of that country, but all of them resort to its rocks and islands for the purpose of breeding.

The genus comprises several other species which inhabit nearly every part of the globe.

627. Sula Australis, *Gould* . . . . . Vol. VII. Pl. 76.

Inhabits the southern coast of Australia and Van Diemen's Land, and is a beautiful representative of the *Sula Bassana* and *S. melanura* of Europe.

628. Sula personata, *Gould* . . . . . Vol. VII. Pl. 77.

Common on the east coast.

629. Sula fusca, *Briss.* . . . . . Vol. VII. Pl. 78.

"This species of Booby," says Mr. M'Gillivray, "is generally distributed on the north-east and north coasts of New Holland; but I found it breeding only upon Bramble Key, although I once, on Raine's Islet, found a solitary egg. The nest is slovenly made of dried herbage, a foot in diameter, with scarcely any cavity, and contains two eggs, of which in every instance one was clean and the other very dirty. The eggs, which are white, vary considerably in size. The largest measured $2\frac{6}{12}$ inches by $1\frac{7}{12}$; the smallest $2\frac{4\frac{1}{2}}{12}$ by $1\frac{7\frac{1}{2}}{12}$, and one of average size, $2\frac{1}{2}$ by $1\frac{3}{4}$ inches. Both sexes incubate, and the birds while sitting on their eggs allowed of a very near approach, and before flying off disgorged the contents of their stomachs, chiefly a species of *Clupea* or herring. I need scarcely add that their bite is very severe. During our visits to Darnley Island I observed several tame Boobies among the native villages, generally perched on the canoes hauled up on the beach. These birds were allowed their full liberty, and after fishing in the weirs upon the reefs until they had procured a sufficiency of food, returned to the huts."

Inhabits the north coast.

630. Sula piscator, *Linn.* . . . . . Vol. VII. Pl. 79.

Inhabits the north coast.

Family COLYMBIDÆ.

Genus Podiceps.

There is no country of any extent wherein Grebes are not to be found; and as their wing-powers are very limited they are mostly stationary.

I have elsewhere remarked how beautifully the European Grebes

are represented by those inhabiting Australia, and the truth of this remark will be rendered at once apparent on reference to the Plates of the following species:—

631. Podiceps Australis, *Gould* . . . . . Vol. VII. Pl. 80.
632. Podiceps gularis, *Gould* . . . . . Vol. VII. Pl. 81.
Podiceps Dominicus, var. *Lath.*
633. Podiceps poliocephalus, *Jard. & Selb.* . Vol. VII. Pl. 82.

Family SPHENISCIDÆ.

Of this southern group of birds at least three or four species visit the shores of Van Diemen's Land and the islands in Bass's Straits, which, in fact, constitute one of the great breeding places of the members of this family.

Genus Eudyptes.

634. Eudyptes chrysocome . . . . . Vol. VII. Pl. 83.

Genus Spheniscus.

635. Spheniscus minor, *Temm.* . . . . . Vol. VII. Pl. 84.
636. Spheniscus Undina, *Gould* . . . . . Vol. VII. Pl. 85.

The following "Table of the range or distribution of the species" will be of interest, as showing the parts of the country frequented by each so far as is at present known.

TABLE OF THE RANGE OR DISTRIBUTION OF THE SPECIES.

Name of Species.	South-eastern Australia or N.S. Wales.	South Australia.	Swan River or Western Australia.	Northern Australia.	Van Diemen's Land.	Other countries.	Number of Volume and Plate.
Aquila fucosa, *Cuv.*	*	*	*	...	*	... ...	I. Pl. 1.
—— Morphnoïdes, *Gould*	*	...	...	...	...	... ...	— 2.
Ichthyiaëtus leucogaster	*	*	*	*	*	Ind.&Af.?	— 3.
Haliastur leucosternus, *Gould*...	*	...	...	*	...	... ...	— 4.
—— sphenurus	*	*	*	*	...	... ...	— 5.
Pandion leucocephalus, *Gould*...	*	*	*	*	*	... ...	— 6.
Falco hypoleucus, *Gould*	...	*	*	...	...	... ...	— 7.
—— melanogenys, *Gould*	*	*	*	*	*	... ...	— 8.
—— subniger, *Gray*	...	*	...	...	...	... ...	— 9.
—— frontatus, *Gould*	*	*	*	*	*	... ...	— 10.
Ieracidea Berigora	*	*	...	...	*	... ...	— 11.
—— occidentalis, *Gould*	...	*	*	...	...	... ...	— 12.
Tinnunculus Cenchroïdes...	*	*	*	*	...	... ...	— 13.
Astur Novæ-Hollandiæ	*	*	...	...	...	... ...	— 14.
—— —— (albino)	*	*	...	...	*	... ...	— 15.
—— radiatus	*	...	...	...	...	... ...	— 16.
—— approximans, *Vig. & Horsf.*	*	*	...	...	*	... ...	— 17.
—— cruentus, *Gould*	...	...	*	*?	...	... ...	— 18.
Accipiter torquatus	*	*	*	*	*	... ...	— 19.
Buteo melanosternon, *Gould*	*	*	*	...	...	... ...	— 20.
Milvus affinis, *Gould*	*	*	*	*	*	... ...	— 21.
—— isurus, *Gould*	*	*	...	...	...	... ...	— 22.
Elanus axillaris...	*	*	*	*	...	... ...	— 23.
—— scriptus, *Gould*	...	*	...	...	...	... ...	— 24.
Lepidogenys subcristatus, *Gould*	*	...	...	*	...	... ...	— 25.
Circus assimilis, *Jard. & Selb.*	*	*	*	...	*	... ...	— 26.
—— Jardinii, *Gould*	*	*	...	...	...	... ...	— 27.
Strix castanops, *Gould*	...	...	...	...	*	... ...	— 28.
—— personata, *Vig.*...	*	*	*	*	...	... ...	— 29.
—— tenebricosus, *Gould*...	*	...	...	...	...	... ...	— 30.
—— delicatulus, *Gould*	*	*	*	*	...	... ...	— 31.
Athene Boobook	*	*	*	*?	*	... ...	— 32.
—— maculata	*	*	...	...	*	... ...	— 33.
—— marmorata, *Gould*	...	*	...	...	...	... ...	Int., p. xxv.
——? connivens	*	...	*	...	...	... ...	I. Pl. 34.
—— strenua, *Gould*	*	...	...	...	...	... ...	— 35.
—— rufa, *Gould*	...	...	...	*	...	... ...	— 36.
Ægotheles Novæ-Hollandiæ	*	*	*	...	*	... ...	II. Pl. 1.
—— leucogaster, *Gould*...	...	...	...	*	...	... ...	— 2.
Podargus megacephalus	*	...	...	...	...	... ...	In., p. xxviii.
—— humeralis, *Vig. & Horsf.*... ...	*	...	...	...	...	... ...	II. Pl. 3.
—— Cuvieri, *Vig. & Horsf.*	...	*	...	...	*	... ...	— 4.
—— brachypterus, *Gould*	...	*	*	...	...	... ...	Int., p. xxvi.
—— Phalænoïdes, *Gould*	...	...	...	*	...	... ...	II. Pl. 5.
—— plumiferus, *Gould*	*	...	...	...	...	... ...	— 6.
Eurostopodus albogularis...	*	...	...	...	...	... ...	— 7.
—— guttatus	*	*	*	*	...	... ...	— 8.
Caprimulgus macrurus, *Horsf.*	...	...	...	*	...	Java.....	— 9.

TABLE OF THE RANGE OR DISTRIBUTION OF THE SPECIES.

Name of Species.	South-eastern Australia or N.S. Wales.	South Australia.	Swan River or Western Australia.	Northern Australia.	Van Diemen's Land.	Other countries.	Number of Volume and Plate.
Acanthylis caudacuta	*	...	...	...	*	...	II. Pl. 10.
Cypselus Australis, *Gould*	*	...	...	...	...	...	— 11.
Atticora leucosternon, *Gould*	*	*	*	...	...	...	— 12.
Hirundo neoxena, *Gould*	*	*	*	...	*	...	— 13.
Chelidon arborea	*	*	*	*	*	...	— 14.
——— Ariel, *Gould*	*	*	*	...	...	...	— 15.
Merops ornatus, *Lath.*	*	*	*	*	...	...	— 16.
Eurystomus Australis, *Swains.*	*	...	...	*	...	...	— 17.
Dacelo gigantea	*	*	...	...	...	...	— 18.
——— Leachii, *Vig. & Horsf.*	...	...	...	*	...	...	— 19.
——— cervina, *Gould*	...	...	...	*	...	...	— 20.
Halcyon sanctus, *Vig. & Horsf.*	*	*	*	*	...	...	— 21.
——— pyrrhopygia, *Gould*	*	*	*	...	...	...	— 22.
——— sordidus, *Gould*	...	...	...	*	...	...	— 23.
——— MacLeayii, *Jard. & Selby*	*	...	...	*	...	...	— 24.
Alcyone azurea	*	*	...	...	...	...	— 25.
——— Diemenensis, *Gould*	...	...	...	...	*	...	Int., p. xxxi.
——— pulchra, *Gould*	...	...	...	*	...	...	Int., p. xxxii.
——— pusilla	...	...	...	*	...	N. Guinea	II. Pl. 26.
Artamus sordidus	*	*	*	...	*	...	— 27.
——— minor, *Vieill.*	*	...	...	...	...	...	— 28.
——— cinereus, *Vieill.*	...	...	*	*	...	Timor ...	— 29.
——— albiventris, *Gould*	...	...	...	*	...	...	— 30.
——— personatus, *Gould*	...	*	*	...	...	...	— 31.
——— superciliosus, *Gould*	*	*	...	...	...	...	— 32.
——— leucopygialis, *Gould*	*	*	...	*	...	...	— 33.
Dicæum hirundinaceum	*	*	*	...	...	...	— 34.
Pardalotus punctatus, *Gould*	*	*	*	...	*	...	— 35.
——— rubricatus, *Gould*	*?	...	...	...	...	...	— 36.
——— quadragintus, *Gould*	...	...	...	...	*	...	— 37.
——— striatus	*	*	*	...	...	...	— 38.
——— affinis, *Gould*	...	...	...	...	*	...	— 39.
——— melanocephalus, *Gould*	*	...	...	...	...	...	— 40.
——— uropygialis, *Gould*	...	...	...	*	...	...	— 41.
Strepera graculina	*	...	...	...	...	...	— 42.
——— fuliginosa, *Gould*	...	*	...	...	*	...	— 43.
——— arguta, *Gould*	...	*	...	...	*	...	— 44.
——— Anaphonensis	*	...	*	...	...	...	— 45.
——— melanoptera, *Gould*	...	*	...	...	...	...	In., p. xxxiv.
Gymnorhina Tibicen	*	...	*?	...	...	...	II. Pl. 46.
——— leuconota, *Gould*	*	*	...	...	...	...	— 47.
——— organicum, *Gould*	...	...	...	...	*	...	— 48.
Cracticus nigrogularis, *Gould*	*	*	...	...	...	...	— 49.
——— picatus, *Gould*	...	...	...	*	...	...	— 50.
——— argenteus, *Gould*	...	...	...	*	...	...	— 51.
——— destructor	*	*	...	...	...	...	— 52.
——— cinereus, *Gould*	...	...	...	...	*	...	Int., p. xxxv.
——— leucopterus, *Gould*	...	*	*	...	...	...	Int., p. xxxv.
——— Quoyii	...	...	...	*	...	N. Guinea	II. Pl. 53.
Grallina Australis	*	*	*	*	...	...	— 54.
Graucalus melanops	*	*	*	*	...	...	— 55.
——— parvirostris, *Gould*	...	...	...	...	*	...	Int., p. xxxv.
——— mentalis, *Vig. & Horsf.*	*	...	...	...	...	...	II. Pl. 56.

TABLE OF THE RANGE OR DISTRIBUTION OF THE SPECIES.

Name of Species.	South-eastern Australia or N.S. Wales.	South Australia.	Swan River or Western Australia.	Northern Australia.	Van Diemen's Land.	Other countries.	Number of Volume and Plate.
Graucalus hypoleucus, *Gould*	...	...	...	*	...	...	II. Pl. 57.
——— Swainsonii, *Gould*	*	...	...	*	...	...	— 58.
Pteropodocys Phasianella, *Gould*	*	*	*	...	...	...	— 59.
Campephaga Jardinii, *Gould*	*	...	...	*	...	...	— 60.
——— Karu	...	...	...	*	...	N. Guinea	— 61.
——— leucomela, *Vig. & Horsf.*	*	...	...	...	...	...	— 62.
——— humeralis, *Gould*	*	*	*	*	...	...	— 63.
Pachycephala gutturalis	*	*	*	...	...	...	— 64.
——— glaucura, *Gould*	...	...	...	...	*	...	— 65.
——— melanura, *Gould*	...	...	...	*	...	...	— 66.
——— pectoralis	*	*	*	...	...	...	— 67.
——— falcata, *Gould*	...	...	...	*	...	...	— 68.
——— Lanoïdes, *Gould*	...	...	...	*	...	...	— 69.
——— rufogularis, *Gould*	...	*	...	...	...	...	— 70.
——— Gilbertii, *Gould*	...	*	*	...	...	...	— 71.
——— simplex, *Gould*	...	...	...	*	...	...	— 72.
——— olivacea, *Vig. & Horsf.*	*	...	...	...	*	...	— 73.
Colluricincla harmonica	*	*	...	...	...	...	— 74.
——— rufiventris, *Gould*	...	*	*	...	...	...	— 75.
——— brunnea, *Gould*	...	...	...	*	...	...	— 76.
——— Selbii, *Jard.*	...	...	...	...	*	...	— 77.
——— parvula, *Gould*	...	...	...	*	...	...	— 78.
——— rufogaster, *Gould*	*	...	...	...	...	...	In., p. xxxvi.
Falcunculus frontatus	*	*	...	...	...	...	II. Pl. 79.
——— leucogaster, *Gould*	...	...	*	...	...	...	— 80.
Oreoïca gutturalis	*	*	*	...	...	...	— 81.
Dicrurus bracteatus, *Gould*	*	...	...	*	...	...	— 82.
Rhipidura albiscapa, *Gould*	*	*	*	...	*	...	— 83.
——— rufifrons	*	...	...	...	...	...	— 84.
——— Dryas, *Gould*	...	...	...	*	...	...	In., p. xxxix.
——— isura, *Gould*	...	...	...	*	...	...	II. Pl. 85.
——— Motacilloïdes, *Vig. & Horsf.*	*	*	*	...	...	...	— 86.
——— picata, *Gould*	...	...	...	*	...	...	In., p. xxxix.
Seïsura inquieta	*	*	*	...	...	...	II. Pl. 87.
Piezorhynchus nitidus, *Gould*	...	...	...	*	...	...	— 88.
Myiägra plumbea, *Vig. & Horsf.*	*	...	...	...	...	...	— 89.
——— concinna, *Gould*	...	...	...	*	...	...	— 90.
——— nitida, *Gould*	*	...	...	...	*	...	— 91.
——— latirostris, *Gould*	...	...	...	*	...	...	— 92.
Micrœca macroptera	*	*	...	...	...	...	— 93.
——— assimilis, *Gould*	...	...	*	...	...	...	Intro., p. xl.
——— flavigaster, *Gould*	...	...	...	*	...	...	II. Pl. 94.
Monarcha carinata	*	...	...	...	...	...	— 95.
——— trivirgata	*	...	...	*	...	...	— 96.
Gerygone albogularis, *Gould*	*	...	*	...	...	...	— 97.
——— fuscus, *Gould*	*	...	...	...	...	...	— 98.
——— culicivorus, *Gould*	...	...	*	...	...	...	— 99.
——— magnirostris, *Gould*	...	...	...	*	...	...	— 100.
——— lævigaster, *Gould*	...	...	...	*	...	...	— 101.
——— chloronotus, *Gould*	...	...	...	*	...	...	— 102.
Smicrornis brevirostris, *Gould*	*	*	*?	...	...	...	— 103.
——— flavescens, *Gould*	...	...	...	*	...	...	— 104.
Erythrodryas rhodinogaster	...	*	...	...	*	...	III. Pl. 1.

TABLE OF THE RANGE OR DISTRIBUTION OF THE SPECIES.

Name of Species.	South-eastern Australia or N.S. Wales.	South Australia.	Swan River or Western Australia.	Northern Australia.	Van Diemen's Land.	Other countries.	Number of Volume and Plate.
Erythrodryas rosea, *Gould*	*	...	...	...	...	... ...	III. Pl. 2.
Petroïca multicolor	*	*	*	...	*	... ...	— 3.
——— erythrogastra	...	...	...	...	...	Norf. Isl.	— 4.
——— Goodenovii...	*	*	*	...	...	... ...	— 5.
——— phœnicea, *Gould*	*	*	...	...	*	... ...	— 6.
——— bicolor, *Swains.*...	*	*	*	...	...	... ...	— 7.
——— fusca, *Gould*	...	...	...	...	*	... ...	— 8.
——— superciliosa, *Gould*	...	...	...	*	...	... ...	— 9.
Drymodes brunneopygia, *Gould*	...	*	*	...	...	... ...	— 10.
Eöpsaltria Australis	*	...	...	...	...	... ...	— 11.
——— griseogularis, *Gould*...	...	...	*	...	...	... ...	— 12.
——— leucogaster, *Gould*	...	...	*	...	...	... ...	— 13.
Menura superba, *Dav.*	*	...	...	...	...	... ...	— 14.
Psophodes crepitans...	*	...	...	...	...	... ...	— 15.
——— nigrogularis, *Gould*	...	...	*	...	...	... ...	— 16.
Sphenostoma cristata, *Gould*	*	*	...	...	...	... ...	— 17.
Malurus cyaneus	*	*	...	...	...	... ...	— 18.
——— longicaudus, *Gould*	...	...	...	...	*	... ...	— 19.
——— melanotus, *Gould*	...	*	...	...	...	... ...	— 20.
——— splendens	...	...	*	...	...	... ...	— 21.
——— elegans, *Gould*	...	...	*	...	...	... ...	— 22.
——— pulcherrimus, *Gould*...	...	...	*	...	...	... ...	— 23.
——— Lamberti, *Vig. & Horsf.*	*	...	...	...	...	... ...	— 24.
——— leucopterus, *Quoy & Gaim.* ...	*	*	*	...	...	... ...	— 25.
——— melanocephalus, *Vig. & Horsf.* ...	*	...	...	...	...	... ...	— 26.
——— Brownii, *Vig. & Horsf.*	*	...	...	*	...	... ...	— 27.
Amytis textilis	*	...	...	...	...	... ...	— 28.
——— striatus, *Gould*	*	...	...	...	...	... ...	— 29.
——— macrourus, *Gould*	...	...	*	...	...	... ...	— 30.
Stipiturus malachurus	*	*	*	...	*	... ...	— 31.
Dasyornis Australis, *Vig. & Horsf.*	*	...	...	...	...	... ...	— 32.
——— longirostris, *Gould*	...	...	*	...	...	... ...	— 33.
Atrichia clamosa, *Gould*	...	...	*	...	...	... ...	— 34.
Sphenœacus galactotes	*	...	...	*	...	... ...	— 35.
——— gramineus, *Gould*...	*	*	*	...	...	... ...	— 36.
Acrocephalus Australis, *Gould*...	*	*	...	...	...	... ...	— 37.
——— longirostris, *Gould*	...	...	*	...	...	... ...	— 38.
Hylacola pyrrhopygia	*	*	...	...	...	... ...	— 39.
——— cauta, *Gould*	...	*	...	...	...	... ...	— 40.
Cysticola magna, *Gould*	Unknown			...	...	... ...	— 41.
——— exilis...	*	*	...	...	...	... ...	— 42.
——— lineocapilla, *Gould*	...	...	...	*	...	... ...	— 43.
——— isura, *Gould*	*	...	...	...	...	... ...	— 44.
——— ruficeps, *Gould*...	*	...	...	...	...	... ...	— 45.
Sericornis citreogularis, *Gould*...	*	...	...	...	...	... ...	— 46.
——— humilis, *Gould*...	...	...	...	...	*	... ...	— 47.
——— osculans, *Gould*	...	*	...	...	...	... ...	— 48.
——— frontalis	*	*	...	...	...	... ...	— 49.
——— lævigaster, *Gould*	...	...	...	*	...	... ...	— 50.
——— maculatus, *Gould*	*	*	*	*	...	... ...	— 51.
——— magnirostris, *Gould*...	*	...	...	...	...	... ...	— 52.
Acanthiza pusilla	*	...	...	...	...	... ...	— 53.
——— Diemenensis, *Gould*	...	...	...	...	*	... ...	— 54.

TABLE OF THE RANGE OR DISTRIBUTION OF THE SPECIES.

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Acanthiza Ewingii, *Gould*					*		III. Pl. 55.
—— uropygialis, *Gould*	*						— 56.
—— apicalis, *Gould*			*				— 57.
—— pyrrhopygia, *Gould*		*					— 58.
—— inornata, *Gould*		*	*				— 59.
—— nana, *Vig. & Horsf.*	*	*					— 60.
—— lineata, *Gould*	*	*					— 61.
—— Reguloïdes, *Vig. & Horsf.*	*	*					— 62.
—— chrysorrhœa	*	*	*		*		— 63.
Ephthianura albifrons	*	*	*				— 64.
—— aurifrons, *Gould*	*	*					— 65.
—— tricolor, *Gould*	*						— 66.
Xerophila leucopsis, *Gould*		*					— 67.
Pyrrholæmus brunneus, *Gould*		*	*				— 68.
Origma rubricata	*						— 69.
Calamanthus fuliginosus					*		— 70.
—— campestris, *Gould*		*	*				— 71.
Chthonicola minima	*	*					— 72.
Anthus Australis, *Vig. & Horsf.*	*	*	*	*	*		— 73.
Cincloramphus cruralis	*						— 74.
—— cantillans, *Gould*	*	*	*	*			— 75.
—— rufescens	*	*	*	*			— 76.
Mirafra Horsfieldii, *Gould*	*			*?			— 77.
Estrelda bella	*				*		— 78.
—— oculea			*				— 79.
—— Bichenovii	*						— 80.
—— annulosa, *Gould*				*			— 81.
—— temporalis	*	*					— 82.
—— Phaëton				*			— 83.
—— ruficauda, *Gould*	*						— 84.
—— modesta, *Gould*	*						— 85.
Amadina Lathamii	*	*					— 86.
—— castanotis, *Gould*	*	*	*	*			— 87.
Poëphila Gouldiæ, *Gould*				*			— 88.
—— mirabilis, *Homb. & Jacq.*				*			— 89.
—— acuticauda, *Gould*				*			— 90.
—— personata, *Gould*				*			— 91.
—— leucotis, *Gould*				*			— 92.
—— cincta, *Gould*	*						— 93.
Donacola castaneothorax, *Gould*	*						— 94.
—— pectoralis, *Gould*				*			— 95.
—— flaviprymna, *Gould*				*			— 96.
Emblema picta, *Gould*				*			— 97.
Pitta strepitans, *Temm.*	*						IV. Pl. 1.
—— Vigorsii, *Gould*				*			— 2.
—— Iris, *Gould*				*			— 3.
Cinclosoma punctatum, *Vig. & Horsf.*	*	*			*		— 4.
—— castanotus, *Gould*		*	*				— 5.
—— cinnamomeus, *Gould*		*					— 6.
Oreocincla lunulata	*				*		— 7.
Chlamydera maculata, *Gould*	*	*					— 8.
—— nuchalis				*			— 9.
Ptilonorhynchus holosericeus, *Kuhl.*	*						— 10.

TABLE OF THE RANGE OR DISTRIBUTION OF THE SPECIES.

Name of Species.	South-eastern Australia or N.S. Wales.	South Australia.	Swan River or Western Australia.	Northern Australia.	Van Diemen's Land.	Other countries.	Number of Volume and Plate.
Ptilonorhynchus Smithii, *Vig. & Horsf.*...	*	...	...	...	...	... ...	IV. Pl. 11.
Sericulus chrysocephalus...	*	...	...	...	...	... ...	— 12.
Oriolus viridis	*	...	...	...	...	... ...	— 13.
——— assimilis, *Gould*	...	...	...	*	...	... ...	Int., p. liii.
——— flavocinctus	...	...	...	*	...	... ...	IV. Pl. 14.
Sphecotheres Australis, *Swains.*	*	...	...	...	...	... ...	— 15.
Corcorax leucopterus	*	*	...	...	...	... ...	— 16.
Struthidea cinerea, *Gould*	*	...	...	...	...	... ...	— 17.
Corvus Coronoïdes, *Vig. & Horsf.*	*	*	*	*	*	... ...	— 18.
Neomorpha Gouldii, *G. R. Gray*	...	...	...	...	...	N.Zealan.	— 19.
Pomatorhinus temporalis...	*	...	...	...	...	... ...	— 20.
——— rubeculus, *Gould*	...	...	...	*	...	... ...	— 21.
——— superciliosus, *Vig. & Horsf.*	*	*	*	...	...	... ...	— 22.
Meliphaga Novæ-Hollandiæ	*	*	...	...	*	... ...	— 23.
——— longirostris, *Gould*	...	...	*	...	...	... ...	— 24.
——— sericea, *Gould*...	*	...	...	...	...	... ...	— 25.
——— mystacalis, *Gould*	...	...	*	...	...	... ...	— 26.
——— Australasiana	*	*	...	...	*	... ...	— 27.
Glyciphila fulvifrons...	*	*	*	...	*	... ...	— 28.
——— albifrons, *Gould*	*	*	*	...	...	... ...	— 29.
——— fasciata, *Gould*	...	...	...	*	...	... ...	— 30.
——— ocularis, *Gould*	*	*	*	*	...	... ...	— 31.
Ptilotis chrysotis	*	...	...	...	...	... ...	— 32.
——— sonorus, *Gould*	*	*	*	...	...	... ...	— 33.
——— versicolor, *Gould*...	...	...	...	*	...	... ...	— 34.
——— flavigula, *Gould*	...	...	...	...	*	... ...	— 35.
——— leucotis...	*	...	*?	...	...	... ...	— 36.
——— auricomis	*	...	...	...	...	... ...	— 37.
——— cratitius, *Gould*	...	*	...	...	...	... ...	— 38.
——— ornatus, *Gould*	...	...	*	...	...	... ...	— 39.
——— plumulus, *Gould*	...	...	*	...	...	... ...	— 40.
——— flavescens, *Gould*...	...	...	...	*	...	... ...	— 41.
——— flava, *Gould*	...	...	...	*	...	... ...	— 42.
——— penicillatus, *Gould*	*	*	...	...	...	... ...	— 43.
——— fusca, *Gould*...	*	...	...	...	...	... ...	— 44.
——— chrysops	*	*	...	...	...	... ...	— 45.
——— unicolor, *Gould*	...	...	...	*	...	... ...	— 46.
Plectorhyncha lanceolata, *Gould*	*	...	...	...	...	... ...	— 47.
Xanthomyza Phrygia	*	*	...	...	...	... ...	— 48.
Melicophila picata, *Gould*	...	*	*	...	...	... ...	— 49.
Entomophila picta, *Gould*	*	...	...	...	...	... ...	— 50.
——— albogularis, *Gould*	...	...	...	*	...	... ...	— 51.
——— rufogularis, *Gould*	...	...	...	*	...	... ...	— 52.
Acanthogenys rufogularis, *Gould*	*	*	*	...	...	... ...	— 53.
Anthochæra inauris, *Gould*	...	...	...	...	*	... ...	— 54.
——— carunculata	*	*	*	...	...	... ...	— 55.
——— mellivora	*	*	...	...	*	... ...	— 56.
——— lunulata, *Gould*	...	...	*	...	...	... ...	— 57.
Tropidorhynchus corniculatus...	*	...	...	...	...	... ...	— 58.
——— argenticeps, *Gould*	...	...	...	*	...	... ...	— 59.
——— citreogularis, *Gould* ...	*	...	...	...	...	... ...	— 60.
——— sordidus, *Gould*	...	...	...	*	...	... ...	Int., p. lviii.
Acanthorhynchus tenuirostris	*	...	...	...	*	... ...	IV. Pl. 61.

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Acanthorhynchus dubius, *Gould*	...	...	...	...	*	...	Int., p. lix.
——— superciliosus	...	...	*	...	...	...	IV. Pl. 62.
Myzomela sanguineolenta	*	...	...	*	...	...	— 63.
——— erythrocephala, *Gould*	...	...	...	*	...	...	— 64.
——— pectoralis, *Gould*	...	...	...	*	...	...	— 65.
——— nigra, *Gould*	*	*	*	*	...	...	— 66.
——— obscura, *Gould*	...	...	...	*	...	...	— 67.
Entomyza cyanotis	*	...	...	...	...	...	— 68.
——— albipennis, *Gould*	...	...	...	*	...	...	— 69.
Melithreptus validirostris, *Gould*	...	...	...	...	*	...	— 70.
——— gularis, *Gould*	*	*	...	...	...	...	— 71.
——— lunulatus	*	*	...	...	...	...	— 72.
——— chloropsis, *Gould*	...	...	*	...	...	...	— 73.
——— albogularis, *Gould*	*	...	...	*	...	...	— 74.
——— melanocephalus, *Gould*	...	...	...	...	*	...	— 75.
Myzantha garrula	*	*	...	...	*	...	— 76.
——— obscura, *Gould*	...	...	*	...	...	...	— 77.
——— lutea, *Gould*	...	...	...	*	...	...	— 78.
——— flavigula, *Gould*	*	...	...	...	...	...	— 79.
——— melanophrys	*	...	...	...	...	...	— 80.
Zosterops dorsalis, *Vig. & Horsf.*	*	*	...	...	*	...	— 81.
——— chloronotus, *Gould*	...	...	*	...	...	...	— 82.
——— luteus, *Gould*	...	...	...	*	...	...	— 83.
Cuculus optatus, *Gould*	...	...	...	*	...	...	— 84.
——— inornatus, *Vig. & Horsf.*	*	*	*	...	*	...	— 85.
——— cineraceus, *Vig. & Horsf.*	*	*	*	...	*	...	— 86.
——— insperatus, *Gould*	*	...	...	...	...	...	— 87.
——— dumetorum	...	...	...	*	...	...	Int., p. lx.
Chrysococcyx osculans, *Gould*	*	*	*	...	...	...	IV. Pl. 88.
——— lucidus	*	*	*	*	*	N. Zeal.?	— 89.
Scythrops Novæ-Hollandiæ, *Lath.*	*	...	...	*	...	...	— 90.
Rudynamys Flindersii	*	...	...	*	...	...	— 91.
Centropus Phasianus	*	...	...	...	...	...	— 92.
——— macrourus	...	...	...	*	...	...	Int., p. lxi.
——— melanurus	...	...	...	*	...	...	Int., p. lxi.
Climacteris scandens, *Temm.*	*	*	...	...	...	...	IV. Pl. 93.
——— rufa, *Gould*	...	...	*	...	...	...	— 94.
——— erythrops, *Gould*	*	...	...	...	...	...	— 95.
——— melanotus, *Gould*	...	...	...	*	...	...	— 96.
——— melanura, *Gould*	...	...	...	*	...	...	— 97.
——— picumnus, *Temm.*	*	*	...	...	...	...	— 98.
Orthonyx spinicaudus, *Temm.*	*	...	...	...	...	...	— 99.
Ptiloris paradiseus, *Swains.*	*	...	...	*?	...	...	— 100.
Sittella chrysoptera	*	...	...	...	...	...	— 101.
——— leucocephala, *Gould*	*	...	...	*	...	...	— 102.
——— leucoptera, *Gould*	...	...	...	*	...	...	— 103.
——— pileata, *Gould*	...	*	*	...	...	...	— 104.
Cacatua galerita	*	*	*	*	*	...	V. Pl. 1.
——— Leadbeaterii	*	*	*	...	...	...	— 2.
——— sanguinea, *Gould*	...	*	...	*	...	...	— 3.
——— Eos	*	*	...	*	...	...	— 4.
Licmetis nasicus	*	*	...	...	...	...	— 5.
——— pastinator	...	...	*	...	...	...	Int., p. lxiii.

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Nestor productus, *Gould*	...	...	...	...	...	Phillip I.	V. Pl. 6.
Calyptorhynchus Banksii...	*	...	...	...	...	... ...	— 7.
——— macrorhynchus, *Gould*	...	...	...	*	...	... ...	— 8.
——— naso, *Gould*	...	...	*	...	...	... ...	— 9.
——— Leachii...	*	*	...	...	...	... ...	— 10.
——— funereus	*	...	...	...	...	... ...	— 11.
——— xanthonotus, *Gould* ...	...	*?	...	...	*	... ...	— 12.
——— Baudinii, *Vig.*	...	...	*	...	...	... ...	— 13.
Callocephalon galeatum	*	...	...	...	*	... ...	— 14.
Polytelis Barrabandii	*	...	...	...	...	... ...	— 15.
——— melanura	...	*	*	...	...	... ...	— 16.
Aprosmictus scapulatus	*	...	...	...	...	... ...	— 17.
——— erythropterus	*	...	...	*	...	... ...	— 18.
Platycercus semitorquatus	...	...	*	...	...	... ...	— 19.
——— Bauerii	...	*	...	...	...	... ...	— 20.
——— Barnardii, *Vig. & Horsf.* ...	*	*	...	...	...	... ...	— 21.
——— Adelaidiæ, *Gould*	...	*	...	...	...	... ...	— 22.
——— Pennantii	*	*	...	...	...	... ...	— 23.
——— flaviventris	...	...	...	...	*	... ...	— 24.
——— flaveolus, *Gould*	*	*	...	...	...	... ...	— 25.
——— palliceps, *Vig.*...	*	...	...	...	...	... ...	— 26.
——— eximius	*	...	...	...	*	... ...	— 27.
——— splendidus, *Gould*...	*	...	...	...	...	... ...	— 28.
——— icterotis...	...	...	*	...	...	... ...	— 29.
——— ignitus, *Lead*...	*?	...	...	...	...	... ...	— 30.
——— Brownii...	...	...	...	*	...	... ...	— 31.
——— pileatus, *Vig.*...	...	...	*	...	...	... ...	— 32.
Psephotus hæmatogaster, *Gould*	*	*	...	...	...	... ...	— 33.
——— pulcherrimus, *Gould*	*	...	...	...	...	... ...	— 34.
——— multicolor	*	*	...	...	...	... ...	— 35.
——— hæmatonotus, *Gould*	*	*	...	...	...	... ...	— 36.
Euphema chrysostoma	*?	...	...	...	*	... ...	— 37.
——— elegans, *Gould*...	*	*	*	...	...	... ...	— 38.
——— aurantia, *Gould*	...	*	...	...	*	... ...	— 39.
——— petrophila, *Gould*	...	*	*	...	...	... ...	— 40.
——— pulchella	*	...	...	...	...	... ...	— 41.
——— splendida, *Gould*	...	*	*	...	...	... ...	— 42.
——— Bourkii	*	*	...	...	...	... ...	— 43.
Melopsittacus undulatus	*	*	*	*	...	... ...	— 44.
Nymphicus Novæ-Hollandiæ	*	*	*	*	...	... ...	— 45.
Pezoporus formosus	*	*	*	...	*	... ...	— 46.
Lathamus discolor	*	...	...	...	*	... ...	— 47.
Trichoglossus Swainsonii, *Jard. & Selby*...	*	*	...	...	*	... ...	— 48.
——— rubritorquis, *Vig. & Horsf.*	...	...	...	*	...	... ...	— 49.
——— chlorolepidotus	*	...	...	...	...	... ...	— 50.
——— versicolor, *Vig.*	...	...	...	*	...	... ...	— 51.
——— concinnus	*	*	...	...	*	... ...	— 52.
——— porphyrocephalus, *Diet.* ...	...	*	*	...	...	... ...	— 53.
——— pusillus	*	*	...	...	*	... ...	— 54.
Ptilinopus Swainsonii, *Gould*	*	...	...	...	...	... ...	— 55.
——— Ewingii, *Gould*	...	...	...	*	...	... ...	— 56.
——— superbus	...	...	...	*	...	... ...	— 57.
Carpophaga magnifica	*	...	...	...	...	... ...	— 58.

TABLE OF THE RANGE OR DISTRIBUTION OF THE SPECIES.

Name of Species.	South-eastern Australia or N.S. Wales.	South Australia.	Swan River or Western Australia.	Northern Australia.	Van Diemen's Land.	Other countries.	Number of Volume and Plate.
Carpophaga leucomela	*	...	...	...	...	...	V. Pl. 59.
——— luctuosa	...	...	...	*	...	...	— 60.
Lopholaimus Antarcticus	*	...	...	...	...	...	— 61.
Chalcophaps chrysochlora	*	...	...	...	...	...	— 62.
——— longirostris	...	...	...	*	...	...	Int., p. lxix.
Leucosarcia picata	*	...	...	...	...	...	V. Pl. 63.
Phaps chalcoptera	*	*	*	*	*	...	— 64.
——— elegans	*	*	*	...	*	...	— 65.
——— histrionica, *Gould*	*	*	...	*	...	...	— 66.
Geophaps scripta	*	...	...	...	...	...	— 67.
——— Smithii	...	...	...	*	...	...	— 68.
——— plumifera, *Gould*	...	*	...	*	...	...	— 69.
Ocyphaps Lophotes	*	*	...	...	...	...	— 70.
Petrophassa albipennis, *Gould*	...	...	...	*	...	...	— 71.
Geopelia humeralis	*	...	...	*	...	...	— 72.
——— tranquilla, *Gould*	*	*	...	...	...	...	— 73.
——— placida, *Gould*	...	...	...	*	...	...	Int., p. lxxi.
——— cuneata	*	*	*	*	...	...	V. Pl. 74.
Macropygia Phasianella	*	...	...	...	...	...	— 75.
Didunculus strigirostris	...	...	...	...	...	Samoan Islands	— 76.
Talegalla Lathami	*	...	...	...	...	...	— 77.
Leipoa ocellata, *Gould*	...	*	*	...	...	...	— 78.
Megapodius Tumulus, *Gould*	...	...	...	*	...	...	— 79.
Pedionomus torquatus, *Gould*	*	*	...	...	...	...	— 80.
Turnix melanogaster, *Gould*	*	...	...	...	...	...	— 81.
——— varius	*	*	*	...	*	...	— 82.
——— scintillans, *Gould*	...	...	*	...	...	...	— 83.
——— melanotus, *Gould*	...	...	...	*	...	...	— 84.
——— castanotus, *Gould*	...	...	...	*	...	...	— 85.
——— pyrrhothorax, *Gould*	*	*	...	...	...	...	— 86.
——— velox, *Gould*	*	*	...	...	...	...	— 87.
Coturnix pectoralis, *Gould*	*	*	*	*	*	...	— 88.
Synoïcus Australis	*	*	*	...	*	...	— 89.
——— Diemenensis, *Gould*	...	...	...	...	*	...	— 90.
——— sordidus, *Gould*	...	*	...	...	...	...	— 91.
——— ? Chinensis	*	*	...	*	...	Ind. Isl. & China	— 92.
Dromaius Novæ-Hollandiæ	*	*	*	*	*	...	VI. Pl. 1.
Apteryx Australis, *Shaw*	...	...	...	...	...	N. Zeal.	— 2.
——— Owenii, *Gould*	...	...	...	...	...	N. Zeal.	— 3.
Otis Australis	*	*	*	*	...	...	— 4.
Œdicnemus grallarius	*	*	*	*?	...	...	— 5.
Esacus magnirostris	...	...	...	*	...	...	— 6.
Hæmatopus longirostris, *Vieill.*	*	*	*	*	*	...	— 7.
——— fuliginosus, *Gould*	*	*	*	*	*	...	— 8.
Lobivanellus lobatus	*	*	...	...	*	...	— 9.
——— personatus, *Gould*	...	...	...	*	...	...	— 10.
Sarciophorus pectoralis	*	*	...	...	*	...	— 11.
Squatarola Helvetica	*	*	*	*	*	...	— 12.
Charadrius xanthocheilus, *Wagl.*	*	*	*	*	*	...	— 13.
——— veredus, *Gould*	*	...	...	*	...	...	— 14.
Eudromias Australis, *Gould*	...	*	...	...	...	...	— 15.

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Hiaticula bicincta	*	...	...	...	*	... ...	VI. Pl. 16.
——— ruficapilla	*	*	*	*	*	... ...	— 17.
——— monacha	*	*	*	...	*	... ...	— 18.
——— inornata, *Gould*	*	*	*	*	*	... ...	— 19.
——— nigrifrons	*	*	*	...	...	... ...	— 20.
Erythrogonys cinctus, *Gould*	*	*	...	...	...	... ...	— 21.
Glareola grallaria, *Temm.*	*	...	...	*	...	... ...	— 22.
——— Orientalis, *Leach*	...	...	...	*?	...	... ...	— 23.
Himantopus leucocephalus, *Gould*	*	*	*	*	...	... ...	— 24.
——— Novæ-Zelandiæ, *Gould*	...	...	...	...	...	N. Zeal.	— 25.
Chladorhynchus pectoralis	...	*	*	...	...	... ...	— 26.
Recurvirostra rubricollis, *Temm.*	*	*	*	*	*	... ...	— 27.
Limosa Melanuroïdes, *Gould*	...	...	...	*	...	... ...	— 28.
——— uropygialis, *Gould*	*	*	*	*	*	... ...	— 29.
Schœniclus Australis	*	*	*	*	*	... ...	— 30.
——— albescens	*	*	*	*	*	... ...	— 31.
——— subarquatus	*	*	*	*	*	... ...	— 32.
——— magnus, *Gould*	...	...	*	...	...	Japan.	— 33.
Terekia cinerea	*	...	...	...	...	India and Europe.	— 34.
Actitis empusa, *Gould*	*	*	*	*	...	... ...	— 35.
Glottis Glottoïdes	*	*	*	*	*	... ...	— 36.
Totanus stagnatilis	*	...	...	...	...	India and Europe.	— 37.
——— griseopygius, *Gould*	...	...	...	*	...	... ...	— 38.
Strepsilas Interpres	*	*	*	*	*	The sea-coasts of all countries.	— 39.
Scolopax Australis, *Lath.*	*	*	*	*	*	... ...	— 40.
Rhynchæa Australis, *Gould*	*	*	*	*	...	... ...	— 41.
Numenius Australis, *Gould*	*	*	*	*	*	... ...	— 42.
——— uropygialis, *Gould*	*	*	*	*	*	... ...	— 43.
——— minutus, *Gould*	*	...	*	*	...	... ...	— 44.
Geronticus spinicollis	*	...	...	*	...	... ...	— 45.
Threskiornis strictipennis	*	...	...	*	...	... ...	— 46.
Falcinellus igneus	*	*	...	*	...	... ...	— 47.
Grus Australasianus, *Gould*	*	...	...	*	...	... ...	— 48.
Platalea flavipes, *Gould*	*	*	...	*	...	... ...	— 49.
——— regia, *Gould*	*	*	...	*	...	... ...	— 50.
Mycteria Australis, *Lath.*	*	...	...	*	...	... ...	— 51.
Ardea pacifica, *Lath.*	*	*	*	*	...	... ...	— 52.
——— Novæ-Hollandiæ, *Lath.*	*	*	*	...	*	... ...	— 53.
——— rectirostris, *Gould*	...	...	...	*	...	Borneo?	— 54.
——— leucophæa, *Gould*	...	*	...	...	...	India?	— 55.
Herodias syrmatophorus, *Gould*	*	*	*	*	...	... ...	— 56.
——— plumiferus, *Gould*	...	...	...	*	...	... ...	— 57.
——— immaculatus, *Gould*	...	...	*	*	...	... ...	— 58.
——— pannosus, *Gould*	*	...	...	...	...	... ...	— 59.
——— ? jugularis	*	*	*	*	...	N.Zealan.	— 60.
——— Greyi	...	...	...	*	...	... ...	— 61.
——— picata, *Gould*	...	...	...	*	...	... ...	— 62.
Nycticorax Caledonicus	*	*	*	*	...	... ...	— 63.

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Botaurus Australis, *Gould*	*	*	*	...	*	...	VI. Pl. 64.
Ardetta flavicollis	*	*	*	*	...	...	— 65.
—— macrorhyncha, *Gould*	*	...	...	...	...	...	— 66.
—— stagnatilis, *Gould*	...	...	...	*	...	...	— 67.
—— pusilla	*	...	...	...	...	...	— 68.
Porphyrio melanotus, *Temm.*	*	*	...	*	*	...	— 69.
—— bellus, *Gould*	...	...	*	...	...	...	— 70.
Tribonyx Mortieri, *DuBus*	...	...	...	...	*	...	— 71.
—— ventralis, *Gould*	*	*	*	...	...	...	— 72.
Gallinula tenebrosa, *Gould*	*	*	...	...	...	...	— 73.
Fulica Australis, *Gould*	*	*	*	...	...	...	— 74.
Parra gallinacea, *Temm.*	...	...	...	*	...	N. Guinea	— 75.
Rallus pectoralis, *Cuv.*	*	*	*	*	*	...	— 76.
—— Lewinii, *Swains.*	...	*	*	...	*	...	— 77.
Eulabeornis castaneoventris, *Gould*	...	...	...	*	...	...	— 78.
Porzana fluminea, *Gould*	*	*	...	*	*	...	— 79.
—— palustris, *Gould*	*	*	...	*	*	...	— 80.
—— leucophrys, *Gould*	...	...	...	*	...	...	— 81.
——? immaculata	*	*	*	...	*	...	— 82.
Cereopsis Novæ-Hollandiæ, *Lath.*	*	*	...	...	*	...	VII. Pl. 1.
Anseranas melanoleuca	*	*	...	*	...	...	— 2.
Bernicla jubata	*	*	*	...	...	...	— 3.
Nettapus pulchellus, *Gould*	...	...	...	*	...	...	— 4.
—— albipennis, *Gould*	*	...	...	...	...	...	— 5.
Cygnus atratus	*	*	*	...	*	...	— 6.
Casarca Tadornoïdes	*	*	*	...	*	...	— 7.
Tadorna Radjah	...	...	...	*	...	...	— 8.
Anas superciliosa, *Gmel.*	*	*	*	...	*	...	— 9.
—— nævosa, *Gould*	...	*	*	...	...	...	— 10.
—— punctata, *Cuv.*	*	*	*	...	*	...	— 11.
Spatula Rhynchotis	*	*	*	...	*	...	— 12.
Malacorhynchus membranaceus	*	*	*	...	*	...	— 13.
Dendrocygna arcuata	*	...	...	*	...	...	— 14.
—— Eytoni, *Gould*	...	*	*	*	...	...	— 15.
Nyroca Australis, *Gould*	*	*	*	*	*	...	— 16.
Erismatura Australis	...	...	*	...	...	...	— 17.
Biziura lobata	*	*	*	...	*	...	— 18.
Larus Pacificus	*	*	*	...	*	...	— 19.
Xema Jamesonii	*	*	*	*?	*	...	— 20.
Lestris Catarractes	*	*	...	...	*	...	— 21.
Sylochelidon strenuus	*	*	*	...	*	...	— 22.
Thalasseus Pelecanoïdes	...	...	...	*	...	...	— 23.
—— poliocercus, *Gould*	*	*	*	...	*	...	— 24.
—— Torresii, *Gould*	...	...	...	*	...	India	— 25.
Sterna melanorhyncha, *Gould*	*	*	...	...	*	...	— 26.
—— gracilis, *Gould*	...	...	*	...	...	...	— 27.
—— melanauchen, *Temm.*	...	...	...	*	...	Indian Isl.	— 28.
Sternula Nereis, *Gould*	*	*	*	...	*	...	— 29.
Gelochelidon macrotarsus	...	...	...	...	*?	...	Int. p. xcv.
Gygis candida	...	...	...	*	...	...	VII. Pl. 30.
Hydrochelidon fluviatilis, *Gould*	*	*	*	...	...	...	— 31.
Onychoprion fuliginosus?	...	...	*	*	...	...	— 32.
—— Panaya	...	...	*	*	...	...	— 33.

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Anoüs stolidus	*	...	*	*	...	... ...	VII. Pl. 34.
—— melanops, *Gould*	...	...	*	...	...	... ...	— 35.
—— leucocapillus, *Gould*	...	...	...	*	...	... ...	— 36.
—— cinereus, *Gould*	*	...	...	*	...	... ...	— 37.
Diomedea exulans, *Linn.*	*	*	*	...	*	S. Ocean	— 38.
—— brachyura, *Temm.*	...	...	...	*?	...	N.Pacific?	— 39.
—— cauta, *Gould*	*	*	*	...	*	... ...	— 40.
—— culminata, *Gould*	*	*	*	...	*	S. Ocean	— 41.
—— chlororhynchos, *Lath.*	*	*	*	...	*	S. Ocean	— 42.
—— melanophrys, *Temm.*	*	*	*	...	*	S. Ocean	— 43.
—— fuliginosa	*	*	*	...	*	S. Ocean	— 44.
—— olivaceorhyncha, *Gould*	...	...	...	*?	...	N.Pacific?	Int., p. xcvii.
Procellaria gigantea	*	*	*	...	*	... ...	VII. Pl. 45.
—— Æquinoctialis	...	...	...	...	*?	S.I.Ocean	Int., p. xcvii.
—— conspicillata, *Gould*	...	...	...	...	*	S.I.Ocean	VII. Pl. 46.
—— hasitata, *Kuhl.*	*	*	*	...	*	S. Ocean	— 47.
—— Atlantica, *Gould*	...	...	...	...	*?	S. Pacific and S. Atlantic	Int., p. xcvii.
—— macroptera, *Smith*	...	...	...	...	*?	S. Pacific	In., p. xcviii.
—— Solandrii, *Gould*	*	*	...	...	*	... ...	In., p. xcviii.
—— Glacialoïdes, *Smith*	*	...	...	...	*	N. Zeal., S. Pacific	VII. Pl. 48.
—— Lessonii, *Garn.*	*	*	*	...	*	... ...	— 49.
—— mollis, *Gould*	...	...	...	...	*?	S. Indian and S. Atlantic	— 50.
—— Cookii, *G. R. Gray*	*	*	*	...	*	... ...	— 51.
—— cœrulea, *Gmel.*	*	*	*	...	*	S. Ocean	— 52.
—— flavirostris, *Gould*	...	...	...	...	*?	S.I.Ocean	In., p. xcviii.
—— nivea, *Gmel.*	...	...	...	...	*?	Ant. Seas	In., p. xcviii.
—— Antarctica, *Gmel.*	...	...	...	...	*?	Ant. Seas	In., p. xcviii.
Daption Capensis	*	*	*	...	*	S. Ocean	VII. Pl. 53.
Prion Turtur	*	*	*	...	*	S. Ocean	— 54.
—— vittatus, *Cuv.*	*	*	*	...	*	S. Ocean	— 55.
—— Banksii	*	*	*	...	*	S. Ocean	Int., p. xcix.
—— Ariel, *Gould*	...	...	...	...	...	Bass's St.	Int., p. xcix.
Puffinus brevicaudus, *Brandt*	*	*	*	...	*	... ...	VII. Pl. 56.
—— carneipes, *Gould*	...	...	*	...	...	... ...	— 57.
—— sphenurus, *Gould*	...	...	*	...	...	... ...	— 58.
—— assimilis, *Gould*	*	...	...	...	...	... ...	— 59.
Puffinuria Urinatrix	*	*	...	...	*	... ...	— 60.
Thalassidroma marina, *Less.*	...	...	*	...	...	... ...	— 61.
—— melanogaster, *Gould*	*	*	*	...	*	S.I.Ocean	— 62.
—— leucogaster, *Gould*	*	*	*	...	*	S.I.Ocean	— 63.
—— Tropica, *Gould*	...	...	...	...	...	Tropic, Atlantic	Int., p. c.
—— Nereis, *Gould*	*	*	*	...	*	... ...	VII. Pl. 64.
—— Wilsonii, *Bonap.*	*	*	*	...	*	S. Ocean and temp. lat. of the N.	— 65.
Phalacrocorax Carboïdes, *Gould*	*	*	*	...	*	... ...	— 66.

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Phalacrocorax sulcirostris	*	*	*	...	...	... ...	VII. Pl. 67.
——— hypoleucus	*	*	*	...	...	N. Zeal.?	— 68.
——— leucogaster, *Gould*	*	*	...	...	*	... ...	— 69.
——— melanoleucus, *Vieill.* ...	*	*	*	...	*	... ...	— 70.
——— punctatus	...	...	...	...	...	N. Zeal.	— 71.
Attagen Ariel, *Gould*	*	...	...	*	...	... ...	— 72.
——— Aquila?...	...	...	...	*	...	... ...	Int., p. c.
Phaëton phœnicurus...	*	...	...	*	...	... ...	VII. Pl. 73.
Pelecanus conspicillatus, *Temm.*	*	*	*	*	*	... ...	— 74.
Plotus Novæ-Hollandiæ, *Gould*	*	*	...	*	...	... ...	— 75.
Sula Australis, *Gould*	*	*	*	...	*	... ...	— 76.
——— personata, *Gould*	*	...	...	*	...	... ...	— 77.
——— fusca, *Briss.*	...	...	...	*	...	... ...	— 78.
——— piscator, *Linn.*	...	...	...	*	...	... ...	— 79.
Podiceps Australis, *Gould*	*	*	*	...	*	... ...	— 80.
——— gularis, *Gould*	*	*	*	...	*	... ...	— 81.
——— poliocephalus, *Jard. & Selby* ...	*	*	*	...	*	... ...	— 82.
Eudyptes chrysocome	...	...	...	...	*	The I. of Tris.d'Ac. and Amsterdam	— 83.
Spheniscus minor, *Temm.*...	*	*	*	...	*	... ...	— 84.
——— undina, *Gould*...	...	...	...	...	*	... ...	— 85.

On a review of the above Table it will be seen that 385 species inhabit New South Wales, 289 South Australia, 243 Western Australia, 230 Northern Australia, and 181 Van Diemen's Land; and that of these, 88 are peculiar to New South Wales; 16 to South Australia; 36 to Western Australia; 105 to Northern Australia, and 32 to Van Diemen's Land.

The great excess in the number of species inhabiting New South Wales is doubtless attributable to the singular belt of luxuriant vegetation, termed brushes, which stretches along the southern and south-eastern coasts between the ranges and the sea, and which is tenanted by a fauna peculiarly its own.

Although this part of the continent is inhabited by a larger number of species than any other, it is a remarkable fact that the species peculiar to Northern Australia are much more numerous than those peculiar to New South Wales.

It is curious to observe also, that while Southern Australia is inhabited by a much larger number of species than Western Australia, those peculiar to the former are not half so numerous as those peculiar to the latter.

The more southern position, and consequently colder climate of Van Diemen's Land, will readily account for the paucity of species found in that island.

By the term peculiar, I do not mean to convey the idea that the birds are strictly confined to the respective countries, but that as yet they have not been found elsewhere.

THE END.

PROSPECTUS

OF

THE BIRDS OF AUSTRALIA,

BY

JOHN GOULD, F.R.S., &c.,

AUTHOR OF THE "BIRDS OF EUROPE," "CENTURY OF BIRDS FROM THE HIMALAYA MOUNTAINS," "MONOGRAPHS OF THE TOUCANS, TROGONS, KANGAROOS, PARTRIDGES OF AMERICA," "MAMMALS OF AUSTRALIA," &c. &c.

DEDICATED, BY PERMISSION, TO HER MAJESTY.

It was not without a deep sense of the weight of the undertaking, that the Author announced a Work on the Ornithology of the Australasian portion of the Globe; nor, indeed, could he have ventured upon such a task, had he not possessed peculiar advantages which inspired him with confidence as to its successful issue. Aware, however, that much remained to be done in order to obtain a complete acquaintance with the birds of Australia, of which the forms are so singular and interesting, and whose habits, manners, and general economy were almost unknown, the Author was induced to visit those Colonies, and after devoting nearly two years to the observation of the Birds in their native wilds, succeeded in gaining a rich harvest of knowledge, the fruit of personal experience, together with a number of new and highly interesting species. Their migrations, changes of plumage, food, manners and nidification, all that concerns their history, or guides the naturalist in the determinations of their affinities, has been accurately noted, and so far as the size of the

publication (Imperial folio) has admitted, each has been figured of its natural size, and coloured after life.

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"The return of Mr. Gould, the ornithologist, from his exploration of the Australasian continent, is scarcely known to the scientific world, before the first-fruits of his labours are presented to the public in the shape of Part I. of his splendid work on the Birds of Australia. Before his departure he had acquired a high reputation as a naturalist; but in thus investigating an extensive, interesting, and almost unknown field, Mr. Gould has greatly raised his claims to scientific distinction; and the circumstance of his having undertaken this enterprise at his sole charge, entitles him to every encouragement in the completion of this costly and valuable addition to natural science. The birds are mostly drawn of the natural size, and in attitudes caught from life. The colouring is fresh from nature, and each plate is as highly finished as if it were a drawing; in a word, the work is got up in a similar style of excellence to the 'Birds of Europe,' with which it will correspond in size and probable extent."—*Spectator.*

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"Among those splendid publications of science and art which the liberality of governments has given to the world, there are few which in point of beauty or completeness are superior to this unassisted enterprise of a single individual. Regardless of expense and risk, Mr. Gould proceeded to Australia for the sole purpose of studying nature in her native wilds, and after spending two years in traversing the forests and plains of that continent, he returned home with a valuable collection of specimens, and a still more precious one of *facts*. These he is now engaged in bringing before the public, and the many new and interesting details of natural history which his work contains indicate powers of observation and of description which will place the name of Gould in the same rank with those of Levaillant, Azara, Bewick, Wilson, and Audubon."—*Report of Brit. Assoc.* 1844, p. 190.

The author's visit to Australia having enabled him to procure much valuable information respecting the habits and economy, and many new species, of the singular and interesting mammalia of that country, he has determined upon publishing a Work on the subject, precisely similar in execution to the "Birds," to be entitled "THE MAMMALS OF AUSTRALIA," the work to be completed in Ten or Twelve Parts, each containing fifteen Plates, price 3*l.* 3*s.*

The First Part of the Work appeared on the 1st of May 1845 and has been highly approved of, and as the "Birds" are now completed will be proceeded with immediately.

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