BULLETINS
OF THE
Zoological Society of San Diego

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No. 19

CONSPICUOUS BIRDS
of
THE SOUTH PACIFIC

BY KEN STOTT, JR.
Associate Editor, Zoonoos

SAN DIEGO, CALIFORNIA, U. S. A.
SEPTEMBER 10, 1943

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Founded October 6, 1916

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The South Pacific

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American Museum of Natural History

CRESTED PENGUINS

FOREWORD

The publication of a complete list of birds of Australia and the islands of the south Pacific would involve a volume as massive as Webster's Dictionary and descriptions of all species there would fill Eliot's five foot bookshelf. As yet the scientific groundwork for even a field guide to the more common birds of the area is far from complete, and the compiling and editing of such a work would be a tremendous task. This pamphlet is in no way a guide to the bird species of the region. It endeavors to be, more correctly, an indication of the types of birds a stranger may hope to see there. It was prepared with the thought of our armed forces now in that area particularly in mind.

EMUS AND CASSOWARIES

Following the accepted pattern for classifying the birds of the world, a discussion of the avifauna of the south Pacific region should commence with a description of what are unquestionably the largest and most spectacular birds of that area, the emus and cassowaries. Members of this order are characterized by being large, flightless and terrestrial birds. They are confined to Australia, New Guinea, and the adjacent islands.

Almost as well known as his cousin, the ostrich of African climes, is the emu, familiar to all crossword-puzzle addicts. The emu is restricted in distribution to Australia, where he is to be found in two forms, the more robust Common Emu which ranges over most of the continent and the Spotted Emu which is to be found in western Australia only. Both stand approximately five feet high and, like the ostriches, possess long, slender necks as well as thick powerful legs which are adapted to running and kicking. Their plumage at any distance resembles soft, shaggy fur. Unlike the ostriches, the plumage on all parts of emus' bodies is the same, the feathers being a dull brown and black-tipped.

Belonging to the same order, the cassowaries are much more spectacular due to the helmet-like casques and brilliant skin-coloration which characterize most species. Their distribution covers what Knowlton designates as the Papuan subregion, "i.e. New Guinea with the islands in Geelvink Bay, Salawatti, New Britain, probably the Solomon Islands, the Aru group, northern Queensland, the Island of Ceram in the Moluccas."

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DOUBLE-WATTLED CASSOWARY

Like the emus, they are large birds although their necks are much shorter and partly unfeathered. Each cassowary feather resembles a long, coarse hair and the general effect of the plumage is even more fur-like than that of the emu. The upper portion of the neck as well as the head is bare, the wrinkled skin assuming striking color combinations of crimson, blue, orange, violet, and yellow. Some species of cassowary have featherless wattles which hang from the neck and suggest those of turkey gobblers. The legs are stout and armed with a strong, sabre-like claw on the inner toe of each foot. These claws make excellent weapons and are frequently put to use.

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KIWI AND EGG

KIWIS

Although there is little external similarity between the emus and cassowaries and the diminutive kiwis of New Zealand, there is a definite relationship. In size, the kiwis might be compared with domestic fowl but there all similarity ceases. Their bodies are gourd-shaped and their bills are long and tapering. Their relationship to the larger members of their group is indicated by relatively thick and powerful legs. Likewise the plumage is hairlike and the wings are rudimentary. The general body color is brown or gray-brown.

PENGUINS

Penguins need no introduction. Their aquatic habits, sleek black and white plumage, and almost human walk are familiar to all. It is enough to say that they are confined to the southern hemisphere, are flightless birds which use their wings as paddles in swimming, possess broad, webbed feet and true feathers which are small and scale-like. Australia is the home of the smallest of all penguins, the Little Penguin which is found along the southern coast. It stands slightly over a foot high and displays the typical

white abdomen with a dusky breast and blue-gray back. New Zealand is inhabited by a closely related and very similar bird known as the White-flipped Penguin. The crested penguins, which derive their name from a line of yellow feathers running over each eye and extending to the back of the head, are represented in this region by the Victoria Penguin, found in New Zealand, Tasmania, and southern Australia. Also a native of New Zealand seas is the Grand Penguin which has a band of pale yellow from behind the eyes to the back of the neck. Several other species of penguins are occasionally recorded in this area but the afore-mentioned species are the most common.

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WANDERING ALBATROSS, NESTING

ALBATROSS

Albatrosses are represented by numerous species upon the seas of the south Pacific. These wonderful birds of the open ocean may be distinguished from gulls, which they somewhat resemble, by their large size (some species attain a wing-spread of nine or ten feet). They are stout-bodied and have large heads and long necks. As a rule their tails are short and their wings long and narrow. Their bills are hooked and their nostril openings form

short tubes, a characteristic for which their order, Tubiformes, is named. On the islands where they nest, they are found in great numbers and appear either exceedingly tame or stupid for they show no concern when people approach them. They are sometimes known as Goonies, and the name is rather appropriate. Their much smaller cousins, the petrels and shearwaters, are also numerous on southern seas and fly many miles from land as they feed on small fish, squids, crustaceans, and the like.

THE PELICAN AND HIS KIN

A familiar sight to anyone who has traveled on tropical seas is the tropic-bird whose long tail plumes make this bird nothing short of spectacular. One form which frequents the south Pacific ocean is known as the Red-tailed Tropic-bird because of the carmine central tail feathers which contrast the satiny-cream color of the rest of its plumage. The bill may be yellow or vermilion and the legs and base of toes are blue. The Red-tailed Tropic-bird may reach a length of three feet, so he is far from inconspicuous. Another species native to the same area is called the Red-billed Tropic-bird; he may be distinguished from the former by his tail streamers which are white instead of red.

Allied to the tropic birds are the pelicans, which require no description. They are widely distributed throughout the temperate and tropical regions of both hemispheres. Well known to all visitors to the tropics are the closely related frigate or man-o-war birds. Their long narrow wings, large size (being over three feet in length with a wingspread of approximately seven feet), and deeply forked tails serve to identify them as they soar high over the ocean.

Cormorants with their satiny-black plumage are to be found upon shores all over the world. They are primarily oceanic birds but frequent also inland bodies of water. Superficially they resemble ducks but, in addition to their long necks and wings, they have slender, hooked bills and all four toes of their feet are webbed. The skin about their bills and throats is usually bare and may be brightly colored. Some species are characterized by white crests over the eyes and others by white breasts. Cormorants fly with rapid wing beats, their necks and heads extended. They are to be seen moving low over the ocean but seldom far from the sight of land.

Similar and closely related to the cormorants are the anhingas

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IMMATURE FRIGATE BIRD

or snake-neck birds which are represented by one species in Australia and New Guinea and another in the Malasian region. They are for the greater part fresh-water birds and differ from the cormorants in having longer necks and straight, unhooked bills. Characteristic of the anhingas are the white-stripes on the sides of the neck.

Inhabiting tropical coastal regions about the globe are the boobies, sizable, long-winged, stout-bodied birds with cone-shaped bills and wedge-like tails. The name booby has been applied

to members of this group because of their droll appearance and fearlessness of mankind. The Australian Gannet or Booby is a fine bird with white body, yellow head, and black on the wings. It may be distinguished from the Blue-faced Booby (which, as the name would suggest, has blue skin upon its face) because of the yellow on its head. The Blue-faced Booby has no coloring on the plumage of its head but is otherwise quite similar. Furthermore the last named species is restricted to the islands off the coast of northern Australia, while the first enjoys wider distribution.

HERONS, STORKS, IBIS AND SPOONBILLS

Hérons with their slim, graceful necks, stilt-like legs, and slender bodies, are just as beautiful a sight in Malaysian and Australian swamps as they are in our own marshes. Characteristic are straight, sharply-pointed bills which they use skillfully in their fishing. The Great-billed Heron occurs in northern Australia and upwards through Malaysia. It inhabits the mangrove swamps singly or in pairs, and is a large, dull brownish-gray bird whose black beak is thick and powerful. Through the entire region is to be found a large Egret which closely resembles our American Egret. It is entirely white and is yellow billed. A species known as the Little Egret is similar but much smaller, quite like our Snowy in size (although the bill of the Little Egret is yellow rather than black as is that of the Snowy). The Plumed Egret is also white and intermediate in size; it may be distinguished from the other two by the yellow upon its legs, for the others have ebony black legs. The White-faced Heron may be compared with our Great Blue Heron for it is similarly colored; it is much lighter on the head and neck than the larger Great-billed Heron and its black and yellow bill is much smaller in proportion. The White-necked Heron is a handsome bird whose white head and neck contrast strikingly the gray and blue of the back. The breast is streaked with white and brown. This species is restricted to Australia and Tasmania. The diminutive Pied Heron is a crested, blue-black bird with white chin, front of neck, and breast.

While these other species are more or less characteristically found in the swamps or about streams and lakes, the Reef Heron, as its name would indicate, is a bird of the rocky coasts, islands,

and reefs. It is a small yellow-billed species which has two color phases, white and gray. It is distributed from Japan and India to Australia, Tasmania, and New Zealand.

The Nankeen Night-heron which occurs from the Celebes south to New Caledonia, Australia and Tasmania is similar to our Black-crowned Night Heron in that it is a dumpy, medium-sized, short-legged bird with a light breast and black cap. Its wings and back, however, are a rusty brown. Widely distributed through the entire area is the Mangrove Bittern, a small gray heron-like bird; the brown-winged Red Mangrove Bittern is restricted to mid-western Australia. Almost identical in size is the Black Bittern which is blue-black on the back and yellow breasted. The Brown Bittern of this region is, like our Great Bittern, approximately the same size as a night heron and a nondescript buff and brown.

The storks are represented by several forms, the most spectacular of which is the lovely Black-necked Jabiru whose iridescent black head and neck, white breast and back, creamy wings with their bands of black and the black tail are distinctive. The bill is black and the legs yellow. This bird ranges throughout Malaysia to northern and eastern Australia. Much smaller is the White-necked Stork which is distributed from Africa through India to Malay, the Philippines, the Celebes, and other islands of that region.

In form the White-necked Stork is fairly typical of the family. However, its metallic black plumage on the wings, back, and head (which contrasts strikingly the white of the neck and abdomen) distinguish it from other species. The Javan Adjutant Stork is a grotesque little scavenger; its smoke-gray back and wings, downy-white abdomen, breast and neck, make it distinctive, but the bare skin of the neck and head and the scaly, horn-colored bill cause it to be far from attractive. It is distributed throughout much of the Malay archipelago.

The ibis may be separated from other wading birds by their long, sickle-shaped bills with which they probe in the mud for tasty crustacean morsels. So like our own White-faced Glossy Ibis, the Glossy Ibis of Malaysia, Australia, and intervening islands, is a handsome bronzed species and quite different from the Black-necked Ibis, which is white with bare and black skin on the neck and head, and glossy black tail feathers, and the Straw-necked Ibis, a dark grayish bird with a tuft of bushy yellow plumes hanging from its neck.

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BLACK-NECKED JABIRU STORK

Spoonbills can be confused with no other birds, for their heron-like bodies and spatulate bills serve to distinguish them. Two species of spoonbills inhabit the south Pacific region and both species are white. One, which ranges throughout the area and up to the Philippines, is known as the Black-billed Spoonbill and the other, the Yellow-legged Spoonbill, may be identified by its limited distribution (Australia) and its yellow bill.

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BLACK SWAN

SWANS, GEESE AND DUCKS

The Black Swan of Australia and Tasmania is the largest representative in the south Pacific region of the swans, geese, and ducks. It can be confused with no other bird, for its shiny black plumage and coral red bill make it unique. The Magpie Goose of the same region may be identified by his red bill, black and white plumage (hence, the name) and partly webbed feet (all other geese have completely webbed feet). The Cape Barren Goose, gray with a green bill, is to be watched for on the islands of the Bass Strait, Tasmania and the southern coast of Australia.

Top. CAPE BARREN GOOSE

Bottom, MAGPIE GEESE

Photographs from the New York Zoological Park

The Maned Goose is a small bird more like a duck than a goose in general appearance. It derives its name from the feathers which extend beyond the back of the head, which is reddish brown in contrast to a gray body. The species is to be found in Australia and Tasmania. Even smaller are the Pigmy Geese, represented by two species, both of which are characterized by green upon the wings and backs.

Intermediate between the ducks and the geese are the shelldrakes which, like the geese, have both sexes alike and, like the ducks, have transverse scales on the frontal portions of the legs. They are large (26 inches in length), handsomely colored birds of which there are two in the Australian region. The White-headed Shelldrake is characterized by white head, neck and breast, with chestnut back and wings. The Chestnut-breasted Shelldrake is black-headed with a white ring about the neck, its breast orange-red, and the body barred brown and black, with a touch of gray and green upon the wings.

Ducks and teal are numerous on the lakes, streams, and swamps of the south Pacific. They closely parallel the familiar species of our own lakes and marshlands.

HAWKS AND EAGLES

The south Pacific islands are devoid of vulture-like birds but hawks and eagles are well represented. Largest raptorial or predatory bird is the Wedge-tailed Eagle which is distributed throughout Australia and Tasmania. It resembles our Golden Eagle, having rich brown plumage, and has a wing-spread averaging seven feet. As the name would suggest, its tail is graduated to a point. A smaller bird, the Red-backed Sea Eagle, is brown-bodied with white head and neck and a black bill. It ranges from India and southern China to Australia and Tasmania. The White-breasted Sea Eagle, while found through much of the same territory, is easily distinguished from the preceding species for its back and wings are a pearl gray, its head and breast being white. Falcons, including species which closely resemble our duck-hawks and sparrow-hawks, an accipitrine hawk (called the Collared Sparrow-hawk) which, like our Sharp-shinned Hawk, is gray backed with a red-barred breast and yellow legs, kites and buzzards abound in the area.

AUSTRALIAN BRUSH TURKEY

New York Zoological Park

PHEASANTS, MEGAPODES AND JUNGLE FOWL

The gallinaceous birds (the order to which domestic chickens, turkeys and pheasants belong) of the south Pacific area include a group of birds known as the Megapodes or Mound-builders, so called because they cover their eggs with piles of debris which, in rotting, generates enough heat to hatch the eggs. The Brush Turkey, a black fowl with naked red head and a yellow ring about the lower end of the throat, is one of these and native to eastern Australia. Two other species, the Mallee Fowl of southern Australia and the Scrub Fowl of northern Australia are gray and brown and more like pheasant hens in appearance. Related species are to be found north to the Philippines.

Pheasants range only as far south as Sumatra and Borneo and in two types, the Argus and the Peacock Pheasants. The first are long-tailed birds, dull gray with white-shaded "eyes" in the elongate tail plumes and the second, much smaller birds with short tails and characterized by rows of metallic spots on the tail and wings.

If you should encounter far from civilization what appears to be some breed of domestic chicken it may well be a Java Jungle Fowl. It is sometimes known as the Green Jungle Fowl for its plumage has an iridescence of green and bronze which is striking.

CRANES, COOTS, KAGUS, AND BUSTARDS

Of the order of cranes and crane-like birds one member is so large and conspicuous that it may be easily identified. This bird is known as the Companion Crane and is native to all of Australia except the south-western portion. Like all cranes, this one is characterized by long neck, wings and legs and an elongate, tapering, and sharp-pointed bill. It is a large, slate-gray bird whose plumage ceases high on the neck to leave bare the skin of the head. On the nape the exposed skin is vermillion. The Companion Crane, as its name suggests, is usually to be seen in pairs (although upon occasion in larger companies) and inhabits the plains country and swampy area. Its sonorous trumpeting may be heard for some distance.

The rails, small cousins of the cranes, are shy and elusive creatures. They frequent the marsh lands and are difficult to observe due to their secretive habits. Closely allied are the coots and gallinules. The Coot of this region is very similar to the American Coot or Mudhen. Far more attractive because of their lovely coloring are the gallinules which, in size and shape, are quite like the coots. Gallinules may be identified by their blood-red bills and head shields in contrast to those of the coot which are colorless. The Eastern Swamp Hen (a gallinule) ranges throughout New Guinea, Tasmania, Australia, Norfolk Island, New Caledonia, Lord Howe Island and New Zealand. Its soft purple head, neck and breast and red legs (the same shade as the bill and frontal shield) make it distinguishable from the blue-breasted Western Swamp Hen which is restricted to south-western Australia. The Dusky Moor-hen of Australia and New Guinea is another of this group and is similar to the purple Eastern Swamp Hen; however, the Moor-hen is more delicately colored and its legs are yellowish instead of crimson.

New Caledonia is inhabited by a rare and unique cousin of the cranes which is native to no other part of the world. The Kagu is a flightless, ash-gray bird which reminds one of a small heron. Its moderately long bill, legs and feet are a delicate orange pink. Noteworthy is its crest which it erects when frightened or annoyed. When it opens its wings in display white bars upon the dark wing-feathers are to be seen.

Comparable to no North American bird is the Bustard or Plain Turkey of Australia. This large, long-legged, heavy-bodied ground dweller is to be watched for on the inland plains of Australia. Its mottled brown back, delicately barred buff breast and neck, almost white abdomen and yellow legs and bill are

distinctive. Its short neck and heavy horizontal body serve to distinguish it from the others of Australia's larger birds.

SHORE BIRDS

Of the gulls and terns of the region the Silver Gull of Australia, Tasmania, New Caledonia, and New Zealand is perhaps the most beautiful. As is the case with many gulls, this one has a snow white breast, neck and head with gray back and wings; however, its scarlet legs and beak add an effective touch of color. The swifter, more trim terns are present in several species and their gray-bodied, white-capped kinfolk, the noddies, are to be found in three forms. Old World counterparts of North America's sandpipers, curlews, plovers, oyster-catchers and the like are present in a degree which makes the traveler from the New World feel more or less at home.

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VICTORIA CROWNED PIGEON

PIGEONS AND DOVES

The south Pacific is a region rich in members of the order of pigeons and doves. Unchallenged beauties of the entire group are the Crowned Pigeons of New Guinea and the adjacent islands. In size they may be compared with a medium sized goose and their fan-like lacy crests are not to be equalled. All species are a blue-gray, in some species contrasted with a deep maroon. The

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BARE-EYED COCKATOO

most magnificent of these pigeons is the Victoria Crowned Pigeon for each feather in its gray crest is spatulate and tipped with white.

The Bleeding-Heart pigeons of the East Indies are to be confused with no other birds for the suggestive red blotches on their white breasts make them simple to identify. Their wings and backs are blue-gray with dark bars across the wings. Cream colored are the nutmeg pigeons which range from the Celebes and India south through Australia. Their wings and tails are black-tipped. Fruit pigeons are represented by a number of species some of which approach the crowned pigeons in size. Typical fruit pigeons might be described as being dark gray, blue, or green above with soft gray breasts. One striking member, a native of Australia, New Guinea and the Moluccas, of this group is characterized by a rich wine colored breast.

Distributed throughout most of Australia is the gray Crested Pigeon which may be distinguished from the Plumed dove by their larger size and contrast in color, the latter being nut brown. The small and iridescent Green-winged Pigeon and the larger Bronzewings, so called because of the metallic spots on their wings, are typical of pigeons of the south Pacific area.

CUCKOOS

Among the cuckoos at least two interesting types should be mentioned; the Coucals and the Violet and Emerald Cuckoos. The Coucals are large, terrestrial forms whose habits are similar to those of our road-runners. In length they are nearly two feet and have strong, sharply hooked beaks. The Pheasant Coucal of western Australia is brown-bodied with a black head and breast. The Violet and Emerald Cuckoos are smaller birds and arboreal in habit; the males are brilliantly colored but their shy and silent habits make them difficult to discover.

PARROTS AND COCKATOOS

Parrots in many forms are much in evidence from Malay to Australia, and represented by some groups inhabiting no other parts of the world. They all share in common a strong and hooked beak and characteristic feet in which two toes point forward and two to the rear.

Most conspicuous are the cockatoos which because of their size and crests, can be confused with no other parrots, especially since none of the cockatoos are green. Most species measure from 12

San Diego Zoological Gardens

SULPHUR-CRESTED COCKATOO

to 18 inches in length and are, in most species, white or cream feathered with some sort of coloring, lemon-yellow, orange, or vermilion, in their crests and under their wings. On Australia and the islands off the northern coast are to be found a group of smoky-black cockatoos while another black species, the Gang-gang, characterized by a vermilion head, is native to southeastern Australia and Tasmania. The Cockatoos range from Tasmania through most of the islands in the South Pacific Ocean to the Philippines.

Similar to the cockatoos in that it possesses a crest, is the much smaller and more trim Cockatiel, a yellow and orange checked dove-gray parrot native to Australia. Its small size and long tail serve to distinguish it from the cockatoos (which are short tailed) while its crest separates it from most other Australian paraquets.

New Zealand is the home of a group of parrots known as the Nestors. They are medium sized from a foot to two feet in length with long, compressed bills, the bases of which are hidden by hair-like feathers. One of these, the Kaka, is a large brown and gray creature which inhabits the forest lands while the Kea is found on the snowy summits above the forest line.

The Owl Parrot, also of New Zealand, is an extremely primi-

SHIMMERING LORY

J. W. Malmberg

tive type of bird and unique in its flightless habits. Its fluffy green plumage and short thick bill are characteristic. It is extremely rare and is not likely to be encountered.

Among the most brilliantly colored of all parrots are the loriest which are confined to the Australian region and adjacent Polynesia. Reds, blues, purples, and yellows are characteristic although some species are almost entirely green. Lories are small birds and they may be distinguished from certain others of the small parrots by their relatively short, rounded or graduated tails. Their bills are short and their tongues are characterized by brush-tips, a characteristic which is not particularly helpful in field identification. They are strong, rapid fliers, raucous-voiced, and usually congregate in good-sized flocks. Of all the parrots, lories are most difficult to feed, their diet being confined to fruit and honey, while other parrots eat both fruit and seeds.

Paraquets of various species are found throughout most of the south Pacific region but they may be quickly distinguished from lorries of similar size by the long, pointed tails of the former. Of these the Shell Paraquet, the type most commonly sold in American pet shops, is an excellent example. The green variety is the original wild type but blue, yellow and white birds have been developed as domestic varieties.

Smallest of all parrots are the Pigmy Parrots of the Papuan Islands. These short tailed birds do not exceed four inches in length and the smallest species is little larger than two inches from head to tail.

Unfortunately but justifiably government regulations prohibit the importation of parrots and cockatoos into the United States for psittacine birds are frequently carriers of psittacosis, a serious pulmonary disease. Already it has been necessary to destroy large numbers of parrots which service men returning from the south Pacific have brought with them.

OWLS

Since most owls are nocturnal they are infrequently seen during the daylight hours; however, they are of economic importance due to their rodent destroying habits and should be mentioned. The buff colored Barn Owls with their feathered facial discs are to be found in several species in the south Pacific region but, for the most part, these are quite similar to American forms. Their downy cream-colored breasts and light brown napes, backs, and wings are identifying characteristics. On the Greater Sundra Islands are to be found the splendid Fishing Owls, large brown, eared owls which, as the name would suggest, feed largely on fish as well as small mammals and birds. Diminutive are the brown or chestnut Boobook Owls of the Moluccas, New Guinea, Tasmania, and New Guinea. Their call is distinctive and has been interpreted as "Morepork," a name by which they are locally called. Largest of the Australian owls is the Powerful Owl, whose gray plumage is mottled with black crescents.

GOATSUCKERS

The goatsuckers are characterized by their wide, short-billed mouths, short legs, long, pointed wings and nocturnal and insectivorous habits. American representatives like the Nighthawk and the Poorwill are replaced by more grotesque forms like the frogmouths (which well describes their gaping mouths) and the night-jars.

New York Zoological Park

TAWNY FROGMOUTH

THE KINGFISHER AND HIS CLAN

Who has not watched a blue and white kingfisher, perched high above a stream, waiting for its dinner to swim past? Instead of two species (as we have in the United States) there are many forms on the islands of the south seas. The Kookaburra of southern Australia reaches a length of seventeen inches. His rollicking song has gained him the name of "Laughing Jackass." Unlike most kingfishers, this one feeds on lizards, small mammals, insects, crustaceans, etc. Contrary to most kingfishers (which nest in holes in banks) the Giant Kingfisher nests in a tree. Closely allied forms are to be found throughout Australia and New Guinea. A particularly beautiful bird is the smaller, red-billed White-tailed Kingfisher of northeastern Australia and New Guinea. Characteristic are its azure back and elongate white tail plumes. The tiny Sacred Kingfisher, which may be known by its blue-green cap, back wings and tail and white breast and collar, is to be found throughout Sumatra, Borneo, New Hebrides, New Caledonia, New Zealand and much of Australia. Somewhat similar but with a black mask and a chestnut rump-patch is the Red-backed Kingfisher of inland Australia. The Forest King-

J. W. Malmberg

KOOKABURRA

fisher of northern and eastern Australia is a handsome blue kingfisher with a black cap. Another small Australian kingfisher may be identified by his chestnut head and yellow bill as the Yellow-billed Kingfisher. The Mangrove Kingfisher of northern Australia is somewhat larger and like the Red-backed Kingfisher has a black mask. However, the Mangrove Kingfisher is larger and lacks the chestnut rump patch.

Near relations of the Kingfishers are the Bee-eaters which are confined to the Old World. As their name would imply, they are insectivorous. They are swallow-like and may be known by their long, curved and pointed bills and brilliant coloration. A typical form is the Rainbow-bird which ranges from the Celebes to Australia and New Guinea. Its body color is green with a black tail, turquoise rump-patch, black breast, yellow throat, black mask, and green cap. Characteristic are two elongate "wires" which extend beyond the rest of the tail. On the Celebes are to be found the Plumed Bee-eaters whose breast plumes are long and pendant.

The hornbill has been humorously but appropriately described as "the bill with the bird" for his tremendous bill seems out of proportion with the rest of his body. Hornbills are well dis-

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WREATH-BILLED HORNBILLS

tributed throughout the Old World Tropics and are found in the south seas from the Philippines south to New Guinea and the Solomons. For the most part they are dark colored and large, one species measuring five feet in length. They are forest dwellers and feed principally on fruits as well as insects and lizards for variety.

Another member of the kingfisher-hornbill-bee-eater clan is the roller which is present in Australia, Tasmania, New Zealand and Lord Howe Island. It is known as the Broad-billed Roller or Dollar-bird. It is blue-tailed, has a brown back and head with a red bill and feet, greenish wings, a blue throat and a light breast. It is a medium-sized bird measuring approximately a foot in length. Similar species are found throughout the Malay Archipelago and the islands of the south Pacific.

PERCHING BIRDS

The passerine or perching birds form such a tremendous group that only the most conspicuous and unusual types will be considered here. Three suborders are represented in the south seas, the first of which includes the pittas, small, terrestrial birds which are characterized by bright colors, long legs, and short tails.

The second suborder is composed of the lyre-birds. Its members superficially resemble brown-feathered pheasants rather than the general conception of a perching bird. The lyre-birds are large, measuring from two and a half to three feet in length. Their name is derived from the appearance of the tail of the male bird. The sixteen feathers of the tail form what resembles a lyre, the framework of the instrument formed by the two heavy outer feathers and the strings by more delicate inner plumes. A typical form is the Superb Lyre-bird while the Albert Lyre-bird possesses a tail in which the "wires" are sooty gray and the outer feathers are shorter than those in the center. The lyre-birds are noted for their wonderful mimicry.

Among the most notable groups of birds of the south Pacific region is that of the birds of paradise of New Guinea and the surrounding islands. They are showy birds whose brilliant coloring and spectacular display are unsurpassed. Characteristic in many species are long, filmy under wing feathers and tail "wires." In New Guinea and northeastern Australia are the Rifle-birds which belong to the same family. They are velvety-black birds with purple iridescence and markings of metallic green.

The bower-birds are well known for their unusual habits. During the courting period the male constructs a bower which he adorns with bright blossoms to attract his love. Best known of the family is the Satin Bower-bird the male of which is an iridescent purple with blue eyes and a horn-colored bill. An average sized bird would measure twelve or fourteen inches; they are stout birds with short, rounded wings.

Avian color runs rampant in Polynesia, Australia, and southeastern Asia. Worthy of mention are the exquisite Fairy Blue-birds of Malay and Borneo; the males are the more attractive sex for their jet black plumage is contrasted with enamel-like feathers of bright blue. Australia and the nearby islands are inhabited by glistening azure gems known as the Fairy Wrens. Red, gold, green, and blue finches of every size and description flit through the air like animated blossoms. Pink-plumed tree-creepers move about the trunks of gnarled wattle trees while the cobalt and scarlet Flowerpecker feeds on his diet of mistletoe berries.

From the Philippines and Malay south to Tasmania and the southern coast of Australia exists a wealth of bird life which at the same time challenges description but completely thwarts any attempt. The ornithologist or naturalist will find himself in a land of dreamed of avian encounters while the layman should

observe enough to excite an interest in what he sees. Whether such an interest be intense or more or less passive, it is one which should be cultivated. Unexcelled opportunities of the present day to visit out of the way isles in the south Pacific may not come again and, since bird life represents one aspect of their character, it should be included in an intelligent, even casual study of these islands.

To individuals who desire more detailed information and have access to libraries or book stores, the following references are suggested:

Leach, J. A. *An Australian Bird Book*. Whitcombe and Tombs Limited, Melbourne, 1923. A pocket-sized, well illustrated guide book.

Cayley, N. W. *What Bird is That?* Angus and Robertson Limited, Sydney, 1937. This reference is more comprehensive than the last and is profusely illustrated. Like the preceding, it treats the bird life of the Australian region.

Any general natural history will offer valuable supplementary information on the birds of the south Pacific and, if Knowlton's *Birds of the World* is available, it should be consulted.