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THE
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of
W. H. HUDSON

IN TWENTY-FOUR
VOLUMES

BIRDS OF LA PLATA

BIRDS OF LA PLATA

BY

W. H. HUDSON



WITH A NOTE BY
R. B. CUNNINGHAME GRAHAM

MCMXXIII

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W. H. HUDSON

How many epoch-making works have gone into the pulping vat, since *El Ombú* appeared?

There is no new way to pay old debts in spite of Massinger. From the beginning of the world good taste has governed all the arts.

The greatest artists have been eminently sane. The so-called artistic temperament does not seem to have existed for them. They all went about, carefully carrying on the ordinary business of life, paying their debts (when they were able), and bearing their life's burden patiently, knowing the end would set them free.

Genius digs the foundation of the edifice it rears, not knowing consciously that it is building for eternity, and works so unobtrusively that the passer-by seldom perceives a Parthenon is being built.

Hudson neither broke into the mystery of our yeasty sea, heralded with paragraphs, or blare of rattling tin-trumpets, nor was he, as was Paul of Tarsus, born free, but gained his freedom at great price, paying for it with neglect and poverty.

He has emerged at last and takes his place in the first rank of English writers. Perhaps he is a class alone, for who that writes to-day, has his strange, searching charm, his great simplicity, his love of animals; not as a man, being a god to them and knowing all things: but humble as themselves, humble because his genius shows him that in the scheme of nature one thing certifies the other, and the parts glorify the whole.

Versed, in his youth, more in the use of the *lazo* and the *boleadoras* than the pen, I think his love of nature set him on

to write instinctively, just as a gaucho child, putting its little naked toe upon the horse's knee, climbs up and rides because he is compelled to ride or to remain a maimed and crippled animal, travelling the plains on foot.

So does a Magellanic owl, when once full-feathered, launch itself into the air and float off noiselessly.

R. B. CUNNINGHAME GRAHAM

INTRODUCTION

THE matter contained in this work is taken from the two volumes of the *Argentine Ornithology*, published in 1888-9, and was my first book on the subject of bird life. The late Philip Lutley Sclater, who was at that time the chief authority in this country on South American Ornithology, collaborated with me in the work to the extent of arranging the material in accordance with the most popular system of classification, and also adding descriptions, synonymy, etc., of the species unknown to me. All this matter which he contributed in order to make the work a complete list, I have thrown out, along with the synonymy of the species described by me. And there was good reason for this simplification, seeing that we cannot have a complete list owing to the fact that fresh species are continually being added to it by the collectors; these species, new to the list, being mostly intruders or visitors found on the sub-tropical northern limits of the country. The original work (*Argentine Ornithology*) was thus out of date as soon as published, and the only interest it still retains for the reader is in the account of the birds' habits contributed by me. The work thus being no longer what it was, or was intended to be, a different title had to be found, and I cannot think of a more suitable one than *The Birds of La Plata*, which indicates that the species treated here are of the Plata country—a district of Argentina. Furthermore, it gives the book its proper place as a companion work to *The Naturalist in La Plata*. That book, also now old in years, has won a permanent place in the Natural History libraries, and treats of all forms of life observed by me; but as it was written after *Argentine Ornithology*, I kept bird subjects out of it as far as possible, so that the two works should not overlap. I may add that *Argentine Ornithology* was issued in a limited edition, and that copies are not now obtainable.

One would imagine that during the long thirty years which have elapsed since these little bird biographies were first issued, other books on the same subject would have seen the light. For since my time many workers in this same field have appeared, Natural History Societies have been formed, and one among them, exclusively a bird-lovers' association, issues a periodical founded on the *Ibis* pattern, and entitled *El Hornero*—The Oven-Bird.

That, at all events, is what I supposed. But I hear that it has not been so: naturalists out there have been saying that my book of 1889 and that of Azara, composed a century earlier—*The Birds of Paraguay and the River Plate*—are the only works yet published which treat of the life habits of the birds in that region.

This, I take it, is a good and sufficient reason for the re-issue of so old a work. The lives of birds is a subject of perennial interest to a large and an ever-increasing number of readers—to all those, in fact, who love a bird, that is to say, the living bird, not the dead stuffed specimen in a cabinet. It was well and wisely said by Professor Mivart in his great anatomical work that "there is no such thing as a dead bird." For the body is but the case, the habit, and when the life and soul have gone out of it, what is left is nothing but dust.

To return for a few moments to the writer on birds who came so long before me. Don Felix de Azara, a Spanish gentleman, a person of importance in his time, a traveller and author of several works, was yet able to find his chief pleasure in "conversing with wild animals in desert places in a remote land."

The bird life of those then little-known countries had a special attraction for him, and he was a most excellent observer and described them carefully. His brief notes on their habits are all the better to read on account of his simple natural diction, so rare to find in the Spanish language, the beauty and sonority of which perpetually tempts the writer to prolixity and a florid style.

Azara had one great advantage over me. He had his friend Nosedá, a village priest in Paraguay, who shared his interest in the bird life of the district, and made copious notes of his

observations, and these Azara could draw upon. Nosedá was, indeed, a sort of Gilbert White (his contemporary), and had his "parish of Selborne" in a barbarous country rich in bird life. I had no Nosedá to compare notes with, nor in all the years of my life in the pampas did I ever have the happiness to meet with anyone to share my interest in the wild bird life of the country I was born in.

So far the book and its history. It remains to add something concerning its subject—the character of the bird life of the district where my observations were made. It is like that of South America generally, but differs in the almost total absence of tropical forms, such as Trogons, Toucans, Puff-birds, Motmots, Todies, Jacamars, and Barbets.

The bird world has been divided by ornithologists into several geographical regions, and undoubtedly birds differ in widely-separated portions of the earth and, like the races of men, have the stamp of their country or continent on them. But the bird is a volatile being, and vast numbers refuse to belong to any particular region. Some are migratory, and travel to distant lands outside of the region assigned to them, the return journey in many cases covering a distance of 12,000 miles. That a bird should have its breeding and feeding, or summer and winter areas, 6,000 miles apart, seems almost incredible. Thus, in South America, which is called the Neotropical Region, there are numerous species that come from the adjoining region of North America, and among these are several species which breed in the arctic regions as high as latitude eighty to eighty-three or four degrees, yet after breeding fly south as far as the southern extremity of Patagonia.

Besides the strict migrants there are many birds of a wandering disposition, like the European Crossbills, the Waxwing, and the Short-eared Owl. They have the gipsy habit or the Columbus-like spirit of the poet's Stork, who goes forth to explore heavens not his own and worlds unknown before.

Finally, we have a multitude of species, both resident and migratory, belonging to families that have a world-wide distribution. Among these are the Thrushes, Wrens, Pipits, Swallows, Finches, Crows, Swifts, Goatsuckers, Woodpeckers,

Cuckoos, Owls, Hawks, Vultures, Herons, Storks, Plover, Snipe, Duck, Rails, Gulls, Cormorants and Grebes.

These universally distributed families are always more numerous in the temperate zones than in the tropics in relation to the entire number of species. Thus they are relatively more numerous in the temperate district of La Plata than in the Brazilian Forest region.

Undoubtedly South America is richer in bird life than any other region of equal extent. The species number considerably over 2,000, and one half or something over a half belong to a single order—Passeres, or Perchers. Half of these again are included in the Sub-Order Oscines, or birds with a developed vocal organ—the song-birds. We see thus how rich this region is in bird life in which the songsters alone equal in number, if they do not exceed, all the species of birds in Europe together.

About a quarter of the entire number of South American species inhabit Argentina, and about half that number are found in the Plata district, which belongs to the Patagonian Sub-region of the Neotropical Region.

The species known to me personally number 233, but many more have been added since I left the country. The exclusively Neotropical types in my list include Tanagers, Troupials, Tyrant-birds, Plant-cutters, Woodhewers, Ant-birds, Gallito birds, Humming-birds, Screamers, Courlans, Jacanas, Seed-Snipe, Tinamus, and Rheas—in all eighty-four species.

Thus in this district the exclusively South American forms, or families, are in a minority; but if we take the whole of the Argentine country, these exclusive forms and the widely-distributed forms are pretty evenly balanced. Finally, if we take the entire Neotropical Region we find the exclusively South American forms in a majority. The Humming-bird family alone numbers over four hundred species, the Tanagers about the same number, while two other Passerine families, Tyrants and Woodhewers, count together five hundred at least.

We have also to take into account that in the families that are universal in their distribution there are groups, genera and sub-families greatly modified in form. Thus, in the Thrush family we have the Mocking-birds, and as in the Thrush family

so do we find divergent types in Wrens, Finches, Cuckoos and other families.

To sum up. We have in the universally distributed families, groups and genera, which exhibit the peculiar impress of the region they inhabit (in this instance the Neotropical or South American character), existing side by side with the unmodified forms: a Thrush, a Siskin, a Swallow, an Owl, a Duck, a Dove, a Plover, etc., hardly (and sometimes not at all) distinguishable specifically from Old World forms. And along with those modified and unmodified forms—Asiatic, European and North American—the distinctly Neotropical forms. Among these last there are species that have a profound interest to the student of the evolution of the bird life of the globe. They are survivals of an incalculably remote period in the earth's history when the greater part of the Southern Hemisphere was land; when South America, South Africa and Australasia were parts of one continent. Among these forms, which have struthious and even older affinities, are the Rheas, the Crypturi (the Partridges of South America) and the Crested Screamer, which Huxley supposed to be related by descent to the Archæopteryx.

To go back to the statement made at the beginning of this Introduction—that the one interest of this book is in the account of the birds' habits—I am tempted in conclusion to add a purely personal note—a memory of an incident of thirty years ago.

About the time of the publication of *Argentine Ornithology* (1889) a small book of a different kind by me was issued—a fictitious record of romantic adventures, entitled *The Purple Land*. It happened that a copy was sent to an elder brother of mine, living in the city of Cordova, in the Western Argentine province of that name. It was sent by another brother, residing in Buenos Ayres. In acknowledging the book he charged his brother with a message to me, and his letter, written in Spanish, was sent on to me in London. The message, translated, was as follows:

Why are you staying on in England, and what can you do there? I have looked at your romance, and find it not unreadable, but this you must know is not your line—the one thing you are best fitted to do. Come back to your own country and come to me here in

Cordova. These woods and sierras and rivers have a more plentiful and interesting bird life than that of the pampas and Patagonia. Here I could help you and make it possible for you to dedicate your whole time to observation of the native birds and the fauna generally.

I read the letter with a pang, feeling that his judgment was right: but the message came too late; I had already made my choice, which was to remain for the rest of my life in this country of my ancestors, which had become mine.

Now after so long a time the pang returns, and when I think of that land so rich in bird life, those fresher woods and newer pastures where I might have done so much, and then look back at this—the little I did as shown in these volumes—the reflection is forced on me that, after all, I probably made choice of the wrong road of the two then open to me.

W. H. H.

October 1920.

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BIRDS OF LA PLATA

DUSKY THRUSH

(*Turdus leucomelas*)

Above olive grey; beneath pale grey, throat white striped with brown; under wing-coverts and inner margins of wing-feathers fulvous; bill yellow; length 9 inches.

EIGHT Thrushes are found in Argentina, three being Mocking-birds—Miminæ, a group restricted to America. The other five are true Thrushes, and of these I describe the three which are known to me from personal observation.

The Dusky Thrush, the best singer, which most nearly resembles our Throstle or Song-Thrush, is widely distributed in South America, and ranges as far south as Buenos Ayres, where it is quite common in the woods along the Plata river. It is a shy forest-bird; a fruit, earth-worm, and insect eater; abrupt in its motions; runs rapidly on the ground with beak elevated, and at intervals pauses and shakes its tail; pugnacious in temper; strong on the wing, its flight not being over the trees, but masked by their shadows. It can always be easily distinguished, even at a distance, from other species by its peculiar short metallic chirp—a melodious sound indicating alarm or curiosity, and uttered before flight—so unlike the harsh screams and alarm notes of the other Thrushes in this district.

Whether it is a fine singer or not within the tropics I am unable to say, its vocal powers having received

no attention from the naturalists who have observed it. With us in the temperate climate of Buenos Ayres, where it commences to sing in September, it has the finest song of any bird known to me in this region, excepting the White-banded Mocking-bird, *Mimus triurus*. Like the English Song-Thrush, but unlike its near neighbours the Red-bellied Thrush and the Magellanic Thrush, it perches on the summit of a tree to sing. Its song is, however, utterly unlike that of the English bird, which is so fragmentary and, as Burroughs describes it, made up of "vocal attitudes and poses." The two birds differ also in voice as much as in manner. The strains of the Dusky Thrush are poured forth in a continuous stream, with all the hurry and freedom of the Skylark's song; but though so rapidly uttered, every note is distinct and clear, and the voice singularly sweet and far-reaching. At intervals in the song there recurs a two-syllabled note twice repeated, purely metallic, and its clear bell-like *te-ling te-ling* always comes as a delightful surprise to the listener, as it sounds like an instrumental accompaniment to the song.

The song is altogether a very fine one, its peculiar charm being that it seems to combine two opposite qualities of bird-music, plaintiveness and joyousness, in some indefinable manner.

I have never heard this species sing in a cage or anywhere near a human habitation; and it is probably owing to its recluse habits that its excellent song has not been hitherto noticed. Azara perhaps mistook the song of this species for that of *Turdus rufiventris*, a very inferior vocalist.

The nest is made in the centre of a thick bush or tree six or eight feet above the ground, and is a deep elaborate structure, plastered inside with mud, and lined

with soft dry grass. The eggs are four in number, oblong; the ground-colour light blue, abundantly marked with reddish-brown spots.

This Thrush has, I believe, a partial migration in Buenos Ayres. In the autumn and winter I have frequently observed it in localities where it is never seen in summer.

RED-BELLIED THRUSH

(*Turdus rufiventris*)

Above olive-grey, throat to breast white, striped with dark brown; under surface and under wing-coverts rufous red, deepest on the belly; bill dull yellow; feet brown; length 9 inches.

THE Red-bellied Thrush, distinguished from the species just described by its larger size and the bright rufous colour of its under plumage, is common everywhere in the Plata district, and does not appear to be migratory. It is a noisy, strong-winged, quarrelsome bird, closely resembling the Dusky Thrush in its manners. It inhabits forests, runs on the ground in search of food, and when approached darts away with loud chuckling notes, flying close to the surface. They are also often seen pursuing each other through the trees with loud harsh screams. They remind one in their habits now of the Missel Thrush, now of the Blackbird.

The song has a faint resemblance to that of the Throstle, being composed of a variety of disconnected notes with frequent pauses; but it is, both in sweetness and strength, inferior to that of the English bird. A poor song for a Thrush, and the bird perhaps knows it, as he sings concealed in a thick bush or tree.

The nest is deep, well made, plastered inside with

mud, and concealed in the centre of a large bush or low tree. The eggs are four, pale blue in colour, and thickly spotted with brown.

MAGELLANIC THRUSH

(*Turdus magellanicus*)

Head, wings, and tail brownish black, rest of upper surface olive-brown; under surface pale rufous; white throat striped with black; bill and feet dull yellow; length 10·5 inches.

THIS fine Thrush inhabits Patagonia and Chili, and is hardly distinguished from the preceding species by casual observers, but it is a larger bird, with a darker upper and paler under plumage. Its nest and eggs are also precisely like those of its northern representative. The song is, however, even poorer, and reminds one of the first attempts of a young bird. That a member of so melodious a family should have so inferior a song I attribute to the fact that Thrushes (unlike the songsters of other genera) sing only in the warm season and when the air is calm. In the southern portion of the South-American continent violent winds prevail in summer, so that this southern Thrush sings perhaps less frequently than any other song-bird, and appears to be losing the faculty of song altogether.

The two remaining Argentine Thrushes are the Black-headed Thrush, *Turdus nigriceps*, and the Argentine Blackbird, *Turdus fuscater*, both inhabitants of the North-Western provinces. The Blackbird is of a uniform brownish black with yellow feet and bill, and is larger than the home bird, being 11·5 inches long. The song, it is said, resembles that of our bird, and is liked even better by some who have heard it.

CALANDRIA MOCKING-BIRD

(*Mimus modulator*)

Above dark grey, rump tinged with brown; wings nearly black; tail black, the feathers, except the two middle ones, broadly tipped with white; under surface dull white; bill and legs black; eye olive-green; length 11 inches.

AZARA has not failed to remark that it would be well to find a more appropriate name for this species, which was absurdly called *Calandria* (i.e. Skylark) by the early colonists of the Plata. Moreover, by a curious irony of fate, the Spanish naturalist himself, by employing this unsuitable name in his *Birds of Paraguay*, even while protesting against it, has been the cause of its introduction into scientific nomenclature.

It would be impossible to improve on the account Azara gives of the bird's appearance and manners. The prevailing colour of the plumage is grey, the irides are deep green, the beak black, slender and curved. The tail is long, jerked and elevated when the bird is at rest, spread open and depressed in flight. The Calandria's movements are measured and dignified, its flight low and never extends far, the bird usually passing from one tree to another in a long graceful curve. It goes alone or with its mate only; feeds chiefly on the ground; does not penetrate into deep forests, nor is it seen on the treeless plains. It frequents the borders of woods and open grounds abounding in isolated shrubs and trees; is fond of coming about houses, and invariably perches itself on the most conspicuous places. It sings chiefly in spring, and its really wonderful vocal powers have made it one of our best-known and most admired songsters. To sing, it usually places itself on the summit of a bush or tree, and

occasionally, as if carried away by excitement, it darts upwards three or four yards into the air, and then drops back on to its perch. So varied are its notes, and so frequently suggestive of the language of other species, that the listener finds himself continually asking whether the Calandria is really an original singer or merely a cunning plagiarist, able to steal scraps of fifty different melodies and to blend them in some sort into one complete composition. As a whole the song is in character utterly unlike that of any other bird (birds of the *Mimus* genus of course excepted), for the same notes are never repeated twice in the same order; and though the Calandria has many favourite notes, he is able to vary every one of them a hundred ways. Sometimes the whole song seems to be made up of imitations of other singers, with slight variations—and not of singers only, for now there will be clear flute-like notes, only to be succeeded by others reedy and querulous as the hunger-calls of a young finch; then there will be pretty flourishes or Thrush-like phrases, and afterwards screams, as of a frightened Swallow hurrying through the sky to announce the approach of a Falcon; or perhaps piteous outcries as of a chicken in the clutches of a Kite.

Nevertheless Azara says truly that the Calandria does not mock or mimic the songs of other birds; for though the style and intonation of a score of different singers are reproduced by him, one can never catch a song, or even a portion of a song, of which he is able to say that it is absolutely like that of any other species. This much, however, can be said of the Calandria; he has a passion for endless variety in singing, a capacity for varying his tones to almost any extent, and a facility in reproducing the notes of other birds, which, in the Virginian Mocking-bird of North, and in the White-banded Mocking-bird of South America, has been

developed into that marvellous faculty these two species possess of faithfully imitating the songs of all other birds. The two species I have just named, while mockers of the songs of other birds, also retain their own original music—their “natural song,” as an American ornithologist calls it.

The Calandria makes its nest in the middle of a large bush or low thorn-tree standing by itself; it is deep, like the nest of a Thrush in form, built of sticks, thorns, and grass, and lined with thistle-down or some other soft material. The eggs are four or five, pale blue, and thickly marked with reddish-brown spots.

When the nest is approached the parent birds demonstrate their anxiety by uttering loud, harsh, angry notes.

It is generally believed that the Calandria will not live in captivity. I have, however, seen a few individuals in cages, but they never sang.

PATAGONIAN MOCKING-BIRD

(*Mimus patachonicus*)

Above and beneath grey, paler on the under surface and tinged with rufous on the belly; throat and eye-mark white; wings black; tail black, tipped with white; bill and feet black; eye olive-green; length 9.2 inches. Female smaller in size and lighter in colour.

THE Patagonian Mocking-bird, which I met with during my sojourn on the Rio Negro of Patagonia, closely resembles the species just described, but is smaller, the plumage is of a darker grey, and the irides are also of a darker green. It is a common bird, resident, lives alone or with its mate, feeds on insects and berries, and in its manner of flight and habits is like *Mimus modulator*. The nest is made in the centre of a bush

of thorns and sticks, and lined with dry grass, cow-hair, or other soft material; the eggs are four in number, bluntly pointed, and thickly marked with dark flesh-coloured spots. When the nest is approached the parent birds come close to the intruder, often perching within a yard of his head, but without uttering any sound, differing in this respect from *Mimus modulator*.

The song of the Patagonian bird is in character like that of the northern species, the variety of its notes being apparently infinite; there are, however, some differences worth mentioning. The singing of the Patagonian species is perhaps inferior, his voice being less powerful, while his mellow and clear notes are constantly mingled with shrill ones, resembling the cries of some of the Dendrocolaptine birds. While incapable of notes so loud or so harsh as those of the northern bird, or of changes so wild and sudden, he possesses an even greater variety of soft notes. Day after day for many months I have heard them singing, yet never once listened to them for any length of time without hearing some note or phrase I had never heard before. The remarks I have made concerning the Calandria's mocking-faculties also apply to this bird: but though he does not actually repeat the notes and songs of other species, he certainly does mock the notes of individuals of his own species; for it must be borne in mind that no two individuals sing quite alike, and that the same bird constantly introduces new notes into his song, and never repeats his notes in the same order. I have often observed that when a bird while singing emits a few of these *new* notes, he seems surprised and delighted with them; for, after a silent pause, he repeats them again and again a vast number of times, as if to impress them on his memory. When he once more resumes his varied singing, for hours and some-

times for days the expression he has discovered is still a favourite one, and recurs with the greatest frequency. But this is not all. If the new note or phrase happens to be a very striking one, it immediately takes the fancy of all the other birds within hearing, and often in a small thicket there will be a dozen or twenty birds near together, each sitting perched on the summit of his own bush. After the new wonderful note had been sounded they all become silent and attentive, reminding one in their manner of a caged Parrot listening to a sound it is trying to learn. Presently they learn it, and are as pleased with its acquisition as if they had discovered it themselves, repeating it incessantly. I noticed this curious habit of the bird many times, and on one occasion I found that for three entire days all the birds in a small thicket I used to visit every day did nothing but repeat incessantly two or three singular notes they had borrowed from one of their number. The constant repetition of this one sound had an irritating effect on me; but a day or two later they had apparently got tired of it themselves, and had resumed their usual varied singing.

This bird usually sits still upon the summit of a bush when singing, and its music is heard in all seasons and in all weathers from dawn till after dark: as a rule it sings in a leisurely, unexcited manner, remaining silent for some time after every five or six or a dozen notes, and apparently listening to his brother-performers. These snatches of melody often seem like a prelude or promise of something better coming; there is often in them such exquisite sweetness and so much variety that the hearer is ever wishing for a fuller measure, and still the bird opens his bill to delight and disappoint him, as if not yet ready to display his whole power.

WHITE-BANDED MOCKING-BIRD

(Mimus triurus)

Above grey, brown on the rump; beneath light grey; wing black; crossed with a broad white band; tail white, except the two middle feathers which are black; bill and feet black; eye orange yellow; length 9.5 inches.

AZARA first met with this king of the Mocking-birds in Paraguay a century ago; he named it *Calandria de las tres colas*, and described the plumage accurately, but was, I think, mistaken about the colour of the eye, which is orange-red and not olive-green. He says that it is a rare species, possessing no melodious notes, which proves at once that he never heard it sing. D'Orbigny obtained it in Bolivia, Bridges in Mendoza, and more recently it has been found by collectors in various parts of the Argentine country, even in Buenos Ayres, where, however, it is probably only an occasional visitor. But they have told us nothing of its song and of its miraculous mocking-powers. For my part I can think of no other way to describe the surpassing excellence of its melody, which delights the soul beyond all other bird-music, than by saying that this bird is among song-birds like the diamond among stones, which in its many-coloured splendour represents and exceeds the special beauty of every other gem.

I met with this species on the Rio Negro in Patagonia; it was there called *Calandria blanca*, a name not strictly accurate, since the bird is not all white, but certainly better than Azara's strange invention of "Lark with three tails."

The bird was not common in Patagonia, and its only language was a very loud harsh startled note, resembling that of the *Mimus calandria*; but it was past the love-

season when I first met with it, and the natives all assured me that it possessed a very wonderful song, surpassing the songs of all other birds; also that it had the faculty of imitating other species. In manners and appearance it struck me as being utterly unlike a *Mimus*; in its flight and in the conspicuous white and black of the wings and tail it looked like a Tyrant of the *Tænioptera* group. It was extremely shy, had a swift, easy, powerful flight, and when approached would rise up high in the air and soar away to a great distance. In February it disappeared from the Rio Negro and did not return till the following October, after the arrival of all the other migrants. It was then that I had the rare good fortune to hear it sing, and I shall never forget the sensation I experienced when listening to its matchless melody.

While walking through a chañar-wood one bright morning, my attention was suddenly arrested by notes issuing from a thicket close by, to which I listened in delighted astonishment, so vastly superior in melody, strength, and variety did they seem to all other bird-music. That it was the song of a *Mimus* did not occur to me; for while the music came in a continuous stream until I marvelled that the throat of any bird could sustain so powerful and varied a song for so long a time, it was never once degraded by the harsh cries, fantastical flights and squealing buffooneries so frequently introduced by the Calandria, but every note was in harmony and uttered with a rapidity and joyous abandon no other bird is capable of, except, perhaps, the Skylark; while the purity of the sounds gave to the whole performance something of the ethereal rapturous character of the Lark's song when it comes to the listener from a great height in the air.

Presently this flow of exquisite unfamiliar music

ceased, while I still remained standing amongst the trees, not daring to move for fear of scaring away the strange vocalist. After a short interval of silence I had a fresh surprise. From the very spot whence that torrent of melody had issued, burst out the shrill, confused, impetuous song of the small Yellow-and-Grey Patagonian Flycatcher (*Stigmatura flavocinerea*). It irritated me to hear this familiar and trivial song after the other, and I began to fear that my entertainer had flown away unobserved. But in another moment, from the same spot, came the mellow matin-song of the Diuca Finch, and this was quickly succeeded by the silvery bell-like trilling song of the Churrinche, or little Scarlet Tyrant-bird. Then followed many other familiar notes and songs—the flute-like evening call of the Crested Tinamu, the gay hurried twittering of the Black-headed Siskin, and the leisurely-uttered delicious strains of the Yellow Cardinal, all repeated with miraculous fidelity. How much was my wonder and admiration increased by the discovery that my one sweet singer had produced all these diverse strains! The discovery was only made when he began to repeat songs of species that never visit Patagonia. I knew then that I was at last listening to the famed White Mocking-bird, just returned from his winter travels, and repeating in this southern region the notes he had acquired in sub-tropical forests a thousand miles away.

These imitations at length ceased, after which the sweet vocalist resumed his own matchless song once more. I ventured then to creep a little nearer, and at length caught sight of him hardly fifteen yards away. I then found that the pleasure of listening to its melody was greatly enhanced when I could at the same time see the bird, so carried away with rapture does he appear while singing, so many and so beautiful are the gestures

and motions with which his notes are accompanied. He passes incessantly from bush to bush, scarcely alighting on their summits, and at times dropping down beneath the foliage; then, at intervals, soaring to a height of a hundred feet above the thicket, with a flight slow as that of a Heron, or mounting suddenly upwards with a wild, hurried, zigzag motion; then slowly circling downwards, to sit with tail outspread and the broad glistening white wings expanded, or languidly waved up and down like the wings of some great butterfly—an object beautiful to see.

When I first heard this bird sing I felt convinced that no other feathered songster on the globe could compare with it; for besides the faculty of reproducing the songs of other species, which it possesses in common with the Virginian Mocking-bird, it has a song of its own, which I believed matchless; and in this belief I was confirmed when, shortly after hearing it, I visited England, and found of how much less account than this Patagonian bird, which no poet has ever praised, were the sweetest of the famed melodists of the Old World.

HOUSE-WREN

(*Troglodytes furvus*)

Warm brown; tail-feathers and outer webs of wing-feathers pencilled with dark wavy lines; beneath pale brown; length 4·8 inches.

THE common Argentine Wren is to all English residents the "House-Wren," and is considered to be identical with the species familiar to them in their own country. It is a sprightly little bird, of a uniform brown colour and a cheerful melodious voice; a tireless hunter after small spiders and caterpillars in hedges, gardens, and

outhouses, where it explores every dark hole and cranny, hopping briskly about with tail erect, and dropping frequent little curtsies; always prompt to scold an intruder with great emphasis; a great hater of cats.

It was my belief at one time that the Wren was one of the little birds a cat could never catch; but later on I discovered that this was a mistake. At my home on the pampas we once had a large yellow tom-cat exceedingly dexterous in catching small birds; he did not, however, eat them himself, but used to bring them into the house for the other cats. Two or three times a day he would appear with a bird, which he would drop at the door, then utter a loud mew very well understood by the other cats, for they would all fly to the spot in great haste, and the first to arrive would get the bird. At one time I noticed that he brought in a Wren almost every day, and, curious to know how he managed to capture so clever a bird, I watched him. His method was to go out into the grounds frequented by Wrens, and seat himself conspicuously amongst the weeds or bushes; and then, after the first burst of alarm had subsided amongst the small birds, one or two Wrens would always take on themselves the task of dislodging him, or, at all events, of making his position a very uncomfortable one. The cat would sit perfectly motionless, apparently not noticing them at all, and by-and-by this stolid demeanour would have its effect, and one of the Wrens, growing bolder, would extend his dashing little incursions to within a few inches of pussy's demure face; then at last, swift as lightning, would come the stroke of the paw, and the little brown body would drop down with the merry, brave little spirit gone from it.

The House-Wren is widely distributed in South America, from the tropical forests to the cold uplands of Patagonia, and, possessing a greater adaptiveness

than most species, it inhabits every kind of country, moist or dry, and is as much at home on lofty mountains and stony places as in the everglades of the Plata, where it frequents the reed-beds and damp forests. About houses they are always to be found; and though the traveller on the desert pampas might easily imagine that there are no Wrens in the giant grasses, if he makes himself a lodge in this lonely region, a Wren will immediately appear to make its nest in his thatch and cheer him with its song.

Even in large towns they are common, and I always remember one flying into a church in Buenos Ayres one Sunday, and during the whole sermon-time pouring out its bright lyric strain from its perch high up somewhere in the ornamental woodwork of the roof.

The Wren sings all summer, and also on bright days in winter. The song is not unlike that of the European Wren, having the same gushing character, the notes strong and clear, uttered with rapidity and precision; but the Argentine bird has greater sweetness and power; although I cannot agree with Azara that it resembles or comes nearest to the Nightingale.

In spring the male courts his mate with notes high and piercing as the squeals of a young mouse; these he repeats with great rapidity, fluttering his wings all the time like a moth, and at intervals breaking out into song.

The nest is made in a hole in a wall or tree, sometimes in the forsaken domed nest of some other bird; and where such sites are not to be found, in a dense thistle or thorn-bush, or in a large tussock of grass. I have also found nests in dry skulls of cows and horses, in an old boot, in the sleeve of an old coat left hanging on a fence, in a large-necked bottle, and in various other curious situations. The nest is built of sticks and

lined with horsehair or feathers, and the eggs are usually nine in number, of a pinkish ground-colour, thickly spotted with pale red.

ARGENTINE MARSH-WREN

(*Cistothorus platensis*)

Above pale brown, streaked with black; head darker brown, streaked with black; tail-feathers dark sandy brown, barred with blackish brown; beneath pale sandy buff; length 4.3 inches.

THIS small Wren is rarely seen, being nowhere common, although widely distributed. It prefers open grounds covered with dense reeds and grasses, where it easily escapes observation. I have met with it near Buenos Ayres city; also on the desert pampas, in the tall pampas-grass. It is likewise met with along the Paraná river, and in Chili, Patagonia, and the Falkland Islands. In the last-named locality Darwin found it common, and says that it has there an extremely feeble flight, so that it may easily be run down and taken.

The Marsh-Wren has a sweet and delicate song, resembling that of the House-Wren (*Troglodytes furvus*) but much less powerful. It does not migrate; and on the pampas I have heard it singing with great animation when the pampas-grass, where it sat perched, was white with frozen dew. Probably its song, like that of *Troglodytes furvus*, varies in different districts; at all events, the pampas bird does not possess so fine a song as Azara ascribes to his *Todo Voz* in Paraguay, which is undoubtedly the same species.

South America is rich in Wrens, the known species numbering no fewer than a hundred. In Argentina only four species are found, the two described and the

Black-headed Reed-Wren, *Donacobius atricapillus*, a common Brazilian species, and the Eared Wren, *Troglodytes auricularis*, found in the province of Tucuman.

CACHILA PIPIT

(*Anthus correndera*)

Above pale sandy buff, with black centres to the feathers; wing- and tail-feathers dark brown, edged with buff; the outer tail-feathers almost entirely white; below sandy buff with large triangular black spots; length 6 inches.

AZARA'S only reason for calling this bird *La Correndera* was that he thought it resembled a Titlark known by that name in his own country, but of which he merely had a confused recollection. It is therefore to be regretted, I think, that *correndera* has been adopted as a specific name by naturalists instead of *Cachila*, the vernacular name of the bird, familiar to everyone in the Argentine country. Azara's Spanish bird was probably *Anthus pratensis*, which closely resembles *A. correndera* in general appearance, and has, moreover, as wide a range in the northern as the last-named species has in the southern hemisphere. In the volume on Birds in the *Voyage of the Beagle* it is said that a species of *Anthus* ranges further south than any other land-bird, being the only land-bird found on Georgia and South Orkney (lat. 61 deg. S.).

In colour and language, possibly also in size, the Cachila is variable. It is a very common bird, widely and plentifully distributed over the pampas, found alike on marshy and dry grounds, but rare in the region of giant grasses. While abundant it is also very evenly dispersed, each bird spending its life on a very circumscribed plot of earth. Those frequenting marshy or moist grounds are

of a yellowish-cream colour, thickly mottled and striped with fuscous and black, and have two narrow parallel pure white marks on the back, very conspicuous when the bird is on the ground. The individuals frequenting high and dry grounds are much paler in hue, appearing almost grey, and do not show the white marks on the back. They also look larger than the birds on marshy lands; but this appearance is probably due to a looser plumage. The most strongly marked pale- and dark-plumaged variations may be found living within a few hundred yards of each other, showing how strictly each bird keeps to its own little "beat"; for this difference in coloration is no doubt due entirely to the amount of moisture in the ground they live on.

The Cachilas are resident, living in couples all the year round, the sexes being faithful. Several pairs frequent a small area, and sometimes they unite in a desultory flock; but these gatherings are not frequent. In the evening, at all seasons, immediately after the sun has set, the Cachilas all rise to a considerable height in the air and fly wildly about, chirping for a few minutes, after which they retire to roost.

When approached they frequently rise up several feet from the ground and flutter in the air, chirping sharply, with breast towards the intruder. This is a habit also found in *Synallaxine* species inhabiting the grassy plains. But as a rule the Cachilas are the tamest of feathered creatures, and usually creep reluctantly away on their little pink feet when approached. If the pedestrian is a stranger to their habits they easily delude him into attempting their capture with his hat, so little is their fear of man.

To sing, the Cachila mounts upwards almost vertically, making at intervals a fluttering pause, accompanied with a few hurried notes. When he has thus

risen to a great height (but never beyond sight as Azara says) he begins the descent slowly, the wings inclining upwards; and, descending, he pours forth long impressive strains, each ending with a falling inflection of two or three short throat - notes as the bird pauses fluttering in mid-air, and then renewed successively until, when the singer is within three or four feet of the earth, without alighting he re-ascends as before to continue the performance. It is a very charming melody, and heard always on the treeless plains when there is no other bird-music, with the exception of the trilling and grasshopper-like notes of a few *Synalaxine* species. But in character it is utterly unlike the song of the Skylark with its boundless energy, hurry, and abandon; and yet it is impossible not to think of the Skylark when describing the Cachila, which in its manners, appearance, and in its habit of soaring to a great height when singing, seems so like a small copy of that bird.

The Cachila rears two broods in the year; the first is hatched about the middle of August, that is, one to three months before the laying-season of other Passerine species. By anticipating the breeding - season their early nests escape the evil of parasitical eggs; but on the other hand, frosty nights and heavy rains are probably as fatal to as many early broods as the instinct of the *Molothrus bonariensis*, or Cow-bird, is to others at a later period.

There is another species of Pipit found in Argentina, the Fork-tailed Pipit, *Anthus furcatus*; it inhabits the grassy pampas and the moist valleys in Patagonia, but so closely resembles the Cachila in its plumage, language, and habits as to be generally taken for that species. The only difference I have noted is that it is shy, and has a somewhat shriller song.

PURPLE MARTIN

(Progne furcata)

Deep purple blue; tail black marked with blue; length 7.7 inches. Female, upper parts dull purple; head, neck, and lower parts blackish brown.

THE Purple Martin is occasionally seen in the eastern provinces of La Plata when migrating, but has not been found nesting anywhere so far north as Buenos Ayres. I met with it breeding at Bahia Blanca on the Atlantic coast, and on the Rio Negro, where it is very common. It arrives in Patagonia late in September, and leaves before the middle of February. On the fourteenth of that month I saw one flock flying north, but it was the last. It breeds in holes under the eaves of houses or in walls, and its nest is like that of *P. chalybea*; but many also breed in holes in the steep banks of the Rio Negro. They do not, however, excavate holes for themselves, but take possession of natural crevices and old forsaken burrows of the Burrowing Parrot (*Conurus patachonicus*). In size, flight, manners, and appearance the Purple Martin closely resembles the following species, the only difference being in the dark plumage of the under surface. The language of the two birds is also identical; the loud excited scream when the nest is approached, the various other notes when the birds sweep about in the air, and the agreeably modulated and leisurely-uttered song are all possessed by the two species without the slightest difference in strength or intonation. This circumstance appears very remarkable to me, because, though two species do sometimes possess a few notes alike, the greater part of their language is generally different; also because birds of the same species in different localities

vary more in language than in any other particular. This last observation, however, applies more to resident than to migratory species.

I am inclined to believe that the Purple and Domestic Martins form one dimorphic species, like the Carrion and Hooded Crows of Europe, and that, like these two Crows, they would inter-breed should their nesting areas overlap.

DOMESTIC MARTIN

(*Progne chalybea*)

Upper parts deep purple-blue; wing- and tail-feathers black, glossed with steel-blue; throat and chest ash-colour; breast, abdomen, and under tail-coverts pure white; length 8 inches. Female similar.

THIS species, distinguished from the Purple Martin by its white underparts, ranges from Mexico to Buenos Ayres, the extreme limit of its range being about 250 miles south of that city. It was well called *Golondrina domestica* by Azara, being pre-eminently domestic in its habits. It never breeds in banks as the Purple Martin often does, or in the domed nests of other birds in trees, a situation always resorted to by the Tree Martin, and occasionally by the Common Swallow; but is so accustomed to the companionship of man as to make its home in populous towns as well as in country houses. It arrives in Buenos Ayres about the middle of September, and apparently resorts to the same breeding-place every year. A hole under the eaves is usually selected, and the nest is roughly built of dry grass, hair, feathers, and other materials. When the entrance to its breeding-hole is too large, it partially closes it up with mud mixed with straw; if there be two entrances

it stops up one altogether. The bird does not often require to use mud in building; it is the only one of our Swallows that uses such a material at all. The eggs are white, long, pointed, and five in number.

In the season of courtship this Martin is a noisy pugnacious bird, and always, when quitting its nest, utters an exceedingly loud startling cry several times repeated. It also has a song, uttered both when resting and on the wing, composed of nine or ten agreeably modulated notes, invariably repeated in the same order. It is a pleasing song with something of that peculiar human-like quality in the sound which is so engaging in our Barn Swallow. But it is a voice of much greater power and may be heard when the bird sings flying at so great a height as to be invisible.

Before leaving in February these birds congregate in parties of from twenty to four or five hundred, their congregating place being usually on the broad leafy top of an old ombú tree.

TREE-MARTIN

(*Progne tapera*)

Upper parts dull brown; tail-feathers blackish brown; throat ashy white; fore-neck and chest ashy brown; abdomen white; length 7 inches. Sexes alike.

THE Tree-Martin is more slender and has a greater extent of wing than the Purple Martins; and instead of the beautiful dark purple (their prevailing colour) its entire upper plumage is dusky brown, the under surface white. But if these differences of structure and hue merely serve to show that it is not a very near relative of the other species, those exhibited in its habits remove it very far indeed from them.

The Tree-Martin is a garrulous bird, and no sooner arrives early in September, than we are apprised of the circumstance by the notes which the male and female incessantly sing in concert, fluttering and waving their wings the while, and seeming quite beside themselves with joy at their safe arrival; for invariably they arrive already mated, and they probably pair for life. Their language is more varied, the intonation bolder and freer than that of our other Swallows. The length of the notes can be varied at pleasure; some are almost harsh, others silvery or liquid, as of trickling drops of water: all have a glad sound; and many have that peculiar character of some bird-notes of shaping themselves into words; but unlike the other Swallows the Martin has no set song.

This Martin is never seen to alight on the ground or on the roofs of houses, but solely on trees; and when engaged in collecting materials for its nest, it sweeps down and snatches up a feather or straw without touching the surface. It breeds only in the clay ovens of the Oven-bird (*Furnarius rufus*). I at least have never seen them breed in any other situation after observing them for many summers. An extraordinary habit, for, many as are the species that possess the semi-parasitical custom of breeding in other birds' nests, they do not confine themselves to the nest of a single species excepting the bird I am describing. It must, however, be understood that my knowledge of this bird has been acquired in Buenos Ayres, where I have observed it; and as this Martin possesses a wider range in South America than the Oven-birds, there is no doubt that in other districts it builds in different situations.

On arriving in spring each pair takes up its position on some tree, and usually on a particular branch; a dead branch extending beyond the foliage is a favourite

perch. Here they spend much of their time, never appearing to remain long absent from it, and often, when singing their notes together, fluttering about it with a tremulous, uncertain flight, like that of a hovering butterfly. About three weeks after first arriving they began to make advances towards the Oven-bird's nest that stands on the nearest post or tree; and if it be still occupied by the rightful owners, after much time has been spent in sporting about and reconnoitring it, a feud begins which is often exceedingly violent and protracted for many days.

In seasons favourable to them the Oven-birds build in autumn and winter, and breed early in spring; so that their broods are out of their clay houses by the end of October or earlier; when this happens the Swallow that breeds in November quietly takes possession of the forsaken fortress. But accidents will happen, even to the wonderful fabric of the Oven-bird. It is sometimes destroyed and must be rebuilt; or its completion has perhaps been retarded for months by drought, or by the poor condition of the birds in severe weather; or the first brood has perhaps perished, destroyed by some tree-climbing enemy; a young opossum for instance, less than a rat in size, and able to squeeze itself into the nesting-chamber. November, and even December, may thus arrive before some pairs have hatched their eggs; and it is these unfortunate late breeders that suffer the violence of the marauding Swallows. I have often witnessed the wars of these birds with the deepest interest; and in many ovens that I have opened after the builders had been expelled I have found the eggs of the Oven-bird buried under the nest of the Swallows. After the Swallows have taken up a position near the coveted oven, they occasionally fly towards and hover about it, returning again to their

stand. By-and-by, instead of returning as at first, they take to alighting at the entrance of the coveted home; this is a sort of declaration of war, and marks the beginning of hostilities. The Oven-birds, full of alarm and anger, rush upon and repel them as often as they approach; they retire before this furious onset, but not discomfited, and only warbling out their gay, seemingly derisive notes in answer to the outrageous, indignant screams of their enemies. Soon they return; the scene is repeated; and this desultory skirmishing is often continued for many days.

But at length the lawless invader, grown bolder, and familiar with his strength and resources, will no longer fly from the master of the house; desperate struggles now frequently take place at the entrance, the birds again and again dropping to the ground clutched fiercely together, and again hurrying up only to resume the combat. Victory at last declares itself for the aggressors, and they busy themselves carrying in materials for their nest, screaming their jubilant notes all the time as if in token of triumph. The brave and industrious Oven-birds, dispossessed of their home, retire to spend their childless summer together, for the male and female never separate; and when the autumn rains have supplied them with wet clay, and the sense of defeat is worn off, they cheerfully begin their building operations afresh.

This is not, however, the invariable result of the conflict. To the superior swiftness of the Martin the Oven-bird opposes greater strength, and, it might be added, a greater degree of zeal and fury than can animate its adversary. The contest is thus nearly an equal one; and the Oven-bird, particularly when its young are already hatched, is often able to maintain its own. But the Martins never suffer defeat; for, when unable

to take the citadel by storm, they fall back on their dribbling system of warfare, which they keep up till the young birds leave the nest, when they take possession before it has grown cold.

The Martin makes its own nest chiefly of large feathers, and lays four eggs, long, pointed, and pure white.

It will be remarked that in all its habits above-mentioned this bird differs widely from the two preceding species. It also differs greatly from them in its manner of flight. The Purple Martins move with surprising grace and celerity, the wings extended to their utmost; they also love to sail in circles high up in the air, or about the summits of tall trees, and particularly during a high wind. At such times several individuals are usually seen together, and all seem striving to outvie each other in the beauty of their evolutions.

The Tree-Martin is never seen to soar about in circles; and though when hawking after flies and moths it sweeps the surface of the grass with amazing swiftness, at other times it has a flight strangely slow and of a fashion peculiar to itself: the long wings are depressed as much as those of a wild Duck when dropping on to the water, and are constantly agitated with tremulous flutterings, short and rapid as those of a butterfly.

Neither is this bird gregarious like all its congeners, though occasionally an individual associates for a while with Swallows of another species; but this only when they are resting on fences or trees, for as soon as they take flight it leaves them. Once or twice when for some mysterious cause the autumnal migration has been delayed long past its usual time, I have seen them unite in small flocks; but this is very rare. As a rule they have no meetings preparatory to migration, but skim about the fields and open plains in un-Swallow-like solitude, and in a little while are seen no more.

RED-BACKED ROCK-MARTIN

(*Petrochelidon pyrrhonota*)

Above glossy dark steel-blue; lower back and rump cinnamon rufous; upper tail-coverts brown; wing black; tail black, glossed with green; crown steel-blue; forehead sandy buff; cheeks and sides of face chestnut; chin chestnut and lower throat steel-blue; fore-neck, chest, and flanks ashy brown; middle of breast and abdomen white, tinged with brown; length 5.3 inches. Sexes alike.

THIS species does not breed in the Plata district, and is only seen there in spring, flying south or south-west, and again in much larger numbers on its return journey in autumn. Nor does it breed anywhere in South America, so far as we know, but in Arizona and other districts in the northern division of the Continent, and has a migration similar to that of many species of the *Limicolæ* order. Thus, flying south in the autumn of the northern hemisphere, it crosses the tropics and extends its enormous journey to the southernmost parts of South America. On the Rio Negro, in Patagonia, I did not meet with it, and suppose its summer resort must be south of that locality; and, judging from the immense numbers visible in some seasons, I should think that they must, in their non-breeding ground in Patagonia, occupy a very extensive area. They do not seem to be as regular in their movements as other Swallows here; some years I have observed them passing singly or in small parties during the entire hot season: usually they begin to appear, flying north, in February; but in some years not until after the middle of March. They are not seen passing with a rapid flight in close flocks, but straggle about, hawking after flies; first one bird passing, then two or three, and a minute or two later half a dozen, and so on for

a greater part of the day. So long as the weather continues warm they journey in this leisurely manner; but I have known them to continue passing till April, after all the summer migrants had left us, and these late birds flew by with great speed in small close flocks, directly north, as if their flight had been guided by the magnetic needle.

While flying this species continually utters sharp twitterings and grinding and squealing notes of various lengths.

COMMON SWALLOW

(Tachycineta leucorrhoa)

Above glossy dark green; rump white; quills black, washed with green; tail black with greenish gloss; base of forehead, cheeks, and whole under surface white; flanks and sides washed with smoky brown; length 5.5 inches.

THIS is the most abundant and best known of our Swallows; a pretty bird in its glossy coat of deep green, and rump and under surface snowy white; exceedingly restless in its disposition, quick and graceful in its motions; social, quarrelsome, garrulous, with a not unmusical song, beginning with long, soft, tremulous notes, followed by others shorter and more hurried, and sinking to a murmur. They are the last of all our migrants to leave us in autumn, and invariably reappear in small numbers about the houses on every warm day in winter. Probably many individuals in Buenos Ayres remain through the winter in sheltered situations, to scatter over the surrounding country whenever there comes a warm bright day. I once saw three together, skimming over the plains, on one of the coldest days I ever experienced on the pampas,

the thermometer having stood at 29 deg. Fahrenheit that morning.

Further south their migration is more strict; and on the Rio Negro, in Patagonia, from March to August I did not meet with a single individual. In Buenos Ayres the autumnal migration of the Hirundines begins about the middle of February, and from that date vast numbers of this Swallow are seen travelling north, and, in some seasons, they continue passing for over a month. One autumn, in April, several days after the Swallows had all disappeared, flocks of the Common Swallow began to appear flying north, and for ten days afterwards they continued to pass in large numbers. They would stoop to dip themselves in a pool where I observed them, and then alight on the reeds and bushes to rest, and appeared quite tired with their journey, rising reluctantly when approached and some allowing me to stand almost within arm's length of them without stirring. I had never before observed any later or supplementary migration like this; for as a rule the causes which in some years delay the departure of birds seem to affect them all alike. Possibly these late birds come from some remote district, where exceptionally cold weather had retarded breeding operations.

The Common Swallow sometimes lays in a tree, in the large nest, previously abandoned, of the Leñatero (*Anumbius acuticaudatus*). Its favourite site is, however, a hole in a wall, sheltered by the overhanging tiles or thatch; for though it does not go much into towns, as Azara has remarked, it is very domestic, and there is not a house on the pampas, however humble it be, but some of these birds are about it, sportively skimming above the roof, or curiously peering under the eaves, and incessantly uttering their gurgling happy notes.

For a period of a month to six weeks before building begins they seem to be holding an incessant dispute, reminding one in their scolding tones of a colony of contentious English House-Sparrows, only the Swallow has a softer, more varied voice, and frequently, even when hotly quarrelling, he pauses to warble out his pretty little song, with its sound like running water. However many eligible chinks and holes there may be, the contention is always just as great amongst them, and is doubtless referable to opposing claims to the best places. The excited twittering, the incessant striving of two birds to alight on the same square inch of wall, the perpetual chases they lead each other round and round the house, always ending exactly where they began, tell of clashing interests and of great unreasonableness on the part of some amongst them. By-and-by the quarrel assumes a more serious aspect; friends and neighbours have apparently intervened in vain; all the arguments of which Swallows are capable have been exhausted, and, a compromise of claims being more impossible than ever, fighting begins. Most vindictively do the little things clutch each other and fall to the earth twenty times an hour, where they often remain struggling for a long time, heedless of the screams of alarm their fellows set up above them; for often, while they thus lie on the ground punishing each other, they fall an easy prey to some wily pussy who has made herself acquainted with their habits.

When these feuds are finally settled, they address themselves diligently to the great work and build a rather big nest. They are not neat or skilful workers, but merely stuff a great quantity of straw and other light materials into the breeding-hole, and line the nest with feathers and horsehair. On this soft but disorderly bed the female lays from five to seven pure white eggs.

All those species that are liable at any time to become the victims of raptorial birds are very much beholden to this Swallow, as he is the most vigilant sentinel they possess. When the hurrying Falcon is still far off, and the other birds unsuspecting of his approach, the Swallows suddenly rush up into the sky with a wild rapid flight to announce the evil tidings with distracted screams. The alarm spreads swift as light through the feathered tribes, which on all sides are in terrified commotion, crouching in the grass, plunging into thickets, or mounting upwards to escape by flight. I have often wondered at this, since this swift-winged and quick-doubling little bird is the least likely to fall a prey himself.

They possess another habit very grateful to the mind of every early riser. At the first indication of dawn, and before any other wild bird has broken the profound silence of night, multitudes of this Swallow, as if at the signal of a leader, begin their singing and twittering, at the same time mounting upwards into the quiet dusky sky. Their notes at this hour differ from the hurried twittering uttered during the day, being softer and more prolonged, and, sounding far up in the sky from so many throats, the concert has a very charming effect, and is in harmony with the shadowy morning twilight.

BANK-MARTIN

(*Atticora cyanoleuca*)

Above dark glossy blue; quills and tail-feathers black; cheeks and under surface pure white; sides of the neck blue, descending in a half-crescent on the sides of the chest; length 4.7 inches.

THIS diminutive dark-plumaged species is the smallest of our Hirundines. In Buenos Ayres they appear early

in September, arriving before the Martins, but preceded by the Common Swallow. They are bank-birds, breeding in forsaken holes and burrows, for they never bore into the earth themselves, and are consequently, not much seen about the habitations of man. They sometimes find their breeding-holes in the banks of streams, or, in cultivated districts, in the sides of ditches and even down in wells. But if in such sites alone fit receptacles for their eggs were met with, the species, instead of one of the commonest, would be rare indeed with us; for on the level pampas most of the water-courses have marshy borders, or at most but low and gently sloping banks. But the burrowing habits of two other animals—the Vizcacha (*Lagostomus trichodactylus*), the common large rodent of the pampas, and the curious little bird called Minera (*Geositta cunicularia*)—have everywhere afforded the Martins abundance of breeding-places on the plains, even where there are no streams or other irregularities in the smooth surface of the earth.

The Minera bores its hole in the sides of the Vizcacha's great burrow, and in this burrow within a burrow the Martin lays its eggs and rears its young, and is the guest of the Vizcacha and as much dependent on it as the House-Wren and the Domestic Swallow on man; so that in spring, when this species returns to the plains, it is in the villages of the Vizcachas that we see them. There they live and spend the day, sporting about the burrows, just as the Common Swallow does about our houses; and to a stranger on the pampas one of these villages, with its incongruous bird and mammalian inhabitants, must seem a very curious sight in the evening. Before sunset the old male Vizcachas come forth to sit gravely at the mouths of their great burrows. One or two couples of Mineras, their little brown bird-

tenants, are always seen running about on the bare ground round the holes, resting at intervals with their tails slowly moving up and down, and occasionally trilling out their shrill laughter-like cry. Often a pair of Burrowing-Owls also live in the village, occupying one of the lesser disused burrows; and round them all flit half a dozen little Martins, like twilight moths with long black wings. It is never quite a happy family, however, for the Owls always hiss and snap at the Vizcacha if he comes too near; while the little Martins never become reconciled to the Owls, but perpetually flutter about them, protesting against their presence with long complaining notes.

The nest, made of dry grass lined with feathers, is placed at the extremity of the long, straight, cylindrical burrow, and contains five or six white pointed eggs. I have never seen these Martins fighting with the Minera to obtain possession of the burrows, for this industrious little bird makes itself a fresh one every spring, so that there are always houses enough for the Martins. After the young have flown, they sit huddled together on a weed or thistle-top, and the parents continue to feed them for many days.

As in size and brightness of plumage, so in language is the Bank-Martin inferior to other species, its only song being a single weak trilling note, much prolonged, which the bird repeats with great frequency when on the wing. Its voice has ever a mournful, monotonous sound, and even when it is greatly excited and alarmed, as at the approach of a fox or hawk, its notes are neither loud nor shrill. When flying they glide along close to the earth, and frequently alight on the ground to rest, which is contrary to the custom of other Swallows. Like other species of this family, they possess the habit of gliding to and fro before a traveller's horse, to catch

the small twilight-moths driven up from the grass. A person riding on the pampas usually has a number of Swallows flying round him, and I have often thought that more than a hundred were before my horse at one time; but from the rapidity of their motions it is impossible to count them. I have frequently noticed individuals of the four most common species following me together; but after sunset, and when the other species have long forsaken the open grassy plain for the shelter of trees and houses, the diminutive Bank-Martin continues to keep the traveller company. At such a time, as they glide about in the dusk of evening, conversing together in low tremulous tones, they have a peculiarly sorrowful appearance, seeming like homeless little wanderers over the great level plains.

When the season of migration approaches they begin to congregate in parties not very large, though sometimes as many as one or two hundred individuals are seen together; these companies spend much of their time perched close together on weeds, low trees, fences, or other slightly elevated situations, and pay little heed to a person approaching, but seem pre-occupied or preyed upon by some trouble that has no visible cause.

The time immediately preceding the departure of the Martins is indeed a season of very deep interest to the observer of nature. The birds in many cases seem to forget the attachment of the sexes and their songs and aerial recreations; they already begin to feel the premonitions of that marvellous instinct that urges them hence: not yet an irresistible impulse, it is a vague sense of disquiet; but its influence is manifest in their language and gestures, their wild manner of flight, and their listless intervals.

The little Bank-Martin disappears immediately after the Purple Martins. Many stragglers continue to be

seen after the departure of the main body; but before the middle of March not one remains, the migration of this species being very regular.

WHITE-CAPPED TANAGER

(*Stephanophorus leucocephalus*)

Uniform deep blue; cap silvery white with a small crimson crest above the forehead; length 7 inches. Female less bright.

THIS beautiful bird is one of the three species of Tanager which range south as far as Buenos Ayres. The Tanagers are, however, a numerous family (Tanagridæ), numbering about 400 species, mostly restricted to the forest-clad regions of Central and South America, between the tropics. They are an American family nearly related to the Finches, and the relationship is so close in at least one genus as to make it difficult for naturalists to determine its true place—whether in the Finch or Tanager family. In form they resemble Buntings and do not vary greatly in size; of the greater number it may be said that they are about as big as a Yellow or a Corn Bunting. But in their colouring they have diverged widely from their relations—the family they spring from as we must suppose. There are many bright-coloured Finches, but with a few rare exceptions they do not equal the Tanagers in this respect. Another difference is that while wearing a more brilliant dress they are less musical. They have not wholly forgotten that they are song birds; they all sing “after a fashion,” but it is rare to find a species possessing a song comparable in beauty to that of the best singers in the Finch Family.

Azara gave the generic name *Lindo* (beautiful) to the Tanagers, and this species he named the "Blue White-headed Beautiful," the entire plumage being of a very lovely deep cornflower blue, except a cap of silvery-white feathers on the head, with a crimson spot on the forehead, looking like a drop of blood.

It is a summer bird in Buenos Ayres, where it makes its appearance in spring in the woods bordering on the Plata River, and is usually seen singly or in pairs. The nest is built in a tree ten or twelve feet from the ground, and is somewhat shallow and lined with soft dry grass. The female lays four eggs, white and spotted with deep red. During incubation the male sits concealed in the thick foliage close by, amusing itself by the hour with singing, its performance consisting of chattering disconnected notes uttered in so low a tone as to make one fancy that the bird is merely trying to recall some melody it has forgotten, or endeavouring to construct a new one by jerking out a variety of sounds at random. The bird never gets beyond this unsatisfactory stage, however, and must be admired for its lovely colouring alone.

The second species of the three known to me is the Blue Tanager, *Tanagra sayaca*, the entire plumage of which is a pale glaucous blue. A few of these birds migrate as far south as Buenos Ayres and are seen in small parties of four or five in the woods on the shores of the Plata. The male emits a series of squealing sounds by way of song.

The third species is the Blue-and-Yellow Tanager, *Tanagra bonariensis*. The plumage is rich blue above and bright yellow beneath. The female is olive green above and buff colour beneath. This species also visits Buenos Ayres in small numbers in spring (October). Both sexes have a long reedy call-note, and the male

has a song composed of a succession of sounds like the bleating of a kid.

There are eleven more species of Tanager in Argentina, all confined to the northern part of the country.

GLAUCOUS FINCH

(*Guiraca glaucocærulea*)

Uniform glaucous blue; wings and tail blackish, the feathers edged with light blue; length 5.7 inches.

THE Finches in Argentina number about fifty species and belong mostly to forms peculiar to the New World, the chief exception being the genus *Chrysomitris* (Siskins), which has perhaps the widest range among Finches. From personal observation I can only speak of fifteen species.

The Glaucous Finch was to me a rare bird, and its massive beak and rich blue plumage give to it a highly interesting appearance; but about its habits I have little to tell, for it is essentially a bird of the wild forest, seldom coming near the abodes of man, and being, moreover, shy in disposition, it is difficult to observe even in its haunts. It is migratory, and is usually seen singly or in pairs, or in small companies of four or five individuals. The male sings, but his performance is merely a confused medley of chattering notes, uttered in so low a tone that they can scarcely be heard at a distance of twelve yards.

Another species of *Guiraca*, the Indigo Finch, *G. cyanea*, is found in the northern province of Catamarca.

SCREAMING FINCH

(Spermophila cærulescens)

Above pale smoky brown; front and lores black; beneath, upper part of throat black, with white mystical stripe on each side; fore-neck white; broad black band across the chest; abdomen and under wing-coverts white; length 4·8 inches. Female pale olive-brown; beneath lighter, tinged with ochraceous.

THIS species is a summer visitor in Buenos Ayres, and is one of the last to arrive and first to depart of our migrants. These birds are always most abundant in plantations, preferring peach-trees, but do not associate in flocks: they are exceedingly swift and active, overflowing with life and energy, their impetuous notes and motions giving one the idea that they are always in a state of violent excitement. The male has a loud, startled chirp, also a song composed of eight or ten notes, delivered with such vehemence and rapidity that they run into each other and sound more like a scream than a song. There is not a more clever architect than this species; and while many *Synallaxes* are laboriously endeavouring to show how stately a mansion of sticks a little bird can erect for itself, the Screaming Finch has successfully solved the problem of how to construct the most perfect nest for lightness, strength, and symmetry with the fewest materials. It is a small cup-shaped structure, suspended hammock-wise between two slender upright branches, to which it is securely attached by fine hairs and webs. It is made of thin, pale-coloured, fibrous roots, ingeniously woven together—reddish or light-coloured horse-hair being sometimes substituted; and so little material is used that, standing under the tree, a person can easily count the eggs through the bottom of the nest. Its apparent frailness is, however, its best protection from

the prying eyes of birds and mammals that prey on the eggs and young of small birds; for it is difficult to detect this slight structure, through which the sunshine and rain pass so freely. So light is the little basket-nest that it may be placed on the open hand and blown away with the breath like straw; yet so strong that a man can suspend his weight from it without pulling it to pieces. The eggs are three in number, white and spotted with black; sometimes bluish-brown spots are mingled with the black.

Two other species of *Spermophila*—*S. palustris* and *S. melanocephala*—are found in Argentina.

CARDINAL FINCH

(*Paroaria cucullata*)

Above light grey; wings and tail dark grey; head, crest, and throat brilliant scarlet, the scarlet extending downward to the chest; beneath pure white; length 8 inches.

THIS well-known species is perhaps the finest Finch the Argentines have. The entire upper plumage is clear grey, the under surface pure white; but its chief glory is its crest, which, with the anterior part of the head and throat, is of the most vivid scarlet. The song has little variety, but is remarkably loud, and has that cheerful ring which most people admire in their caged pets, possibly because it produces the idea in the listener's mind that the songster is glad to be a prisoner. As a cage-bird this Finch enjoys an extraordinary popularity; and a stranger in Buenos Ayres, seeing the numbers that are exposed for sale by the bird-dealers in the markets of that city, might fancy that a Cardinal in a cage is considered a necessary part of the *ménage* of every house in the country. This large supply of

caged birds comes from South Brazil, Paraguay, and the north-eastern part of the Argentine country, where the Cardinals are most abundant and unite in large flocks. As a rule they are not snared, but taken when young from the nest; thus most of the birds when first exposed for sale are in immature plumage.

The Cardinal in a wild state is found as far south as the province of Buenos Ayres, but it is there a scarce bird. It breeds at the end of October, and makes a shallow nest of twigs, vine-tendrils, and horse-hair. The eggs are four; ground-colour white or tinged with faint brown or greenish, and spotted with brown, more densely at the large end.

The Lesser Cardinal Finch, *P. capitata*, common in Bolivia and Paraguay, is also found in Northern Argentina.

LONG-TAILED REED-FINCH

(*Donacospiza albifrons*)

Above yellowish grey, the back striped with blackish; lesser wing-coverts clear grey; greater coverts and quills black; head like back, greyish in the cheeks; eye-stripe and under surface buff; length 6 inches.

THE slender body, great length of tail, and the hue of the plumage, assimilating to that of sere decaying vegetation, might easily lead one into mistaking this Finch for a *Synallaxis* where these birds are abundant.

I have met with it in the marshy woods and reed-beds along the shores of the Plata, but it is a shy, rare bird in Buenos Ayres. I have followed it about, hoping to hear it utter a song or melodious note, but it had only a little chirp. I would not, however, on this account pronounce it to be the one silent member of a voiceful family, as my acquaintance with it is so very slight.

BLACK-AND-CHESTNUT WARBLING FINCH

(*Poospiza nigrorufa*)

Above black, faintly washed with olive; eye-stripe pale straw-colour; two outer tail-feathers on each side tipped with white; beneath bright chestnut; under tail-coverts pale buff; length 5·8 inches. Female: above not so dark as in male; beneath light buff striped with blackish.

THIS sweet-voiced little songster appears in Buenos Ayres at the end of September; it is a common bird in grounds abounding in bushes and scattered trees, and in its bright ruddy breast and dark upper plumage has some resemblance to the English Robin; only it has a very conspicuous straw-coloured line above the eye. Its voice also, in purity and sweetness of tone, is not unlike that of the Robin; but the song, composed of six unvarying notes, is uttered in a deliberate, businesslike manner at regular intervals, and is monotonous. Never more than two birds are seen together; they feed on the ground in humid situations, the male frequently seeking a perch to sing. The nest is made on the ground, or in a close bush near the surface; the eggs have a pale bluish ground-colour, irregularly marked with black and very dark brown spots, and in some instances clouded with faint grey.

There are six more species of *Poospiza* found in the Argentine country, all of them in the northern parts.

The English generic name of Warbling Finches was invented for this group by the late Dr. P. L. Sclater, and although I retain it here I am by no means sure that it is the right one. Of the seven Argentine species we only know the song of one—the Black-and-Chestnut Finch, and its song is not exactly a warble in the sense in which we use the word of the performance of the Garden-Warbler, Blackcap, Willow-Wren, and other European species.

to three or four hundred individuals; swift of flight, and when on the wing fond of pursuing its fellows and engaging in mock battles. The song of the male is very pleasing, the voice having more depth and mellowness than is usual with the smaller fringilline singers, which as a rule have thin, reedy, and tremulous notes. In summer it begins singing very early, even before the faintest indication of coming daylight is visible, and at that dark silent hour the notes may be heard at a great distance and sound wonderfully sweet and impressive. During the cold season, when they live in companies, the singing-time is in the evening, when the birds are gathered in some thick-foliaged tree or bush which they have chosen for a winter roosting-place. This winter-evening song is a hurried twittering, and utterly unlike the serene note of the male bird heard on summer mornings. A little while after sunset the flock bursts into a concert, which lasts several minutes, sinking and growing louder by turns, during which it is scarcely possible to distinguish the notes of individuals. Then follows an interval of silence, after which the singing is again renewed very suddenly and as suddenly ended. For an hour after sunset, and when all other late singers, like the *Mimus*, have long been silent, this fitful impetuous singing is continued. Close by a house on the Rio Negro, in which I spent several months there were three very large chañar bushes, where a multitude of Diuca Finches used to roost, and they never missed singing in the evening, however cold or rainy the weather happened to be. So fond were they of this charming habit, that when I approached the bushes or stood directly under them the alarm caused by my presence would interrupt the performance only for a few moments, and presently they would burst into song again, the birds all the time swiftly pursuing

each other amongst the foliage, often within a foot of my head.

The eggs, Darwin says, are pointed, oval, pale dull green, thickly blotched with pale dull brown, becoming confluent and entirely coloured at the broad end.

CHINGOLO SONG-SPARROW

(*Zonotrichia pileata*)

Above dusky grey, striped with blackish brown; a whitish stripe from the eye to the nape; between the stripe and the grey on the crown, black; a narrow chestnut ring round the neck, widening to a large patch on the sides of the chest, the patch bordered with black on its lower part; beneath ashy white; length 5.7 inches. Female duller in colour and rather smaller.

THE common, familiar, favourite Sparrow over a large portion of the South American continent is the "Chingolo." Darwin says that "it prefers inhabited places, but has not attained the air of domestication of the English Sparrow, which bird in habits and general appearance it resembles." As it breeds in the fields on the ground, it can never be equally familiar with man, but in appearance it is like a refined copy of the burly English Sparrow—more delicately tinted, the throat being chestnut instead of black; the head smaller and better proportioned, and with the added distinction of a crest, which it lowers and elevates at all angles to express the various feelings affecting its busy little mind.

On the treeless desert pampas the Chingolo is rarely seen, but wherever man builds a house and plants a tree there it comes to keep him company, while in cultivated and thickly settled districts it is excessively abundant, and about Buenos Ayres it literally swarms in the fields and plantations. They are not, strictly

speaking, gregarious, but where food attracts them, or the shelter of a hedge on a cold windy day, thousands are frequently seen congregated in one place; when disturbed, however, these accidental flocks immediately break up, the birds scattering abroad in different directions.

The Chingolo is a very constant singer, his song beginning with the dawn of day in spring and continuing until evening; it is very short, being composed of a chirping prelude and four long notes, three uttered in a clear thin voice, the last a trill. This song is repeated at brief intervals, as the bird sits motionless, perched on the disc of a thistle-flower, the summit of a stalk, or other elevation; and where the Chingolos are very abundant the whole air, on a bright spring morning, is alive with their delicate melody; only one must pause and listen before one is aware of it, otherwise it will escape notice, owing to its thin ethereal character, the multitudinous notes not mingling but floating away, as it were, detached and scattered, mere gossamer webs of sound that very faintly impress the sense. They also sing frequently at night, and in that dark silent time their little melody sounds strangely sweet and expressive.

The Chingolos pair about the end of September, and at that time their battles are frequent, as they are very pugnacious. The nest is made under a thistle or tuft of grass, in a depression in the soil, so that the top of the nest is on a level with the surface of the ground. The nest is mostly made and lined with horsehair, the eggs four or five, pale blue, and thickly spotted with dull brown. Sometimes, though very rarely, a nest is found in a bush or on a stump several feet above the ground. Two broods are reared in the season, the first in October, the second in February or March. I have

known these birds to breed in April and May, and these very late nests escape the infliction of parasitical eggs. When the nest is approached or taken the Chingolos utter no sound, but sit in dumb anxiety, with tail expanded and drooping wings.

There are three more species of the charming *Zonotrichia* Song-Sparrows within the Argentine country, one of which, the Patagonian Song-Sparrow, *Z. canicapilla*, I found very abundant in Bahia Blanca and on the Rio Negro. In appearance and habits it was not distinguishable from the Chingolo Song-Sparrow, but differed slightly in its song, this being without the concluding trill.

RED-BILLED GROUND-FINCH

(*Embernagra platensis*)

Above dull olive-green, striped with blackish; wings silky olive-green, the inner webs of the feathers black; edge of wings yellow; tail-feathers dull olive-green; beneath grey, belly buff; beak bright red; length 8·8 inches.

IN this Finch the plumage is alike in both sexes. Above it is dusky olive-green, beneath grey; the beak is of a fine bright red. In Argentina this bird is most common in the littoral forests along the Plata, but ranges as far south as the Rio Negro in Patagonia. It does not migrate nor associate in flocks; but the sexes are faithful, and the male and female are invariably together, and appear to be very fond of each other's society. They have a loud, sharp alarm chirp or cry, which bursts from the bird with the startling suddenness of a sneeze from a human being; also a confused unmelodious song, which always reminds me, in its hurry, vehemence, and peculiar sound, of the gobbling of a turkey-cock. They are not

shy, but when approached sit jerking their tails about, and uttering loud chirps as if greatly excited. The flight is very curious; the bird springs up with great suddenness, and with tail erect, the long legs dangling down like a Rail's, and proceeds by a series of irregular jerks, violently shutting and opening its wings. They breed on the ground under the grass, and conceal their nest so well that I doubt whether the parasitical *Molothrus* ever finds it. I have at all events never seen them followed by the young of *Molothrus* demanding food.

As a rule small seed-eating birds are beneficially affected by the presence of man; thus our common *Zonotrichia* and other sparrows and finches have become excessively numerous in the most thickly-settled districts. With the Red-billed Finch, however, just the contrary has happened; and since I have known this species it has disappeared from many localities where it was once quite common. Azara's name for this species, *Habia de bañado*, signifies that it is a marsh-bird; but though now found chiefly in marshy situations, it was once common enough over the entire pampas region, before the great plains were settled on by Europeans. The bird is very badly protected by nature against raptorial species, owing to its very conspicuous red beak, its habit of perching on the summit of tall plants and other elevated positions, its loud impetuous voice, which invites attention, and the weak eccentric flight, which challenges pursuit. It is essential to its safety that it should have, in the open country it frequents, a dense grass cover into which it can plunge on the slightest alarm. Where cattle are introduced, the original pampas-grass which afforded the suitable conditions disappears, giving place to the soft, perishable grasses, clovers, and thistles of Europe. Where these changes take place, the bird cannot escape

from its enemies and quickly disappears; while many Dendrocolaptine species inhabiting the same situations are saved by their inconspicuous protective colouring, sharp wedge-like bodies, and swift mouse-like motions on the ground. In marshy places on the pampas, abounding with long aquatic grasses and reed-beds, the Red-bill still maintains its existence, but from its old habitat on the open grassy plains, where it was once the dominant Finch, it has utterly vanished.

BLACK-HEADED SISKIN

(*Chrysomitris icterica*)

Above light olive-green; wings black, a broad bright yellow band across the base of the feathers; rump yellow; upper tail-coverts olive-green; tail-feathers yellow at the base and black at the ends; head and throat velvety black; beneath and under wing-coverts bright yellow; length 5 inches. Female without the black head.

THIS beautiful little golden-plumaged Finch, the male distinguished from his consort by a brighter yellow colour and a black head, is common throughout the entire length of the Argentine country from Brazil to Patagonia. In the Buenos Ayrean district it probably has a partial migration, as small flocks are seen to arrive in spring; but further south, in Patagonia, it appears to be strictly resident. In settled districts they are always more abundant than in the woods, and they have a special predilection for poplar groves, and always prefer a poplar to build in. They go in small flocks, seldom more than about a dozen birds together, have a rapid undulating flight, feed chiefly on the ground like most finches, and also frequently alight in the seeding time on plants like the lettuce and *Sonchus asper* (a common weed), and, clinging to

the stem, dexterously pick off the seed, scattering the down about them in a little cloud. They are very tuneful, restless, quick in their motions, apparently always in a light-hearted merry mood. Being much admired for their song they are often kept in cages; and certainly for cheerfulness and constancy in singing they take the foremost place amongst the Finches; but there is little expression in the song, which is composed of a variety of short twittering notes, uttered with great rapidity, as the bird sits perched on a twig or undulates from tree to tree. Usually the notes flow in a continuous stream, but occasionally the bird sings in a different manner, making a pause of two or three seconds of silence after every eight or ten short notes. When the female is on the nest the male sometimes perches near her amongst the leaves and sings *sotto voce*, apparently for her hearing only, this whisper-song being so low that at a distance of ten yards it is hardly audible.

The nest is usually placed between the angle formed by a small branch and the bole of the tree, and is a deep, well-made structure composed of many materials, and lined with horsehair, down, or feathers. The eggs are five, very small for the bird, pure white, and so frail that it is not easy to take them from the nest without breaking them.

While engaged in building, the birds constantly utter a low, soft, trilling note; and when the nest is approached they break out into long, somewhat reedy notes, resembling those of the Canary, expressive of alarm or curiosity.

There is but one other Siskin in Argentina, the Half-black Siskin, *C. atrata*, found in Bolivia and North-West Argentina, but of its habits and language nothing has been recorded.

YELLOW HOUSE-SPARROW

(Sycalis pelzelni)

Above yellowish olive-green, the back sparsely striped with blackish; wing- and tail-feathers black, edged with yellow; forehead bright orange, the rest of the head like the back; below bright yellow; under surfaces of wings and tail also yellow; length 5.4 inches. Female dull brownish grey mottled with blackish above; under surface whitish grey, striped with dusky brown on the breast; wing- and tail-feathers edged with yellow.

THE Yellow "House-Sparrow," as this species is called, is the town-bird of Buenos Ayres, but does not multiply greatly, nor is he familiar with man, like his rough, sooty-plumaged, far-away London relation.¹

The forehead of the male is bright orange, the prevailing colour of the entire plumage yellow, clouded with other hues. The female is grey, marked with pale fuscous, and is less in size than her mate. They remain with us all the year and live in pairs, the sexes in this species being faithful. Sometimes they are seen associating in small flocks, but I am inclined to believe that only the young unmated birds are gregarious. In 1867-8, during the cholera epidemic in Buenos Ayres, the Sparrows all disappeared from the town, and I was told by the manager of a large steam flour-mill in the town that the birds had not gone away, but had died. They were found dead all about the mill, where they had been very abundant. My informant was a careful observer, and I have no doubt that he was correct in what he told me.

In spring and summer the male sings frequently with great energy, but without much melody. After a hurried prelude of sharp chirps and trills, he pours

¹ Alas! since this was first written in 1888 the "far-away" relation has invaded Buenos Ayres, and as in so many other countries has become a pest. One result of its appearance has been the vanishing of the pretty and engaging Yellow House-Sparrow.

out a continuous stream of sound, composed of innumerable brief notes, high and shrill as those of a bat, wounding the ear with their excessive sharpness, and emitted so rapidly that the whole song is more like that of a cicada than of a bird. This piercing torrent of sound is broken at intervals by a long, grave note, or half a dozen short, rapid notes in a lower key, which come as an agreeable relief.

In towns they build in walls, like the English Sparrow; in country places they always select the domed nest of some Dendrocolaptine species to breed in. Possibly in some districts where I have not been, this Sparrow selects other breeding-sites; my experience is that outside of a town it never lays anywhere but in some domed nest, and at home I frequently put up boxes for them in the trees, but they would not notice them, though the Wrens and Swallows were glad to have them. Sometimes they make choice of the large fabric of the *Anumbius acuticaudatus*, called *Leñatero* in the vernacular; but their claim to this nest (even when the *Leñateros* are out of it) is frequently disputed by other species which possess the same habit as this Sparrow, but are more powerful than he. Their favourite breeding-place is, however, the solid earthen structure of the Oven-bird; and it is wonderful to see how persistently and systematically they labour to drive out the lawful owners—birds so much larger and more powerful than themselves. Early in spring, and before the advent of the Tree-Martins, the pair of Sparrows begin haunting the neighbourhood of the oven they have elected to take possession of, usually one pretty high up in a tree. As the season advances their desire towards it increases, and they take up their position on the very tree it is in; and finally a particular branch near the oven, commanding a good view of the entrance, is chosen for

a permanent resting-place. Here they spend a great portion of their time in song, twitterings, and loving dalliance, and, if attentively observed, they are seen with eyes ever fixed on the coveted abode. As the need for a receptacle for the eggs becomes more urgent they grow bolder, and in the absence of the owners flit about the oven, alight on it, and even enter it. The Oven-bird appears to drive them off with screams of indignation, but the moment he retires they are about it again, and, even when it contains eggs or young birds, begin impudently carrying in feathers, straws, and other material for a nest, as if they were already in undisputed possession. At this stage the Tree-Martins (*Progne tapera*) perhaps appear to complicate matters; and even if these last comers do not succeed in ousting the Oven-birds, they are sure to seize the oven when it becomes vacant, and the Sparrows, in spite of their earlier claim, are left out in the cold. But they do not take their defeat quietly, or, rather, they do not know when they are beaten, but still remain to harass their fellow-pirates, just as they did the Oven-birds before, bringing straws and feathers in their beaks, and when forced to drop these materials and chased from the neighbourhood with great noise and fury by the Tree-Martins, it is only to return undaunted in a few minutes, bringing more straws and feathers.

This Sparrow makes a rather large nest, neatly lined with horsehair, and lays five eggs, long, pointed, the entire surface thickly matted with deep chocolate brown.

In rural districts this species is comparatively rare, not more than one or two couples being seen about each habitation; and I scarcely think it would be too much to say that there are four or five thousand Chin-golos for every individual Yellow Sparrow. Yet it is

a hardy little bird, well able to hold its own, subsists on the same kind of food and lays as many eggs as the *Zonotrichia*; and it possesses, moreover, a great advantage over the dominant species in placing its nest out of the reach of the parasitical *Molothrus*, the destroyer of about fifty per cent. of the Chingolo's eggs. I can only attribute the great disparity in the numbers of the two species to the fact that the Yellow House-Sparrow will breed only (out of towns) in nests not easily taken, and to the stubborn pertinacity which leads it to waste the season in these vain efforts, while the other species is rearing its brood. This is a blunder of instinct comparable to that of the Minera (*Geositta cunicularia*), mentioned by Darwin in the *Voyage of a Naturalist*, where the bird made its hole in a mud wall a few inches wide, and on coming out on the other side simply went back and made another hole, and then another, unable to understand that the wall had not the requisite thickness.

In such a case as the Yellow House-Sparrow presents, in which the colour of the sexes differ, the female being without any of the brighter hues found in the male, and which makes an elaborate nest and lays deeply-coloured eggs, it is impossible not to believe that the bird originally built in exposed situations, and subsequently—perhaps in very recent times—acquired the habit of breeding in dark holes. The frequent destruction of the exposed nest, and an abundance of vacant domed nests, into which some individuals occasionally penetrated to breed, would lead to the acquisition of such a nesting-habit; for the birds inheriting it would have an advantage and be preserved, while those persisting in the old habit of building exposed nests would perish. Domed nests made by Dendrocolaptine birds are very abundant even now, and it is

probable that, before the country became settled by Europeans, they were very much more numerous. Darwin, speaking of the Oven-bird's habit of always placing its oven in the most conspicuous and (to man) accessible places, predicts, and truly I believe, that this habit will eventually cause the extinction of the species; for when the country becomes more thickly settled, the bird-nesting boys will destroy all the ovens. Probably when the Oven-birds were more abundant the Sparrows could always find vacant ovens to breed in, until a habit of breeding almost exclusively in these safe and convenient bird-built houses was acquired; and the present seemingly stupid persistence of the birds in struggling to get possession of those already occupied by stronger species, only shows that the habit or instinct has not been modified to suit a change in the conditions—*i.e.*, a diminishing number of ovens to breed in, with perhaps the increase of other stronger species possessing the same habit. But while the instinct thus survives too strongly in the country birds, many individuals have taken to a town life, and acquired the new habit of breeding in holes in brick walls. Probably this race of town birds will eventually colonise the rural districts, and usurp the place of the country birds, which will then be placed at a disadvantage.

MISTO SEED-FINCH

(*Sycalis luteola*)

Above light olive-green, marked with dusky stripes; wing- and tail-feathers blackish; throat and chest dusky buff; lower breast and belly yellow; length 5 inches.

THIS is a slender, graceful bird, less than the Canary in size, the whole upper plumage yellowish olive, with dun markings, the lower surface of a dull yellow. The

female is a little smaller than the male, and her colours are somewhat dimmer.

This species is resident and gregarious in the Argentine Republic, and in autumn frequently congregates in flocks of several thousands. They are not so universally distributed as the Chingolo, and are not wood-birds, but frequent open plains abounding in thistles and other coarse herbage, which affords them shelter. In cultivated districts, where their food is most abundant, they are excessively numerous, and after the harvest has been gathered frequent the fields in immense flocks. While feeding, the flocks scatter over a large area of ground, being broken up into small companies of a dozen or more birds, and at such times are so intent on their food that a person can walk about amongst them without disturbing them. They take flight very suddenly, bursting into a thousand chirping, scolding notes, pursue each other through the air, and after wheeling about the field for a minute or two, suddenly drop down into the grass again and are silent as before.

In August they begin to sing, here and there an individual being heard in the fields; but when the weather grows warmer they repair to the plantations in vast numbers, and, sitting on the branches, sing in a concert of innumerable voices, which produces a great volume of confused sound, and which often continues for hours at a time without intermission.

By-and-by these pleasant choirs break up, the birds all scattering over the plains and fields to woo and build, and it is then first discovered that the male has a peculiar and very sweet song. Apart from his fellows he acquires a different manner of singing, soaring up from his stand on the summit of a bush or stalk, and beginning his song the moment he quits his perch. Ascending he utters a series of long melodious

notes, not loud but very distinctly enunciated and increasing in volume; at a height of fifty or sixty yards he pauses, the notes becoming slower; then, as he descends with a graceful flight, the wings outstretched and motionless, the notes also fall, becoming slower, sweeter, and more impressive till he reaches the earth. After alighting he continues the song, the notes growing longer, thinner, and clearer, until they dwindle to the merest threads of sound, and cease to be audible except to a person standing within a few yards of the singer. The song is quite unique in character, and its great charm is in its gradual progress from the somewhat thick notes at the commencement to the thin, tremulous tones with which the bird returns to earth, and which change again to the excessively attenuated sounds at the close.

The nest is deep, well built, and well concealed, sometimes resting on the ground, but frequently raised above it. It contains five long, pointed eggs, with a white or bluish-white ground-colour, and thickly spotted with brown. I have frequently found the eggs of the *Molothrus* in its nest, but have never been able to see this Sparrow feeding, or followed by, a young *Molothrus*. Possibly, if it ever hatches the parasitical egg at all, the young Cow-bird is starved by the food supplied by its foster-parents, as this Finch may feed its young on seed instead of grubs.

ARGENTINE COW-BIRD

(*Molothrus bonariensis*)

Uniform shining purple-black; beak and feet black; length 7.5 inches. Female slightly smaller; plumage uniform mouse-colour.

WE have now come to a remarkable family of Passerine birds, the Icteridæ or Troupials, which includes the Hang-nests and so-called Orioles of North and South

America and the parasitical Cow-birds. They are the Starlings of the New World and appear to be an offshoot of the true Starlings, just as the Tanagers are of the Finches, but Tanagers and Finches exist together throughout South America, whereas the true Starling is unknown in that continent. Many of the Troupials, like the European Starling, have a glossed metallic plumage, and in a majority of species there is some brilliant colour—scarlet, purple, orange, and yellow. The whole family numbers about 130, and of these fifteen or twenty are found in Argentina. Among these are the three species of the genus *Molothrus* which I describe. These three, in their shape and hard conical bills, outwardly resemble Tanagers and Finches rather than Starlings. I was familiar with all of them from childhood, and as I spent a good deal of time in watching them and succeeded in discovering some interesting facts about their singular breeding habits, I have devoted more space to this group than to any other one in this volume.

The species here described, the commonest in southern Argentina, is the *Tordo común* of Azara, and is usually called *Tordo* or *Pájaro negro* (black-bird) by the natives, and Blackbird by the English-speaking Argentines. A more suitable name is Argentine Cow-bird, given to it by some ornithological writers, Cow-bird being the vernacular name of the closely allied North American species, *Molothrus pecoris*.

This Cow-bird is widely distributed in South America, and is common throughout the Argentine country, including Patagonia, as far south as Chupat. In Buenos Ayres it is very numerous, especially in cultivated districts where there are plantations of trees. The male is clothed in a glossy plumage of deep violaceous

purple, the wings and tail being dark metallic green; but seen at a distance or in the shade the bird looks black. The female is inferior in size and has a dull mouse-coloured plumage, and black beak and legs. The males are much more numerous than the females. Azara says that nine birds in ten are males; but I am not sure that the disparity is so great as that. It seems strange and contrary to Nature's usual rule that the smaller, shy, inconspicuous individuals should be in such a minority; but the reason is perhaps that the *male eggs* of the Cow-bird are harder-shelled than the *female eggs*, and escape destruction oftener, when the parent bird exercises its disorderly and destructive habit of pecking holes in all the eggs it finds in the nests into which it intrudes.

The Cow-birds are sociable to a greater degree than most species, their companies not breaking up during the laying-season; for, as they are parasitical, the female merely steals away to drop her egg in any nest she can find, after which she returns to the flock. They feed on the ground, where, in their movements and in the habit the male has of craning out its neck when disturbed, they resemble Starlings. The male has also a curious habit of carrying his tail raised vertically while feeding. They follow the domestic cattle about the pastures, and frequently a dozen or more birds may be seen perched along the back of a cow or horse. When the animal is grazing they group themselves close to its mouth, like chickens round a hen when she scratches up the ground, eager to snatch up the small insects exposed where the grass is cropped close. In spring they also follow the plough to pick up worms and grubs.

The song of the male, particularly when making love, is accompanied with gestures and actions

somewhat like those of the domestic Pigeon. He swells himself out, beating the ground with his wings, and uttering a series of deep internal notes, followed by others loud and clear; and occasionally, when uttering them, he suddenly takes wing and flies directly away from the female to a distance of fifty yards, and performs a wide circuit about her in the air, singing all the time. The homely object of his short-lived passion always appears utterly indifferent to this curious and pretty performance; yet she must be even more impressionable than most female birds, since she continues scattering about her parasitical and often wasted eggs during four months in every year. Her language consists of a long note with a spluttering sound, to express alarm or curiosity, and she occasionally chatters in a low tone as if trying to sing. In the evening, when the birds congregate on the trees to roost, they often continue singing in concert until it is quite dark; and when disturbed at night the males frequently utter their song while taking flight. On rainy days, when they are driven to the shelter of trees, they will often sing together for hours without intermission, the blending of innumerable voices producing a rushing sound as of a high wind. At the end of summer they congregate in flocks of tens of thousands, so that the ground where they are feeding seems carpeted with black, and the trees when they alight appear to have a black foliage. At such times one wonders that many small species on which they are parasites do not become extinct by means of their pernicious habit. In Buenos Ayres, where they are most numerous, they have a migration, which is only partial however. It is noticeable chiefly in the autumn, and varies greatly in different years. In some seasons it is very marked, when for many days in February and March the birds are seen travelling

northwards, flock succeeding flock all day long, passing by with a swift, low, undulating flight, their wings producing a soft musical sound; and this humming flight of the migrating Cow-birds is as familiar to everyone acquainted with nature in Buenos Ayres as the whistling of the wind or the distant lowing of cattle.

The procreant instinct of this *Molothrus* has always seemed so important to me for many reasons that I have paid a great deal of attention to it; and the facts, or at all events the most salient of them, which I have collected during several years of observation, I propose to append here, classified under different headings so as to avoid confusion and to make it easy for other observers to see at a glance just how much I have learnt.

Though I have been familiar with this species from childhood, when I used to hunt every day for their wasted eggs on the broad, clean walks of the plantation, and removed them in pity from the nests of little birds where I found them, I have never ceased to wonder at their strange instinct, which in its wasteful destructive character, so unlike the parasitical habit in other species, seems to strike a discordant note in the midst of the general harmony of nature.

MISTAKES AND IMPERFECTIONS OF THE PROCREANT INSTINCT OF *Molothrus bonariensis*

1. The Cow-birds, as we have seen, frequently waste their eggs by dropping them on the ground.
2. They also occasionally lay in old forsaken nests. This I have often observed, and to make very sure I took several old nests and placed them in trees and bushes, and found that eggs were laid in them.
3. They also frequently lay in nests where incubation has actually begun. When this happens the Cow-bird's

egg is lost if incubation is far advanced; but if the eggs have been sat on three or four days only, then it has a good chance of being hatched and the young bird reared along with its foster-brothers.

4. One female often lays several eggs in the same nest, instead of laying only one, as does, according to Wilson, the *Molothrus pecoris* of North America. I conclude that this is so from the fact that in cases where the eggs of a species vary considerably in form, size, and markings, each individual of the species lays eggs precisely or nearly alike. So when I find two, three, or four eggs of the Cow-bird in one nest all alike in colour and other particulars, and yet in half a hundred eggs from other nests cannot find one to match with them, it is impossible not to believe that the eggs found together, and possessing a family likeness, were laid by the same bird.

5. Several females often lay in one nest, so that the number of eggs in it frequently makes incubation impossible. One December I collected ten nests of the Scissor-tail (*Milvulus tyrannus*) from my trees; they contained a total of forty-seven eggs, twelve of the Scissor-tails and thirty-five of the Cow-birds. It is worthy of remark that the *Milvulus* breeds in October or early in November, rearing only one brood; so that these ten nests found late in December were of birds that had lost their first nests. Probably three-fourths of the lost nests of *Milvulus* are abandoned in consequence of the confusion caused in them by the Cow-birds.

6. The Cow-birds, male and female, destroy many of the eggs in the nests they visit, by pecking holes in the shells, breaking, devouring, and stealing them. This is the most destructive habit of the bird, and is probably possessed by individuals in different degrees. I have often carefully examined all the parasitical

eggs in a nest, and after three or four days found that these eggs had disappeared, others, newly laid, being in their places. I have seen the female Cow-bird strike her beak into an egg and fly away with it; and I have often watched the male bird perched close by while the female was on the nest, and when she quitted it have seen him drop down and begin pecking holes in the eggs. In some nests found full of parasitical eggs every egg has holes pecked in the shell, for the bird destroys indiscriminately eggs of its own and of other species.

ADVANTAGES POSSESSED BY *M. bonariensis* OVER
ITS DUPES

After reading the preceding notes one might ask; If there is so much that is defective and irregular in the reproductive instinct of *M. bonariensis*, how does the species maintain its existence, and even increase to such an amazing extent? for it certainly is very much more numerous, over an equal area, than any other parasitical species. For its greater abundance there may be many reasons unknown to us. The rarer species may be less hardy, have more enemies, be exposed to more perils in their long migrations, etc. That it is able to maintain its existence in spite of irregularities in its instinct is no doubt due to the fact that its eggs and young possess many advantages over the eggs and young of the species upon which it is parasitical. Some of these advantages are due to those very habits of the parent bird which at first sight appear most defective; others to the character of the egg and embryo, time of evolution, etc.

1. The egg of the Cow-bird is usually larger, and almost invariably harder-shelled than are the eggs it

is placed with; those of the Yellow-breast (*Pseudoleistes virescens*) being the one exception I am acquainted with. The harder shell of its own egg, considered in relation to the destructive egg-breaking habit of the bird, gives it the best chance of being preserved; for though the Cow-bird never distinguishes its own egg, of which indeed it destroys a great many, a larger proportion escape in a nest where many eggs are indiscriminately broken.

2. The vitality or tenacity of life appears greater in the embryo Cow-bird than in other species; this circumstance also, in relation to the egg-breaking habit and to the habit of laying many eggs in a nest, gives it a further advantage. I have examined nests of the Scissor-tail, containing many eggs, after incubation had begun, and have been surprised at finding those of the Scissor-tail addled, even when placed most advantageously in the nest for receiving heat from the parent bird, while those of the Cow-bird contained living embryos, even when under all the other eggs, and, as frequently happens, glued immovably to the nest by the matter from broken eggs spilt over them.

The following instance of extraordinary vitality in an embryo *Molothrus* seems to show incidentally that in some species protective habits, which will act as a check on the parasitical instinct, may be in the course of formation.

Though birds do not, as a rule, seem able to distinguish parasitical eggs from their own, however different in size and colour they may be, they often do seem to know that eggs dropped in their nest before they themselves have begun to lay ought not to be there; and the nest, even after its completion, is not infrequently abandoned on account of these premature eggs. Some species however, do not forsake their nests, and though they do not throw the parasitical eggs out,

which would seem the simplest plan, they have discovered how to get rid of them, and so save themselves the labour of making a fresh nest. Their method is to add a new deep lining, under which the strange eggs are buried out of sight and give no more trouble. The *Sisopygis icterophrys*—a common Tyrant-bird in Buenos Ayres—frequently has recourse to this expedient; and the nest it makes being rather shallow, the layer of fresh material, under which the strange eggs are buried, is built upwards above the rim of the original nest; so that this supplementary nest is like one saucer placed within another, and the observer is generally able to tell from the thickness of the whole structure whether any parasitical eggs have been entombed in it or not. Finding a very thick nest one day, containing two half-fledged young birds besides three addled eggs, I opened it, removing the upper portion or additional nest intact, and discovered beneath it three buried *Molothrus* eggs, their shells encrusted with dirt and glued together with broken-egg matter spilt over them. In trying to get them out without pulling the nest to pieces I broke them all; two were quite rotten, but the third contained a living embryo, ready to be hatched, and very lively and hungry when I took it in my hand. The young Tyrant-birds were about a fortnight old, and as they hatch out only about twenty days after the parent-birds begins laying, this parasitical egg with a living chick in it must have been deeply buried in the nest for not less than five weeks. Probably after the young Tyrant-birds came out of their shells and began to grow, the little heat from their bodies, penetrating to the buried egg, served to bring the embryo in it to maturity; but when I saw it I felt (like a person who sees a ghost) strongly inclined to doubt the evidence of my own senses.

3. The comparatively short time the embryo takes to hatch gives it another and a greater advantage; for whereas the eggs of other small birds require from fourteen to sixteen days to mature, that of the Cow-bird hatches in eleven days and a half from the moment incubation commences; so that when the female Cow-bird makes so great a mistake as to drop an egg with others that have already been sat on, unless incubation be far advanced, it still has a chance of being hatched before or contemporaneously with the others; and even if the others hatch first, the extreme hardness of the embryo serves to keep it alive with the modicum of heat it receives.

4. Whenever the *Molothrus* is hatched together with the young of its foster-parents, if these are smaller than the parasite, as usually is the case, soon after exclusion from the shell they disappear, and the young Cow-bird remains sole occupant of the nest. How it succeeds in expelling or destroying them, if it indeed does destroy them, I have not been able to discover.

5. To all these circumstances favourable to the *Molothrus* may be added another of equal or even greater importance. It is never engaged with the dilatory and exhaustive process of rearing its own young; and for this reason continues in better condition than other species, and moreover, being gregarious and practising promiscuous sexual intercourse, must lay a much greater number of eggs than other species. In our domestic fowls we see that hens that never become broody lay a great deal more than others. Some of our small birds rear two, others only one brood in a season—building, incubation, and tending the young taking up much time, so that they are usually from two to three and a half months employed. But the Cow-bird is like the fowl that never incubates, and con-

tinues dropping eggs during four months and a half. From the beginning of September until the end of January the males are seen incessantly wooing the females, and during most of this time eggs are found. I find that small birds will, if deprived repeatedly of their nests, lay and even hatch four times in the season, thus laying, if the full complement be four, sixteen eggs. No doubt the Cow-bird lays a much larger number than that; my belief is that every female lays from sixty to a hundred eggs every season, though I have nothing but the extraordinary number of wasted eggs one finds to judge from.

Before dismissing the subject of the advantages the *Molothrus* possesses over its dupes, and of the real or apparent defects of its instinct, some attention should be given to another circumstance, viz., the new conditions introduced by land-cultivation and their effect on the species. The altered conditions have, in various ways, served to remove many extraneous checks on the parasitical instinct, and the more the birds multiply, the more irregular and disordered does the instinct necessarily become. In wild districts where it was formed, and where birds building accessible nests are proportionately fewer, the instinct seems different from what it does in cultivated districts. Parasitical eggs are not common in the desert, and even the most exposed nests there are probably never overburdened with them. But in cultivated places, where their food abounds, the birds congregate in the orchards and plantations in great numbers, and avail themselves of all the nests, ill-concealed as they must always be in the clean, open-foliaged shade and fruit trees planted by man.

DIVERSITY IN COLOUR OF EGGS

There is an extraordinary diversity in the colour, form, and disposition of markings, etc., of the eggs of *M. bonariensis*; and I doubt whether any other species exists laying eggs so varied. About half the eggs one finds, or nearly half, are pure unspotted white, like the eggs of birds that breed in dark holes. Others are sparsely sprinkled with such exceedingly minute specks of pale pink or grey, as to appear quite spotless until closely examined. After the pure white, the most common variety is an egg with a white ground, densely and uniformly spotted or blotched with red. Another not uncommon variety has a very pale, flesh-coloured ground, uniformly marked with fine characters, that look as if inscribed on the shell with a pen. A much rarer variety has a pure white shell with a few large or variously sized brown and chocolate spots. Perhaps the rarest variety is an egg entirely of a fine deep red; but between this lovely marbled egg and the white one with almost imperceptible specks, there are varieties without number; for there is no such thing as characteristic markings in the eggs of this species, although, as I have said before, the eggs of the same individual show a family resemblance.

HABITS OF THE YOUNG *M. bonariensis*

Small birds of all species, when first hatched, closely resemble each other; after they are fledged the resemblance is less, but still comparatively great; grey, interspersed with brown, is the colour of most of them, or at the least of the upper exposed plumage. There is also a great similarity in their cries of hunger and fear—shrill, querulous, prolonged, and usually tremulous

notes. It is not then to be wondered at that the foster-parents of the young *Molothrus* so readily respond to its cries, understanding the various expressions denoting hunger, fear, pain, as well as when uttered by their own offspring. But the young *Molothrus* never understands the language of its foster-parents as other young birds understand the language of their real parents, rising to receive food when summoned, and concealing themselves or trying to escape when the warning note is given. How does the young *Molothrus* learn to distinguish, even by sight, its foster-parent from any other bird approaching the nest? It generally manifests no fear even at a large object. On thrusting my fingers into any nest I find the young birds, if still blind or but recently hatched, will hold up and open their mouths expecting food; but in a very few days they learn to distinguish between their parents and other objects approaching them, and to show alarm even when not warned of danger. Consider the different behaviour of three species that seldom or never warn their offspring of danger. The young of *Synallaxis spixi*, though in a deep-domed nest, will throw itself to the ground, attempting thus to make its escape. The young of *Mimus patachonicus* sits close and motionless, with closed eyes, mimicking death. The young of our common *Zenaida*, even before it is fledged, will swell itself up and strike angrily at the intruder with beak and wings; and by making so brave a show of its inefficient weapons it probably often saves itself from destruction. But anything approaching the young *Molothrus* is welcomed with fluttering wings and clamorous cries, as if all creatures were expected to minister to its necessities.

I found a young *Molothrus* in the nest of a Screaming Finch, *Spermophila cærulescens*; he cried for food

on seeing my hand approach the nest; I took him out and dropped him down, when, finding himself on the ground, he immediately made off, half flying. After a hard chase I succeeded in re-capturing him, and began to twirl him about, making him scream, so as to inform his foster-parents of his situation, for they were not by at the moment. I then put him back in, or rather upon, the little cradle of a nest, and plucked half a dozen large measure - worms from an adjacent twig. The caterpillars were handed to the bird as I drew them from the cases, and with great greediness he devoured them all, notwithstanding the ill-treatment he had just received, and utterly disregarding the wild excited cries of his foster-parents, just arrived and hovering within three or four feet of the nest.

Last summer I noticed a young Cow-bird in a stubble field, perched on the top of a slender dry stalk; as it was clamouring at short intervals, I waited to see what bird would come to it. It proved to be the diminutive Flycatcher, *Hapalocercus flaviventris*; and I was much amused to see the little thing fly directly to its large foster-offspring and, alighting on its back, drop a worm into the upturned open mouth. After remaining a moment on its singular perch, the Flycatcher flew away, but in less than half a minute returned and perched again on the young bird's back. I continued watching them until the *Molothrus* flew off, but not before I had seen him fed seven or eight times in the same manner.

In the two foregoing anecdotes may be seen the peculiar habits of the young *Molothrus*. As the nests in which it is hatched, from those of the little *Serpophaga* and Wren to those of the Mocking-bird, vary so much in size and materials, and are placed in such different situations, the young *Molothrus* must have in most of

them a somewhat incongruous appearance. But in the habits of the young bird is the greatest incongruity or inadaptation. When the nest is in a close thicket or forest, though much too small for the bird, and although the bird itself cannot understand its foster-parents, and welcomes all things that, whether with good or evil design, come near it, the unfitness is not so apparent as when the nest is in open fields and plains.

The young *Molothrus* differs from the true offspring of its foster-parents in its habit of quitting the nest as soon as it is able, trying to follow the old bird, and placing itself in the most conspicuous place it can find, such as the summit of a stalk or bush, and there demanding food with frequent and importunate cries. Thus the little Flycatcher had acquired the habit of perching on the back of its charge to feed it, because parent birds invariably perch above their young to feed them, and the young Cow-bird prevented this by always sitting on the summit of the stalk it perched on. The habit is most fatal on the open and closely cropped pampas inhabited by the Pipit (*Anthus correndera*). In December when the Cachila Pipit rears its second brood, the common and abundant Carrion Hawk also has young, and feeds them almost exclusively on the young of various species of small birds. At this season the Chimango destroys great numbers of the young of the Pipit and of the Spine-tail, *Synallaxis hudsoni*. Yet these birds are beautifully adapted in structure, coloration, and habits to their station. It thus happens that in districts where the *Molothrus* is abundant, their eggs are found in a majority of the Pipits' nests; and yet to find a young Cow-bird out of the nest is a rare thing here, for as soon as the young birds are able to quit the nest and expose themselves they are mostly carried off by the Hawk.

CONJECTURES AS TO THE ORIGIN OF THE PARASITIC
INSTINCT IN *M. bonariensis*

Darwin's opinion that the "immediate and final cause of the Cuckoo's instinct is that she lays her eggs not daily, but at intervals of two or three days" (*Origin of Species*) carries no great appearance of probability with it; for might it not just as reasonably be said that the parasitic instinct is the immediate and final cause of her laying her eggs at long intervals? If it is favourable to a species with the instinct of the Cuckoo (and it probably is favourable) to lay eggs at longer intervals than other species, then natural selection would avail itself of every modification in the reproductive organs that tended to produce such a result, and make the improved structure permanent. It is said (*Origin of Species*, chapter vii.) that the American Cuckoo lays also at long intervals, and has eggs and young at the same time in its nest, a circumstance manifestly disadvantageous. Of the *Coccyzus melanocoryphus*, the only one of our three *Coccyzi* whose nesting habits I am acquainted with, I can say that it never begins to incubate till the full complement of eggs are laid—that its young are hatched simultaneously. But if it is sought to trace the origin of the European Cuckoo's instinct in the nesting-habits of American *Coccyzi*, it might be attributed not to the aberrant habit of perhaps a single species, but to another and more disadvantageous habit common to the entire genus, viz., their habit of building exceedingly frail platform-nests from which the eggs and young very frequently fall. By occasionally dropping an egg in the deep, secure nest of some other bird, an advantage would be possessed by the birds hatched in it, and in them the habit would perhaps become hereditary.

Be this as it may (and the one guess is perhaps as wide of the truth as the other) there are many genera intermediate between *Cuculus* and *Molothrus* in which no trace of a parasitic habit appears; they belong to different orders, and it seems more probable that the analogous instincts originated independently in the two genera. As regards the origin of the instinct in *Molothrus*, it will perhaps seem premature to found speculations on the few facts here recorded, and before we are acquainted with the habits of other members of the genus. That a species should totally lose so universal an instinct as the maternal one, and yet avail itself of that affection in other species to propagate itself, seems a great mystery. Nevertheless I cannot refrain from all conjecture on the subject, and will go so far as to suggest what may have been at least one of the many concurrent causes that have produced the parasitic instinct. The apparently transitional nesting-habits of several species, and one remarkable habit of *M. bonariensis*, seems to me to throw some light on a point bearing intimately on the subject, viz., the loss of the nest-making instinct in this species.

Habits vary greatly; were it not so they would never seem so well adapted to the conditions of life as we find them, since the conditions themselves are not unchangeable. Thus it happens that, while a species seems well adapted to its state in its habits, it frequently seems not so well adapted in its relatively immutable structure. For example, without going away from the pampas, we find a *Tringa* with the habits of an Upland Plover, a Tyrant-bird (*Pitangus bellicosus*) preying on mice and snakes, another Tyrant-bird (*Myiotheretes rufiventris*) Plover-like in its habits, and finally a Woodpecker (*Colaptes campestris*) that seeks its food on the ground like a Starling; yet in none of these—and the list might

be greatly lengthened—has there been anything like a modification of structure to keep pace with the altered manner of life. But however much the original or generic habits of a species may have become altered—the habits of a species being widely different from those of its congeners, also a want of correspondence between structure and habits (the last being always more suited to conditions than the first) being taken as evidence of such alteration—traces of ancient and disused habits frequently reappear. Seemingly capricious actions too numerous, too vague, or too insignificant to be recorded, improvised definite actions that are not habitual, apparent imitations of the actions of other species, a perpetual inclination to attempt something that is never attempted, and attempts to do that which is never done—these and other like motions are, I believe, in many cases to be attributed to the faint promptings of obsolete instincts. To the same cause many of the occasional aberrant habits of individuals may possibly be due—such as of a bird that builds in trees occasionally laying on the ground. If recurrence to an ancestral type be traceable in structure, coloration, language, it is reasonable to expect something analogous to occur in instincts. But even if such casual and often aimless motions as I have mentioned should guide us unerringly to the knowledge of the old and disused instincts of a species, this knowledge of itself would not enable us to discover the origin of present ones. But assuming it as a fact that the conditions of existence, and the changes going on in them, are in every case the fundamental cause of alterations in habits, I believe that in many cases a knowledge of the disused instincts will assist us very materially in the inquiry. I will illustrate my meaning with a supposititious case. Should all or many species of

Columbidæ manifest an inclination for haunting rocks and banks, and for entering or peering into holes in them, such vague and purposeless actions, connected with the fact that all Doves that build simple platform-nests (like *Columba livia* and others that build on a flat surface) also lay white eggs (the rule being that eggs laid in dark holes are white, exposed eggs coloured), also that one species, *C. livia*, does lay in holes in rocks, would lead us to believe that the habit of this species was once common to the genus. We should conclude that an insufficiency of proper breeding-places, *i.e.*, new external conditions, first induced Doves to build in trees. Thus *C. livia* also builds in trees where there are no rocks; but, when able, returns to its ancestral habits. In the other species we should believe the primitive habit to be totally lost from disuse, or only to manifest itself in a faint uncertain manner.

Now in *Molothrus bonariensis* we see just such a vague, purposeless habit as the imaginary one I have described. Before and during the breeding-season the females, sometimes accompanied by the males, are seen continually haunting and examining the domed nests of some of the Dendrocolaptidæ. This does not seem like a mere freak of curiosity, but their persistence in their investigations is precisely like that of birds that habitually make choice of such breeding-places. It is surprising that they never do actually lay in such nests, except when the side or dome has been accidentally broken enough to admit the light into the interior. Whenever I set boxes up in my trees, the female Cow-birds were the first to visit them. Sometimes one will spend half a day loitering about and inspecting a box, repeatedly climbing round and over it, and always ending at the entrance, into which she peers curiously, and when about to enter starting back

as if scared at the obscurity within. But after retiring a little space she will return again and again, as if fascinated with the comfort and security of such an abode. It is amusing to see how pertinaciously they hang about the ovens of the Oven-birds, apparently determined to take possession of them, flying back after a hundred repulses, and yet not entering them even when they have the opportunity. Sometimes one is seen following a Wren or a Swallow to its nest beneath the eaves, and then clinging to the wall beneath the hole into which it disappeared.

I could fill many pages with instances of this habit of *M. bonariensis*, which, useless though it be, is as strong an affection as the bird possesses. That it is a recurrence to a long disused habit I can scarcely doubt; at least to no other cause that I can imagine can it be attributed; and besides it seems to me that if *M. bonariensis*, when once a nest-builder, had acquired the semi-parasitical habit of breeding in domed nests of other birds, such a habit might conduce to the formation of the instinct which it now possesses. I may mention that twice I have seen birds of this species attempting to build nests, and that on both occasions they failed to complete the work. So universal is the nest-making instinct that one might safely say that the *M. bonariensis* once possessed it, and that in the cases I have mentioned it was a recurrence, too weak to be efficient, to the ancestral habit.

Another interesting circumstance may be adduced as strong presumptive evidence that *M. bonariensis* once made itself an open exposed nest, as *M. badius* occasionally does—viz., the difference in colour of the male and female; for whilst the former is rich purple, the latter possesses an adaptive resemblance in colour to nests and to the shaded interior twigs and

branches on which nests are usually built. How could such an instinct have been lost? To say that the Cow-bird occasionally dropped an egg in another bird's nest, and that the young hatched from these accidental eggs possessed some (hypothetical) advantage over those hatched in the usual way, and that the parasitical habit thus became hereditary, supplanting the original one, is all conjecture, and seems to exclude the agency of external conditions. Again, the want of correspondence in the habits of the young parasite and its foster-parents would in reality be a disadvantage to the former; the unfitness would be as great in the eggs and other circumstances; for all the advantages the parasite actually possesses in the comparative hardness of the egg-shell, rapid evolution of the young, etc., already mentioned, must have been acquired little by little through the slowly accumulating process of natural selection, *subsequently* to the formation of the original parasitical inclination and habit. I am inclined to believe that *M. bonariensis* lost the nest-making instinct by acquiring that semi-parasitical habit, common to so many South American birds, of breeding in the large covered nests of the Dendrocolaptidæ. We have evidence that this semi-parasitical habit does tend to eradicate the nest-making one. The *Synallaxes* build great elaborate domed nests, yet we have one species (*S. ægithaloides*) that never builds for itself, but breeds in the nests of other birds of the same genus. In some species the nesting-habit is in a transitional state. The Tyrant-bird, *Macheornis rixosa*, sometimes makes an elaborate nest in the angle formed by twigs and the bough of a tree, but prefers, and almost invariably makes choice of, the covered nest of some other species or of a hole in the tree. It is precisely the same with our Wren,

Troglodytes furvus. The Yellow House-Sparrow (*Sycalis pelzelni*) invariably breeds in a dark hole or covered nest. The fact that these three species lay coloured eggs, and the first and last very deeply coloured, inclines one to believe that they once invariably built exposed nests, as *M. rixosa* still occasionally does. It may be added that those species that lay coloured eggs in dark places construct and line their nests far more neatly than do the species that breed in such places but lay white eggs. As with *M. rixosa* and the Wren, so it is with the Bay-winged *Molothrus*; it lays mottled eggs, and occasionally builds a neat exposed nest; yet so great is the partiality it has acquired for large domed nests that whenever it can possess itself of one by dint of fighting it will not build one for itself. Let us suppose that the Cow-bird also once acquired the habit of breeding in domed nests, and that through this habit its original nest-making instinct was completely eradicated, it is not difficult to imagine how in its turn this instinct was also lost. A diminution in the number of birds that build domed nests or an increase in the number of species and individuals that breed in such nests, would involve *M. bonariensis* in a struggle for nests, in which it would probably be defeated. In Buenos Ayres the Common Swallow, the Wren, and the Yellow Seed-Finch prefer the ovens of the *Furnarius* to any other breeding-place, but to obtain them are obliged to struggle with the Tree-Swallow, *Progne tapera*; for this species has acquired the habit of breeding exclusively in the ovens. They cannot, however, compete with the *Progne*; and thus the increase of one species has, to a great extent, deprived three other species of their favourite building-place. Again, *Machetornis rixosa* prefers the great nest of the *Anumbius*; and when other species compete

with it for the nest they are invariably defeated. I have seen a pair of *Machetornis* after they had seized a nest attacked in their turn by a flock of six or eight Bay-wings; but in spite of the superior numbers the fury of the *Machetornis* compelled them to raise the siege.

Thus some events in the history of our common *Molothrus* have perhaps been accounted for, if not the most essential one—the loss of the nest-making instinct from the acquisition of the habit of breeding in the covered nests of other birds, a habit that has left a strong trace in the manners of the species, and perhaps in the pure white unmarked eggs of so many individuals; finally, we have seen how this habit may also have been lost. But the parasitical habit of the *M. bonariensis* may have originated when the bird was still a nest-builder. The origin of the instinct may have been in the occasional habit, common to so many species, of two or more females laying together; the progenitors of all the species of *Molothrus* may have been early infected with this habit, which eventually led to the acquisition of the present one. *M. pecoris* and *M. bonariensis*, though their instincts differ, are both parasitic on a great number of species; *M. rufoaxillaria* on *M. badius*; and in this last species two or more females frequently lay together. If we suppose that the *M. bonariensis*, when it was a nest-builder or reared its own young in the nests it seized, possessed this habit of two or more females frequently laying together, the young of those birds that oftenest abandoned their eggs to the care of another would probably inherit a weakened maternal instinct. The continual intercrossing of individuals with weaker and stronger instincts would prevent the formation of two races differing in habit; but the whole race would degenerate, and would only be saved from final extinction by some individuals

occasionally dropping their eggs in the nests of other species, perhaps of a *Molothrus*, as *M. rufoaxillaris* still does, rather than of birds of other genera. Certainly in this way the parasitic instinct may have originated in *M. bonariensis* without that species ever having acquired the habit of breeding in the covered dark nests of other birds. I have supposed that they once possessed it only to account for the strange attraction such nests have for them, which seems like a recurrence to an ancestral habit.

SCREAMING COW-BIRD

(*Molothrus rufoaxillaris*)

Silky black glossed with purple; wings and tail with a slight greenish gloss; bill and feet black; length 8 inches. Female the same; slightly smaller.

THIS bird has no vulgar name, not being distinguished from the Common Cow-bird by the country people. The English name of Screaming Cow-bird, which I have bestowed on it, will I think commend itself as appropriate to those who observe it, for they will always and at any distance be able to distinguish it from the species it resembles so nearly by listening to its impetuous screaming notes, so unlike anything in the language of the Common Cow-bird.

The Screaming Cow-bird is larger than the allied species. The female is less than the male in size, but in colour they are alike, the entire plumage being deep blue-black, glossy, with purple reflections, and under the wing at the joint there is a small rufous spot. The beak is very stout, the plumage loose, with a strong musky smell; the œsophagus remarkably wide.

It is far less common than the other species of *Molothrus*, but not rare, and ranges south to the Buenos-Ayorean pampas, where a few individuals are usually found in every large plantation; and, like the Bay-winged Cow-bird, it remains with us the whole year. It is not strictly gregarious, but in winter goes in parties, seldom exceeding half a dozen individuals, and in the breeding-season in pairs. One of its most noteworthy traits is an exaggerated hurry and bustle thrown into all its movements. When passing from one branch to another, it goes by a series of violent jerks, smiting its wings loudly together; and when a party of them return from the fields they rush wildly and loudly screaming to the trees, as if pursued by a bird of prey. They are not singing-birds; but the male sometimes, though rarely, attempts a song, and utters, with considerable effort, a series of chattering unmelodious notes. The chirp with which he invites his mate to fly has the sound of a loud and smartly given kiss. His warning or alarm note when approached in the breeding-season has a soft and pleasing sound; it is, curiously enough, his only mellow expression. But his most common and remarkable vocal performance is a cry beginning with a hollow-sounding internal note, and swelling into a sharp metallic ring; this is uttered with tail and wings spread and depressed, the whole plumage raised like that of a strutting turkey-cock, whilst the bird hops briskly up and down on its perch as if dancing. From its puffed-out appearance, and from the peculiar character of the sound it emits, I believe that, like the Pigeon and some other species, it has the faculty of filling its crop with air, to use it as a "chamber of resonance." The note I have described is quickly and invariably followed by a scream, harsh and impetuous, uttered by the female, though both notes always

sound as if proceeding from one bird. When on the wing the birds all scream together in concert.

The food of this species is chiefly minute seeds and tender buds; they also swallow large caterpillars and spiders, but do not, like their congeners, eat hard insects.

I became familiar, even as a small boy, with the habits of the Screaming Cow-bird, and before this species was known to naturalists, but could never find its nest though I sought diligently for it. I could never see the birds collecting materials for a nest, or feeding their grown-up young like other species, and this might have made me suspect that they did not hatch their own eggs; but it never occurred to me that the bird was parasitical, I suppose because in summer they are always seen in pairs, the male and female being inseparable. Probably this is the only parasitical species in which there is conjugal fidelity. I also noticed that when approached in the breeding-season the pair always displayed great excitement and anxiety, like birds that have a nest, or that have selected a site on which to build one. But year after year the end of the summer would arrive, the birds re-unite in parties of half a dozen, and the mystery remain unsolved. At length, after many years, fortune favoured me, and while observing the habits of another species (*Molothrus badius*) I discovered by chance the procreant habits of the Screaming Cow-birds; and as these observations throw some light on the habits of *M. badius* I think it best to transcribe my notes here in full.

A pair of Leñateros (*Anumbius acuticaudatus*), or Firewood-Gatherers, have been nearly all the winter building a nest on an acacia tree sixty yards from the house; it is about 27 inches deep, and 16 or 18 in circumference, and appears now nearly finished. I am

sure that this nest will be attacked before long, and I have resolved to watch it closely.

September 28.—To-day I saw a Bay-wing (*M. badius*) on the nest; it climbed over it, deliberately inspecting every part with the critical air of a proprietor who had ordered its construction, taking up and re-arranging some sticks and throwing others away from the nest. While thus engaged, two Common Cow-birds (*M. bonariensis*), male and female, came to the tree; the female dropped on to the nest, and began also to examine it, peering curiously into the entrance and quarrelling with the first bird. After a few minutes she flew away, followed by her glossy consort. The Bay-wing continued its strange futile work until the owners of the nest appeared, whereupon it hopped aside in its usual slow leisurely manner, sang for a few moments, then flew away. The similarity in the behaviour of the two birds struck me very forcibly; in the great interest they take in the nests of other birds, especially large covered nests, the two species are identical. But when the breeding-season comes their habits begin to diverge; then the Common Cow-bird lays in nests of other species, abandoning its eggs to their care; while the Bay-wings usually seize on the nests of other birds and rear their own young. Yet, as they do occasionally build a neat elaborate nest for themselves, the habit of taking possession of the nests of other birds is most likely a recently acquired one, and probably its tendency is to eradicate the original building instinct.

October 8.—This morning, while reading under a tree, my attention was aroused by a shrill note, as of a bird in distress, issuing from the neighbourhood of the Firewood-Gatherer's nest; after hearing it repeated at intervals for over twenty minutes, I went to ascertain the cause. Two Bay-wings flew up from

the ground under the nest, and on searching in the rank clover growing under the tree, I discovered the female Leñatero, with plumage wet and draggled, trembling and appearing half dead with the rough treatment she had experienced. I put her in the sun, and after half an hour, hearing her mate calling, she managed to flutter feebly away to join him. The persecutors had dragged her out of the nest, and would, no doubt, have killed her had I not come so opportunely to the rescue.

Since writing the above I have continued to watch the nest. Both the Bay-wings and their victims left it for some days. Six days after I had picked up the ill-treated female, the builders of the nest came back and resumed possession. Four days later the Bay-wings also came back; but on finding the nest still occupied they took possession of an unfinished oven of an Oven-bird on another tree within twenty yards of the first, and immediately began carrying in materials with which to line it. When they had finished laying I took their five eggs, at the same time throwing down the oven, and waited to see what their next move would be. They remained on the spot, singing incessantly, and still manifesting anxiety when approached. I observed them four days, and then was absent from home as many more; on returning I found that the Leñateros had once more disappeared, and that the nest was now held by the Bay-wings. I also noticed that they had opened an entrance very low down at the side of the nest which they were using; no doubt they had killed and thrown out the young birds.

It was now early in November, the height of the breeding-season, and numbers of Common Cow-birds constantly visited the nest; but I was particularly interested in a pair of Screaming Cow-birds that had

also begun to grow fond of it, and I resolved to watch them closely. As they spent so much of their time near the nest, showing great solicitude when I approached it, I strongly hoped to see them breed in it, if the Bay-wings could only be got rid of. The Screaming Cow-birds would not, or dare not, attack them. I therefore resolved to take the Bay-wings' eggs, hoping that that would cause them to leave in disgust.

When I was satisfied from their movements that they had finished laying, I got up to the nest, and was astonished to find *ten* eggs instead of five as I had confidently expected; for though the Common Cow-birds had paid a great deal of attention to the nest, I knew the Bay-wings would not allow *them* to lay in it.

The ten eggs in the nest were all unmistakably Bay-wings' eggs; and having observed before that several females do occasionally lay together, I concluded that in this case two females had laid in the nest, though I had only seen two birds—male and female. After taking the ten eggs the Bay-wings still remained, and in a very short time they appeared to be laying again. When I had reason to think that the full complement was laid, I visited the nest and found five eggs in it; these I also took, and concluded that the second female had probably gone away, after having been deprived of her first clutch. During all this time the Screaming Cow-birds remained in the neighbourhood and occasionally visited the tree; but to my very great surprise the Bay-wings still stubbornly remained, and by-and-by I found that they were going to lay again—the fourth time! When I next visited the nest there were two eggs in it; I left them and returned three days later, expecting to find five eggs, but found seven! certainly more than one female had laid in the nest on this occasion. After I had taken these last seven eggs the

Bay-wings left; and though the Screaming Cow-birds continued to make occasional visits to the nest, to my great disappointment they did not lay in it.

April 12.—To-day I have made a discovery, and am as pleased as if I had found a new planet in the sky. The mystery of the Bay-wings' nest twice found containing over the usual complement of eggs is cleared up, and I have now suddenly become acquainted with the procreant instinct of the Screaming Cow-bird. I look on this as a great piece of good fortune; for I had thought that the season for making any such discovery was already over, as we are so near to winter.

The Bay-wings are so social in their habits that they always appear reluctant to break up their companies in the breeding-season; no sooner is this over, and while the young birds are still fed by the parents, all the families about a plantation unite into one flock. About a month ago all the birds about my home had associated in this way together, and went in a scattered flock, frequenting one favourite feeding-spot very much, a meadow about fifteen minutes' walk from the house. The flock was composed, I believe, of three families, sixteen or eighteen birds in all: the young birds are indistinguishable from the adults; but I knew that most of these birds were young, hatched late in the season, from their incessant strident hunger notes. I first observed them about the middle of March. A week ago, while riding past the meadow where they were feeding, I noticed among them three individuals with purple spots on their plumage. They were at a distance from me, and I naturally concluded that they were young Common Cow-birds (*M. bonariensis*), casually associating with the Bay-wings. I was surprised to see them, for the young male *M. bonariensis* always acquires the purple plumage before March, so that

these individuals were changing colour five weeks after the usual time.

To-day, while out with my gun, I came upon the flock, and noticed four of the birds assuming the purple plumage, two of them being almost entirely that colour; but I also noticed with astonishment that they had bay- or chestnut-coloured wings, also that those with least purple on them were marvellously like the Bay-wings in the mouse-coloured plumage of the body and the dark tail. I had seen these birds before the purple plumage was acquired, and there was then not the slightest difference amongst them, the adults and their supposed offspring being alike; now some of them appeared to be undergoing the process of a transmutation into another species! I at once shot the four spotted birds, along with two genuine Bay-wings, and was delighted to find that the first were young Screaming Cow-birds.

I must now believe that the extra eggs twice found in the nest of the Bay-wings were those of the Screaming Cow-bird, that the latter species lays chiefly in the nests of the former, that the eggs of the two species are identical in form, size, and colour, each bird also laying five, and that, stranger still, the similarity is as perfect in the young birds as it is in the eggs.

April 15.—This morning I started in quest of the Bay-wings, and observed one individual, that had somehow escaped detection the day before, assuming the purple dress. This bird I shot; and after the flock had re-settled a short distance off, I crept close up to them, under the shelter of a hedge, to observe them more narrowly. One of the adults was closely attended by three young birds; and these all, while I watched them, fluttered their wings and clamoured for food every time the old bird stirred on its perch. The three

young birds seemed precisely alike; but presently I noticed that one of them had a few minute purple spots, and on shooting this one I found it to be a young *M. rufoaxillaris*, while the other two were true young Bay-wings.

The hunger-cry of the young *M. badius* (Bay-wing) is quite different from that of the young *M. bonariensis*: the cry of the latter is a long, shrill, two-syllabled note, the last syllable being prolonged into a continuous squeal when the foster-parent approaches with food; the cry of the young *M. badius* is short, reedy, tremulous, and uninflected. The resemblance of the young *M. rufoaxillaris* to its foster-brothers in language and plumage is the more remarkable when we reflect that the adult bird in its habits, gestures, guttural notes, also in its deep purple plumage, comes much nearer to *M. bonariensis* than to *M. badius*. It seems impossible for mimicry to go further than this. A slight difference in size is quite imperceptible when the birds are flying about; while in language and plumage the keenest ornithologist would not be able to detect a difference. It may, however, be questioned whether this is really a case of an external resemblance of one species to another acquired by natural selection for its better preservation. Possibly the young *M. rufoaxillaris*, in the first stage of its plumage, exhibits the ancestral type—that of the progenitor of both species. If *M. badius* belonged to some other group—*Sturnella* or *Pseudoleistes* for instance—it would scarcely be possible to doubt that the resemblance of the young *M. rufoaxillaris* to its foster-brothers resulted from mimicry; but as both species belong to the limited well-defined group *Molothrus*, the resemblance may be ascribed to community of descent.

Formerly I believed that though *M. badius* is con-

stantly seen rearing its own young, they also occasionally dropped their eggs in the nests of other birds. I could not doubt that this was the case after having witnessed a couple of their young following a Yellow-breast, *Pseudoleistes virescens*, and being fed by it. I must now alter my opinion, for what then appeared to be proof positive is now no proof at all, for those two birds were probably the young of *M. rufoaxillaris*. There are, however, good reasons for believing that *M. rufoaxillaris* is parasitical almost exclusively on *M. badius*. I have spoken of the many varieties of eggs *M. bonariensis* lays. Those of *M. badius* are a trifle less in size, in form elliptical, densely and uniformly marked with small spots and blotches of dark reddish colour, varying to dusky brown; the ground-colour is white, but sometimes, though rarely, pale blue. It is not possible to confound the eggs of the two species. Now ever since I saw, many years ago, the Yellow-breast feeding the supposed young Bay-wings, I have looked out for the eggs of the latter in other birds' nests. I have found hundreds of nests containing eggs of *M. bonariensis*, but never one with an egg of *M. badius*, and, I may now add, never one with an egg of *M. rufoaxillaris*. It is wonderful that *M. rufoaxillaris* should lay only in the nests of *M. badius*; but the most mysterious thing is that *M. bonariensis*, indiscriminately parasitical on a host of species, never, to my knowledge, drops an egg in the nest of *M. badius*, unless it be in a forsaken nest! Perhaps it will be difficult for naturalists to believe this; for if the *M. badius* is so excessively vigilant and jealous of other birds approaching its nest as to succeed in keeping out the subtle, silent, grey-plumaged, omnipresent female *M. bonariensis*, why does it not also keep off the far rarer, noisy, bustling, conspicuously coloured *M. rufoaxillaris*? I cannot say.

The only explanation that has occurred to me is that *M. badius* is sagacious enough to distinguish the eggs of the common parasite and throws them out of its nest. But this is scarcely probable, for I have hunted in vain under the trees for the ejected eggs; and I have never found the eggs of *M. badius* with holes pecked in the shells, which would have been the case had a *M. bonariensis* intruded into the nest.

With the results just recorded I felt more than satisfied, though much still remained to be known; and I looked forward to the next summer to work out the rich mine on which I had stumbled by chance. Unhappily when spring came round again ill-health kept me a prisoner in the city, and finding no improvement in my condition, I eventually left Buenos Ayres at the close of the warm season to try whether change of climate would benefit me. Before leaving, however, I spent a few days at home, and saw enough then to satisfy me that my conclusions were correct. Most of the birds had finished breeding, but while examining some nests of *Anumbius* I found one which the Bay-wings had tenanted, and which for some reason they had forsaken, leaving *ten* unincubated eggs. They were all like Bay-wings' eggs, but I have no doubt that five of them were eggs of *M. rufoaxillaris*. During my rides in the neighbourhood I also found two flocks of Bay-wings, each composed of several families, and amongst the young birds I noticed several individuals beginning to assume the purple plumage, like those of the previous autumn. I did not think it necessary to shoot more specimens.

The question why *M. badius* permits *M. rufoaxillaris* to use its nest, while excluding the allied parasite *M. bonariensis*, must be answered by future observers; but before passing from this very interesting group

(*Molothrus*) I wish to make some general remarks on their habits and their anomalous relations to other species.

It is with a considerable degree of repugnance that we regard the parasitical instinct in birds; the reason it excites such a feeling is manifestly that it presents itself to the mind as—to use the words of a naturalist of the eighteenth century, who was also a theologian and believed the Cuckoo had been created with such a habit—“a monstrous outrage on the maternal affection, one of the first great dictates of nature.” An *outrage*, since each creature has been endowed with this all-powerful affection for the preservation of its own, and not another, species; and here we see it, by a subtle process, an unconscious iniquity, turned from its purpose, perverted and made subservient to the very opposing agency against which it was intended as a safeguard! The formation of such an instinct seems indeed like an unforeseen contingency in the system of nature, a malady strengthened, if not induced, by the very laws established for the preservation of health, and which the *vis medicatrix* of nature is incapable of eliminating. Again, the egg of a parasitical species is generally so much larger, differing also in coloration from the eggs it is placed with, whilst there is such an unvarying dissimilarity between the young bird and its living or murdered foster-brothers that, unreasoning as we know instinct, and especially the maternal instinct to be, we are shocked at so glaring and flagrant an instance of its blind stupidity.

In the competition for place, the struggle for existence, said with reason to be most deadly between such species as are most nearly allied, the operations are imperceptible, and the changes are so gradual that the diminution and final disappearance of one species is never attributed to a corresponding increase in another

more favoured species over the same region. It is not as if the regnant species had invaded and seized on the province of another, but appears rather as if they had quietly entered on the possession of an inheritance that was theirs by right. Mighty as are the results worked out by such a process, it is only by a somewhat strained metaphor that it can be called a *struggle*. But even when the war is opened and declared, as between a raptorial species and its victims, the former is manifestly driven by necessity, and in this case the species preyed on are endowed with peculiar sagacity to escape its persecutions; so that the war is not one of extermination, but, as in a border war, the invader is satisfied with carrying off the weak and unwary stragglers. Thus the open declared enmity is in reality beneficial to a species; for it is sure to cut off all such individuals as might cause its degeneration. But we can conceive no necessity for such a fatal instinct as that of the Cuckoo and Cow-bird, destructive to such myriads of lives in their beginning. And inasmuch as their preservation is inimical to the species on which they are parasitical, there must also here be a struggle. But what kind of struggle? not as in other species, where one perishes in the combat that gives greater strength to the victor, but an anomalous struggle in which one of the combatants has made his adversary turn his weapons against himself, and so seems to have an infinite advantage. It is impossible for him to suffer defeat; and yet, to follow out the metaphor, he has so wormed about and interlaced himself with his opponent that as soon as he succeeds in overcoming him he also must inevitably perish. Such a result is perhaps impossible, as there are so many causes operating to check the undue increase of any one species; consequently the struggle, unequal as it appears, must

continue for ever. Thus, in whatever way we view the parasitical habit, it appears cruel, treacherous, and vicious in the highest degree. But should we attempt mentally to create a perfect parasitical instinct (that is, one that would be thoroughly efficient with the least possible prejudice to or injustice towards another species; for the preservation of the species on which the parasite is dependent is necessary to its own) by combining in imagination all known parasitical habits, eliminating every offensive quality or circumstance, and attributing such others in their place as we should think fit, our conception would still probably fall short in simplicity, beauty, and completeness of the actual instinct of *M. rufoaxillaris*. Instead of laying its eggs promiscuously in every receptacle that offers, it selects the nest of a single species; so that its selective instinct is related to the adaptive resemblance in its eggs and young to those of the species on which it is parasitical. Such an adaptive resemblance could not, of course, exist if it laid its eggs in the nests of more than one species, and it is certainly a circumstance eminently favourable to preservation. Then, there not being any such incongruity and unfitness as we find in nests into which other parasites intrude, there is no reason here to regard the foster-parents' affection as blind and stupid; the similarity being close enough to baffle the keenest sagacity. Nor can the instinct here appear in the light of an outrage on the maternal affection; for the young *M. rufoaxillaris* possesses no advantage over its foster-brothers. It is not endowed with greater strength and voracity to monopolise the attentions of the foster-parent or to eject the real offspring; but being in every particular precisely like them, it has only an equal chance of being preserved. To this wonderful parasitical instinct we may well apply Darwin's words,

when speaking of the architecture of the hive-bee: "Beyond this stage of perfection natural selection could not lead."

BAY-WINGED COW-BIRD

(*Molothrus badius*)

Dull grey, or mouse-colour, slightly tinged with olive; wings chestnut; tail blackish; bill and feet black; length 7·6 inches. Female similar.

IN this species the sexes are alike; the plumage of the body is grey-drab colour, with a black spot between the eye and beak; tail dark, the quills cinnamon-colour; beak and legs black. Azara, describing it under the name of *Tordo pardo roxiso*, says it is a rare bird, so that it has probably greatly increased since his time, as it is now quite common in the Plata district.

The Bay-wings usually go in small flocks, numbering from ten to thirty individuals, and are not migratory, but in winter they travel about a great deal from place to place without extending their journeys more than a few miles in any direction. They are fond of coming about houses, and are frequently seen pecking at the fresh meat hanging out of doors; and, like other birds of the same tribe, feed chiefly on the ground. They spend a great portion of their time on trees, are familiar with man and inactive, and in their motions singularly slow and deliberate. Their language is varied. Curiosity or alarm is expressed by trilling notes, and before quitting a tree all the birds of a flock ceremoniously invite each other to fly, with long clear notes, powerful enough to be heard a quarter of a mile away.

They also sing a great deal in all seasons, the song being composed of soft, clear, rather sweet notes, variously modulated, uttered in a leisurely manner,

and seeming to express a composed frame of mind, all the birds in a flock singing in concert. During the cold season the flock always finds some sheltered sunny spot on the north side of a wood-pile or hedge, where they spend several hours every day, sitting still and singing in their usual quiet, soft style.

Their extreme sociability affects their breeding habits, for sometimes the flock does not break up in spring, and several females lay in one nest together; but whether in such cases the birds are paired or practise a promiscuous intercourse I have not been able to discover. They have a great partiality for the large-domed nests made by the *Anumbius acuticaudatus*, called Firewood-Gatherer in the vernacular. One summer a flock of about ten Bay-wings took possession of a nest on one of my trees, and after a few days I took fourteen eggs from it. Though the birds hopped chirping around me, manifesting great solicitude, the eggs were quite cold, and had I left them many more would have been laid, no doubt; but as they were piled up three or four deep in the nest they could never have been hatched.

As a rule, however, the flock breaks up into pairs; and then a neat, well-made nest is built in the fork of a branch, lined with horsehair; or, oftener still, a domed nest is seized, the Bay-wings fighting with great spirit to get possession, and in it, or on it, their own nest is made. Like their relation, the Common Cow-bird, they seem strongly attracted by domed nests, and yet shrink from laying in the dark interior; as a rule when they have captured a large domed nest they break a hole in the side and so admit the light and form an easy entrance.

The eggs of the Bay-wing are five in number, nearly round, and densely marked with dusky reddish brown.

YELLOW-SHOULDERED MARSH-BIRD

(Agelæus thilius)

Black; lesser upper and under wing-coverts yellow; bill and feet black; length 5.5 inches. Female pale brown, striated with black; eye-mark white; paler beneath; smaller.

THIS bird is abundant everywhere on the pampas, and does not migrate, but inhabits marshy situations in summer, building its nest amongst the rushes, and in winter ranges over the country. The male is entirely of an intense black, except the shoulders, which are pure yellow; the female is dull grey with fuscous markings, and, as was long ago remarked by Azara, the grey-plumaged are very much more numerous than the black individuals. The young birds are like the females, and possibly do not acquire the full black plumage until the second year, which would account for the great number of grey birds.

These birds are extremely sociable, being seen in flocks all the year round, even during the breeding-season; in winter a great many males separate themselves from the females, and are found associating together in flocks of from thirty to forty individuals.

They feed on the ground, keeping to the moist borders of marshes during summer; they avoid woods, but occasionally alight on trees, where they all sing in concert. The song, when an individual is heard singing alone, is, though limited in its range, very sweet, some of the notes being remarkable for their purity and expression. The bird sits on a rush or stalk while singing, and makes a long pause after every note or two, as if to make the most of its limited repertory. There is in the song one rich full note which, to my mind, is unequalled for plaintive sweetness, and I am therefore

surprised that Azara says only of this species that it sings passably well—"canta razonablemente."

The nest is neatly made of dry grasses, and attached to the rushes growing in the water. The eggs are four, pointed, and spotted at the larger end with dull brown and black on a white ground.

I wish my dull brains had been able to find some shorter, more descriptive English name for this species which of all this group of Troupials, the Marsh-birds or Bobolinks of South America, endeared itself most to me on account of its grace and lovely black and yellow livery, its pretty social habits, and, above all, its unforgettable song, or rather that one full, beautiful, passionate note on which it ends.

YELLOW-HEADED MARSH-BIRD

(*Agelæus flavus*)

Black; head, rump, bend of wing and under surface brilliant yellow; bill and feet black; length 6·7 inches. Female brown, slightly striated; eyebrows, rump, and under parts yellowish.

AZARA called this bird *Cabeza amarilla*, or Yellow-head, and I retain the name, though it is an unsatisfactory one as the bird has so much yellow on its other parts; the colour scheme being much as in the Golden Oriole.

The dull-plumaged birds are always very much more numerous than the bright-coloured males, though Azara strangely asserts that the sexes are alike. In Buenos Ayres, where it is called *Naranja* (orange-coloured) by the country people in allusion to its orange tints, it is very well known on account of its yellow plumage, which looks so wonderfully brilliant in the sunshine, and its partiality for cultivated districts,

where it follows the plough to pick up worms, and frequents the orchard to sing, associating with the Common Cow-bird and Yellow-breast. It remains all the year, and is very sociable, going in flocks of from twenty to thirty individuals, which when they settle on the trees all sing in concert, pouring out their few peculiar notes with great power and emphasis.

Even in the breeding season these companies do not always break up, and frequently several pairs have nests near together. The nest is usually built in a cardoon thistle, two or three feet above the ground, and is made of dry grass. The eggs are four, pointed, white or with bluish tinge, and speckled irregularly with deep brown, the spots being closer and sometimes confluent at the broad end.

Concerning the plumage of this species Mr. Barrows, an American ornithologist, writes:

Late in March 1881, we found this species in large flocks on the Pigue, and it was a beautiful sight to see a hundred or more fluttering about among the snowy plumes of the pampas grass, and displaying their rich black and yellow dress. Unlike most other birds obtained at that time, their plumage seemed nearly as bright as in summer.

SCARLET-HEADED MARSH-BIRD

(*Amblyramphus holosericeus*)

Black; head and neck and upper breast and thighs intense scarlet; feet and bill black; length 9.5 inches. Female the same, young all black.

AZARA named this species *Tordo negro cabeza roxa*; it is also called *Boyero* (ox-herd) by country people, from its note resembling the long whistle of a drover; and sometimes "Chisel-bill," from the peculiar conformation of the beak, which is long, straight, and broad

at the end like a chisel. In both sexes the plumage of the head and neck is scarlet, of an exceedingly brilliant tint, all other parts intense black. These birds are lively, active, and sociable, going in flocks of from half a dozen to thirty individuals; they remain all the year, and inhabit the marshes, from which they seldom wander very far but seek their insect food in the soft decaying rushes. They are common on the swampy shores of the Plata, and when seen at a distance perched in their usual manner on the summits of the tall rushes, their flame-coloured heads shine with a strange glory above the sere, sombre vegetation of the marshes. The long whistling note above mentioned is their only song, but it varies considerably, and often sounds as mellow and sweet as the whistle of the European Blackbird.

The nest is an ingenious structure of dry grasses, fastened to the upright stems of an aquatic plant, three or four feet above the water. The eggs are four, in size and form like those of the English Song-Thrush, spotted somewhat sparsely with black on a light blue ground.

The young birds are entirely black at first, and afterwards assume on the head and neck a pale terra-cotta red, which gradually deepens to vivid scarlet.

RUFOUS-HEADED MARSH-BIRD

(*Agelæus ruficapillus*)

Glossy blue-black; crown and middle of throat deep chestnut-red; bill and legs black; length 7.5 inches.

THE sexes are alike in this species: the crown of the head is rufous, and with this exception the whole plumage is a rich glossy blue-black. The beauty of

the bird and its delicate plaintive voice would no doubt make it a favourite with man if he saw more of it, only it lives and breeds in marshes and does not come near his habitations. The Rufous-heads are gregarious and migratory. The flock can scarcely be said to break up in the breeding-season, as the birds all make their nests near together in the reeds. The nest is placed about one or two feet above the water, is about six inches in depth, and made of leaves and aquatic grasses woven together. The eggs are four, pointed, with a white or pale bluish ground, and spotted with black at the larger end.

The song of the Red-head is quite unique in character. It begins with a low, hollow-sounding note, then the voice changes to a clear, plaintive tone, rising in a rapid succession of short notes, then falling again at the end.

After the breeding-season the birds fly about in flocks of two or three hundred individuals, and sing in concert on the trees.

Their chirp has a peculiar metallic sound, and can be imitated by tapping on the edge of a copper bell with the finger-nail.

RED-BREASTED MARSH-BIRD

(*Leistes superciliaris*)

Brownish black; superciliaries pale brown; bend of the wing and body beneath from chin to middle of the belly deep scarlet; bill and legs black; length 7 inches. Female pale brown, variegated with black, faintly touched with red on the breast.

THE most interesting point concerning this species is the very great difference in habits, as well as appearance, existing between the sexes. In form it resembles the Starling of Europe, but is a trifle smaller and has

a shorter tail. The male is black, the upper parts faintly mottled with yellowish grey; there is a straw-coloured stripe over the eye; the throat and breast bright crimson. The female is a smaller bird, and in colour dull fulvous grey, mottled with fuscous; the red tint on the breast scarcely perceptible.

These birds are migratory, and appear everywhere in the eastern part of the Argentine country early in October, arriving singly, after which each male takes up a position in a field or open space abounding with coarse grass and herbage, where he spends most of the time perched on the summit of a tall stalk or weed, his glowing crimson bosom showing at a distance like some splendid flower above the herbage. At intervals of two or three minutes he soars vertically up to a height of twenty or twenty-five yards to utter his song, composed of a single long, powerful, and rather musical note, ending with an attempt at a flourish, during which the bird flutters and turns about in the air; then, as if discouraged at his failure, he drops down, emitting harsh guttural chirps, to resume his stand. Meanwhile the female is invisible, keeping closely concealed under the long grass. But at length, attracted perhaps by the bright bosom and aerial music of the male, she occasionally exhibits herself for a few moments, starting up with a wild zigzag flight, like a Snipe flushed from its marsh, and, darting this way and that, presently drops into the grass once more. The moment she appears above the grass the male gives chase, and they vanish from sight together. Thus, while in colour, habits, language, and even in its manner of soaring up like a rocket to let off its curious melody, the male is the most conspicuous of small birds, the female, acted on in an opposite direction by natural selection, has been, so to speak, effaced. While flying they do not

look like birds of the same species: the male moves with wings rapidly fluttered, like a Starling, but with a slower, more laborious flight, and without deviating; the female, in her eccentric movements in the air, reminds one of a large moth, driven from its hiding-place and flying about confused with the glare of noon.

The nest is made of dry grass on the ground, so cunningly concealed that it is difficult to find. The eggs are four, white, spotted with reddish brown. When they have young I have never been able to detect the female flying about in search of food.

All through the summer these birds are solitary, but when migrating in the autumn, though many are seen travelling singly and appear very conspicuous as they fly laboriously in a straight line, at an altitude of about twenty yards from the surface, others are seen making their journey in small flocks or parties composed of six to a dozen individuals. These are the males. The females travel separately, in twos or threes or singly, flying nearer to the earth, with frequent pauses when the wings cease beating, and intervals of gliding, also darting occasionally to one side, as if the bird had suddenly taken fright.

YELLOW-BREASTED MARSH-BIRD

(*Pseudoleistes virescens*)

Olive-brown and glossy; shoulders and breast bright yellow; length 9.5 inches. Female similar.

In both sexes in this species the plumage is deep olivaceous brown, the breast pure yellow. It is active, strong on the wing, sociable and noisy; and being, moreover, a pretty and elegant bird, very common in

settled districts, and with a preference for man's neighbourhood, it is familiar to everyone, and has won amongst many competitors the vernacular name of *Pecho amarillo* (Yellow-breast), for with us yellow-breasted species are somewhat numerous. It remains all the year, invariably going about in flocks of from twenty to thirty birds, and feeds on the ground in the fields or on the open plain. While they are feeding, one bird takes up a position on a stalk or thistle-top to keep guard; when he flies down another bird takes his place; if a person approaches, the sentinel gives the alarm, and all the birds fly off in a very close flock, making the air resound with their loud ringing notes. After feeding they repair to the trees, where they join their robust voices in a spirited concert, without any set form of melody such as other song-birds possess, but all together, flinging out their notes at random, as if mad with joy. In this delightful hubbub there are some soft silvery sounds. Where they are never persecuted they have little fear of man, but they invariably greet his approach with a loud vigorous remonstrance.

In October the birds break up their companies to pair. Sometimes they breed on the open plain in a large cardoon thistle, but a thick bush or low tree is preferred. The nest is like that of a Thrush, being deep, compactly made of dry grass and slender sticks, plastered inside with mud, and lined with hair or soft dry grass. It is, however, deeper and more symmetrical than the Thrush's nest, and it is sometimes plastered with cow-dung instead of with mud. The eggs are four, very long, white, and abundantly spotted with deep red, the spots becoming confluent at the large end.

The Yellow-breast is never seen to quarrel with its fellows or with other birds, and it is possibly due to

its peaceful disposition that it is more victimised by the parasitical *Molothrus* than any other bird. I have frequently found their nests full of parasitical eggs, as many as fourteen and in one case sixteen in one nest. In some seasons all the nests I found and watched were eventually abandoned by the birds on account of the number of parasitical eggs dropped in them. I have also so frequently found parasitical eggs on the ground under the nest that I believe the Yellow-breast throws out some of these foreign eggs, and in one instance I was quite sure that this had happened. The nest was in a cardoon bush and contained five eggs—two of the Yellow-breast and three parasitical. These three were of the variety most thickly mottled with red, and consequently closely resembling the eggs of the Yellow-breast. I was surprised to find five more eggs of the Cow-bird on the ground, close together, and about three feet from the bush; and these five eggs were all pure white and unspotted. Naturally, I asked: How came these eggs in such a position? They had not fallen from the nest, which was very deep, contained few eggs, and was scarcely thirty inches above the ground. Then they were all white, while those in the nest were mottled. That the eggs had been laid in the nest I felt certain; and the only way I can account for their being in the place where I found them is that the Yellow-breast itself removed them, taking them up in its bill and flying with them to the ground. If I am right, we must believe that this individual Yellow-breast had developed an instinct unusual in the species, which enabled it to distinguish, and cast out of its nest, eggs very different from its own—an instinct, in fact, the object of which would be to counteract the parasitical habit of *Molothrus*. What would be the effect of such an instinct should the species

acquire it? Doubtless it would be highly prejudicial to the parasitical birds laying white eggs, but favourable to those laying mottled eggs. This would be natural selection operating in a very unusual manner; for the Yellow-breast, or other species, would improve another to its own detriment, since the more the parasitical eggs assimilated to its own, the greater would be the likelihood of their being preserved. The perfect similarity of the eggs of *M. rufoaxillaris* to those of *M. badius* was possibly brought about in this way. But, it may be added, if besides the Yellow-breast some other species laying very different eggs (a *Zonotrichia* or *Tyrannus*, for instance) should also acquire this distinguishing habit and eject all eggs unlike its own from its nest, the habit in the two or more species would ultimately cause the extinction of the parasite.

It might throw some light on this obscure subject to examine, for several successive summers, a large number of nests, to ascertain whether the nests of the Yellow-breast are often found without any white unspotted eggs, or if the same proportional number of white (parasitical) eggs are found in the nests of the Yellow-breast, Scissor-tail, Song-Sparrow, Pipit, and other species.

PATAGONIAN MARSH-STARLING

(*Trupialis militaris*)

Brown, variegated with black; superciliaries in front of eye red, behind the eye white; throat, middle of neck, and breast scarlet; under wing-coverts white; bend of wing red; length 10 inches. Female similar.

Two species of *Trupialis* inhabit the southernmost part of the Argentine Republic, the present being confined to Patagonia and South Chili, while its northern

representative inhabits the pampas of Buenos Ayres and Uruguay. Probably the Colorado river, which separates two districts differing in soil and vegetation, is the boundary-line dividing their habitats. So nearly alike are these two birds in colour, language, and habits, that they seem rather like races than species; and they were so regarded by naturalists until recently, when the pampas bird was raised to the rank of a distinct species, with the name of *Trupialis defilipii*. Unfortunately the old name *militaris* fits the Pampas, and not the Patagonian, Starling best; but of this I shall speak when I describe the former species.

In its form *T. militaris* resembles the Common Starling of Europe, but differs from it in habits, flight, language, size, and colouring; its upper plumage being fuscous mottled with yellowish grey; the throat and bosom scarlet inclining to crimson. This hue varies greatly, the breast-feathers being often tipped with white, which subdues the intense red, and gives it a rosy tint in some individuals. The female is paler-plumaged than the male, and has less red on the breast.

It inhabits the whole of Patagonia to the Strait of Magellan, but is confined to the valleys or to the neighbourhood of water; and Durnford remarks that it is a useful bird to the traveller in that thirsty country, as its presence is a sure indication of water. It is resident, and is seen in small parties of four or five, or in small flocks seldom exceeding twenty or thirty in number. It feeds and lives on the ground, and only occasionally is it seen to perch on a low bush. Its flight is strong, and it flies about a great deal, and usually utters its song when on the wing. The song is continued all the year, and is heard even on the coldest days in winter; the notes are few and not highly melodious, but are cheerful and vigorous.

The nest is made of dry grass and rootlets attached to the rushes in moist ground, and placed close to or resting on the surface. The eggs are five, the ground-colour white spotted or blotched with reddish brown.

MILITARY STARLING

(*Trupialis defilippii*)

Slightly smaller than last; plumage the same except under the wing-coverts, which are black.

THROUGHOUT the country where this species abounds it is called *Pecho colorado*, which is certainly better than Azara's barbarous, if picturesque, name of *Degollado*; but no happier name than *militaris* could have been invented for it, by which it was formerly known to naturalists; and though it was given to the bird merely on account of the red breast, and was therefore equally applicable to all the red-breasted species on the globe, in this case, it accidentally seemed to describe a peculiar habit of the bird, as well as its bright livery.

In size, form, gait, flight, language, and colour the present bird very closely resembles the Patagonian Starling; but the crimson on the breast is brighter and the upper parts are darker. Its nesting habits are also like those of the southern bird; the number and colour of the eggs being the same in both species. One trivial difference in habit is that De Filippi's Starling occasionally soars up a few yards into the air when uttering its song. It inhabits the moist grassy pampas in the southern part of the Buenos Ayrean province, and is there abundant and unites in large flocks. At the approach of the cold season there is a general movement northwards of the birds, which does

not, however, extend far, as the birds, although strong fliers, travel slowly and in a peculiar manner; it is in this season when the birds are seen moving in large flocks, that the name of Military Starling strikes one as being peculiarly appropriate. They do not journey through the air like other migrants, but move over the ground, when the flock, composed of four or five hundred to a thousand or more individuals, is extended so as to present a very long front, and at intervals the hindmost birds fly over the others and alight just in front of them; the long front, the precision of their movements, and their scarlet bosoms all turned one way, suggest the idea of a disciplined army on its march.

They never perch on trees, but frequently alight on the roof of a rancho or other elevation affording a secure footing. They are tame birds and fly reluctantly; when approached they usually crouch down, hiding their crimson bosoms, and remain motionless in order to escape observation. In disposition they are peaceful, and so fond of society that when one becomes separated from his fellows he will unite with birds of another kind, even with Plovers or Tyrant-birds.

On the great monotonous plains, where most of the small birds are grey- or brown-plumaged, and in winter when there are no flowers to satisfy the desire of the eye for bright colour, it is delightful while travelling to meet with an army of these Starlings: their crimson bosoms, less bright than the hues of some tropical species, seem then to glow with a strange splendour on the sombre green of earth, and the sight produces an exhilarating effect on the mind.

CHESTNUT-SHOULDERED HANG-NEST

(*Icterus pyrrhopterus*)

Uniform black; upper lesser wing-coverts chestnut; length 7.7 inches. Female similar but smaller.

THIS interesting bird, the one member of the genus *Icterus* found in the Argentine, ranges south to Buenos Ayres, where it is migratory, and appears in small flocks of six or eight individuals in September; but soon after arriving these little companies break up, and the birds are subsequently found singly or in pairs in the woods along the Plata River.

The sexes are alike in colour, but the male is considerably larger; the whole plumage is an intense black, excepting a rufous spot on the shoulder seen only when the bird is on the wing; the bill is black and curved, the body slender, and the tail long. It is a loquacious bird, most of its tones being low and pleasing; exceedingly restless in disposition, incessantly passing from tree to tree, jerking its long tail and clinging to the branches in various attitudes, while searching for insects in the decayed bark. While thus engaged it utters a great variety of chirping and guttural sounds, interspersed with short agreeable notes. It also has a song of considerable merit, low and varied in tone, with a peculiar ventriloquism in many of the notes which produce a confusing idea on the listener that the bird approaches and recedes alternately whilst uttering them. While singing the bird continues moving, but always concealed in the thick foliage, and it is probably this constant turning about of the singer, and the notes coming through leafy screens of varying

density, which makes the ventriloquism and gives so much light and shade to its mysterious melody.

The first bird of this species I shot was wounded very slightly on one wing and fell into a stream; to my very great surprise it began singing its usual song while floating about on the surface, making no attempt to swim. After I had fished it out it continued to sing at intervals in my hand; how strange it was to hear this bleeding captive bird warbling out sweet soft notes which seemed to express only agreeable emotions! Yet it was evident that the bird was fully alive to its danger, for it struggled violently to escape and bit my finger savagely with its sharp beak.

I subsequently found a nest; it was about seven inches deep, composed entirely of lichens gathered from the boles of trees, ingeniously woven together and suspended from the small twigs and leaves at the extremity of a branch. There were no eggs in it, but the birds fluttered in great trouble about me, and, what greatly surprised me, uttered a variety of *singing* notes, unlike their usual song, but closely resembling the notes of other songsters, which made me think that the *Icterus* possesses the mimicking faculty to some extent. This, however, is a question it would be difficult to decide. It seems certain, however, that this species is incapable of expressing any distressing feeling, such as pain, fear, or parental anxiety, with loud harsh notes like other birds. It is much to be regretted that Azara, who found this species common in Paraguay, did not pay more attention to its habits and language, which make it specially interesting even in a family so rich in strange habits as the Icteridæ.

CHOPI

(*Aphobus chopi*)

Uniform black; bill and feet black, lower mandible sulcated; length 9.2 inches. Female similar but smaller and duller black.

THE Chopi, which is said to be quite common in Paraguay, is only found in the north-eastern part of the Argentine Republic, consequently I have never seen it, except as a cage-bird; nor is there anything about it in the notes of recent collectors and travellers who have visited the upper waters of the Plata. This however is not greatly to be regretted, since Azara gave a full and spirited account of this species in his *Birds of Paraguay*, although it does seem strange that the Chopi should have had two careful observers of its habits over a century ago, namely Azara and his friend and fellow naturalist, the priest Nosedá, and not one since. It is to give my English readers a specimen of Azara's writing that I have introduced the Chopi, the only bird described in this book which was not known to me from my own observation.

Evidently Azara was very familiar with it, for he described it lovingly and at great length, his history of it being one of the most charming things in his work. According to him the Chopi is a highly sagacious bird, and although a frequent visitor to courtyards and verandas of houses in Paraguay, too shy and suspicious to be caught with snares. It has a strong and easy flight, and readily attacks any large bird passing near, following it persistently in the air, or, pouncing down, fastens itself on its enemy's back. If the Caracara Eagle (*Polyborus*) alights in order to shake off its persecutor, the Chopi perches at a distance of a few feet,

where it assumes an indifferent manner; but no sooner does the Caracara allow its attention to wander from its adversary than it is again subjected to fresh insult. These attacks on so large and powerful a species may be regarded as mere impertinences, but by practising them the Chopi is soon able to rid himself of the presence of any unwelcome bird. From a long distance he recognises an enemy, by its figure or even its shadow, and warns all birds of the coming danger with a loud whistle, which at once sends them into hiding, while the Chopi goes bravely out to the encounter; and the result is invariably a victorious song on his part, beginning with the sound of his own name, and running through a variety of whistled notes. He also sings well in captivity and when his mate is incubating; and his voice is first heard welcoming the dawn from the eaves and tiled roofs of houses where he roosts. The pairing-season is in November; and, Nosedá adds, the breeding-place is a hole in a bank or tree-trunk, or in a wall under the eaves, and occasionally the nest is made in the small branches of an orange or other close-leaved tree, and is built of sticks and straws carelessly disposed, with a few feathers for lining. The eggs are four, and white.

It may be added that between Azara and his friend Nosedá there was a great controversy respecting the parasitical habits of the Common Cow-bird (*Molothrus*), which were first discovered by the former and disbelieved in by Nosedá, who accounted for the fact that the Cow-bird is never seen to make a nest by supposing that species to be the year-old young of the Chopi, which, he further imagined, took three years to acquire the adult form and plumage. Such an idea might seem to discredit Nosedá as a naturalist, if we did not remember that Gilbert White at the same period was trying to prove the hibernation of Swallows

in England. The whole of the discussion appears in the *Birds of Paraguay*, under the description of the Chopi; and Nosedá is there allowed to state his own case; after which the better observer, Azara, gives five objections to the theory, any one of which would be sufficient to demolish it.

CHOCOLATE TYRANT

(*Myiotheretes rufiventris*)

Above and below smoky grey, clearer on the head and breast; belly, crissum, and under wing-coverts bright rufous; wings black, inner secondaries bright chestnut terminated with white, outer secondaries black, tipped with white; wing-coverts grey, margined with white; tail black, outer margins of external pair of rectrices and tips of all whitish; two outer primaries emarginated; bill and feet black; length 9.5 inches. Female similar, but outer primaries not emarginated.

THE Tyrant Birds (Tyrannidæ) are a family of insectivorous birds peculiar to America. They are the Flycatchers of the New World, and in very many of the smaller species are curiously like the Old World Flycatchers in appearance and habits. But structurally they are not nearly related to them. They belong to the sub-order Olygomyodæ, the Passerine birds which are (or ought to be) songless. The songsters, all included in the sub-order Oscines, rank higher in the scale as having a developed vocal organ, and the Old World Flycatchers rank with Thrushes and Nightingales in this division. The fact remains, however, that many species in this highest sub-order are songless or are mere croakers or chatterers, whereas some of the Tyrant Birds have set songs and are sweet singers. The Tyrants in South America number over 360 known species—

probably 400 would be nearer the right number now. There is a great variety in the size, form, and habits of different genera. There are among them birds with strong legs which seek their food on the ground, like Thrushes and Chats, which they resemble; and there are others, also ground feeders, that perch on bushes and trees and watch the ground below until they spy an insect, then drop upon and capture it and return to the same perch. Others watch for flying insects and capture them in the manner of our European Flycatchers, and many others have the food-seeking habits of our Leaf-Warblers.

Of the sixty or seventy species found in the Argentine country, I am acquainted with twenty-seven, and the largest of them is the Chocolate Tyrant first described.

There is a striking resemblance to a Thrush in this species, when one sees it running on the ground with its beak somewhat elevated; but when it stands or perches, opening and closing its broad tail with a graceful fan-like motion, the resemblance to the stiff automatic *Turdus* grows less, and when it flies vanishes altogether—its long wings being as sharply pointed as those of the Peregrine Falcon, while its motions in the air have a Gull-like grace and buoyancy.

It is a very pretty bird; the upper plumage is grey tinged with rufous, the throat pure dark grey, breast and belly rufous, wing-coverts light silvery grey, remiges and rectrices dark. Azara classed it under the name of *Pepoaza* (banded-wing) with the *Tænioptera*, to which it comes very near in form, flight, language, and habits, though it has longer legs and runs more on the ground. Its summer home is in Southern Patagonia, but its breeding-habits are not known; in winter it migrates north, and in May is found scattered over the pampas, where it is usually called by the country people *Chorlo*,

a name for all Plovers; for while running swiftly about on the ground, often associating with flocks of Plover, it has a certain resemblance to them. From the hue of its plumage it is also called *El Chocolate*, a name I have thought it best to preserve.

These birds are very sociable, going in small flocks, usually of from half a dozen to twenty individuals; they are restless and active, and quick and graceful in all their movements, and seek their food on the ground, chiefly coleopterous insects, on the great level plains they inhabit. While on the wing they pursue each other playfully in the air, and also attack and chase passing birds of other kinds, apparently in a sportive spirit. Occasionally they perch on a thistle-top or low bush, but never on trees. Their only language is a long, low, plaintive whistle, heard usually on warm, still days in winter.

PEPOAZA TYRANT

(*Tænioptera nengetá*)

Above cinereous; lores white; wings black, coverts cinereous; a well-marked speculum at the base of the primaries and the edgings of the outer secondaries white; tail black, tipped with whitish cinereous, basal one-third of tail white; below pale cinereous, middle of throat white, with blackish stripe on each side; middle of belly, flanks, crissum, and under tail-coverts white; bill horn-colour; feet black; length 9 inches. Female smaller.

To this species Azara gives the name of *Pepoaza*, the Guarani for Barred-wing; and *Pepoaza* was used by him as a generic name for the small, well-defined group now placed in the genus *Tænioptera*, comprising eight known species. Most of these birds have some conspicuous wing-mark. They inhabit the southern

portion of the South American continent, from South Brazil and Bolivia to the Straits of Magellan, and are most numerous on the open pampas and in Patagonia. In size they do not vary greatly, the largest being about nine inches long, the smallest about seven. In colour they are grey, or, more frequently, white relieved with black or grey, one species (*T. rubetra*) being rufous. Their legs are long, and they run on the ground like *Myiotheretes rufiventris*, feeding to some extent in the same manner; but they also occasionally pursue and capture insects on the wing, like the typical Tyrant-birds that seldom or never alight on the ground. They have likewise another and a unique preying habit, intermediate between the Plover-like habits of *Agriornis*, *Myiotheretes*, and *Muscisaxicola*, and the Swallow or Flycatcher-like habits of the true Tyrants. The bird perches itself on an elevation—the summit of a stalk or bush, or even on a low tree—to watch like a Flycatcher for its insect prey; only instead of looking about for passing insects, it gazes intently down at the ground, just as a Kingfisher does at the water, and when it spies a beetle or grasshopper darts down upon it, not, however, to snatch it up with the bill as other Tyrants do, but it first grasps it with its feet, then proceeds to dispatch it, swaying about and opening its wings to keep its own balance, just as an Owl is seen to do when it grasps a mouse or other small animal in its claws. After devouring the insect on the spot, it flies back to its perch to resume its watch. They are very restless, active, playful birds, and seldom remain long on one spot, apparently finding it irksome to do so; but I have seen the *T. irupero* occupy the same perch for hours every day while looking out for insects.

As an English generic name for this small interesting group might be useful, I would suggest *Ground-gazers*

or *Ground-watchers*, which describes the peculiar preying habit of these birds.

The Pepoaza is a swift, active, graceful bird, with a strong straight beak, hooked at the point, and a broad tail four inches long, the total length of the bird being nine inches. The throat and space between the beak and eye are white; all the rest of the body, also the wing- and tail-coverts, light grey; tail- and wing-quills black, with a pure white band across the base of the primaries. The tertiaries and rectrices are tipped with pale rufous grey.

It inhabits Brazil south of the equator, Bolivia, and Paraguay, also the northern provinces of the Argentine Republic. Mr. Barrows gives the following account of its lively habits in Entrerios:

They are commonly seen perched on fences or the tops of bushes or trees in open ground, frequently making sallies for winged insects or dropping to the ground to catch a grasshopper or worm. When shot at while perched and watching you, they almost invariably leave the perch at the flash, pitching forward and downward, and usually evading the shot, even at short range. Several times I have secured them by shooting about a foot below and two feet in front of them as they sat, but they do not always fly in this direction. The rapidity of their flight when frightened, or when quarrelling, is simply astonishing. I have seen one chase another for three or four minutes, doubling, turning, twisting, and shooting, now brushing the grass, and now rising to a height of at least two or three hundred feet, and all the movements so rapid that the eye could scarcely follow them; and at the end of it each would go back to the top of his own chosen weed-stalk, apparently without a feather ruffled.

Azara found this species breeding in a hole in a bank; and Mr. Dalgleish has described a nest, taken from a tree in Uruguay, as a somewhat slight structure, four inches in diameter, formed of sticks and fibres, lined with fine grass and a few feathers. It contained three eggs, pear-shaped, white, with large well-defined spots of reddish brown.

BLACK-CROWNED TYRANT

(Tænioptera coronata)

Above cinereous; rounded summit of head black, broad front and band encircling the back of the head white; wings blackish, upper coverts cinereous, edgings of middle and greater coverts and of outer secondaries whitish; tail blackish; margins of outer webs of external tail feathers white; beneath white; under wing-coverts and a large portion of the inner webs of the remiges, except of the two outer primaries, white; bill and feet black; length 7·8 inches.

IN this species the sexes are alike. The crown is black and composed of loose feathers; the forehead, and a broad line over the eye which extends nearly round the head, also all the under plumage, pure white; neck and back clear grey; quills black.

This Tyrant is a solitary bird, though often many individuals are found within call of each other, and they sometimes even unite in a loose flock. It is found throughout the Argentine country, ranging south to the Rio Negro, in Patagonia, but abounds most on the Buenos-Ayrean pampas, where it performs a partial migration. Most of the *Tænioptera* seek their food by preference on the bare level ground, or where the vegetation is most scanty. This species varies somewhat in habits, and seldom runs on the ground, and chiefly inhabits the desert plains, where the large grasses flourish. On one occasion when I was with an expedition on the pampas for several weeks, every day a number of these birds would gather and follow us; perched here and there on the tall grasses with their bosoms towards us, they often looked at a distance like large white flowers. Old gauchos have told me that fifty years ago they were abundant all over the pampas, but have disappeared wherever the giant grasses

have been eaten down and have given place to a different vegetation.

Their note is a long, low whistle, the usual language of the *Tænioptera*; but in this species it is very like a human whistle, on account of which the bird is named *Boyero* (ox-driver) on the pampas. One severe winter great numbers of them appeared in the neighbourhood of Buenos Ayres, and it was amusing to see the dogs thrown into a great state of excitement by the low whistling notes heard perpetually from all sides. Every few moments they would start up and stare about them to ascertain where the deceptive call came from, and in spite of many disappointments they would occasionally all rush away, loudly barking, into the plantation, convinced that some person there was whistling to call them.

The Black-crown makes a somewhat shallow nest in a bush or large clump of grass, and lays four white eggs, with large dark red spots, chiefly at the big end.

I cannot refrain from quoting a passage from Mr. Barrows' paper, descriptive of the lively temper and habits of this bird:

This species often persecutes smaller birds in a way which seems to imply pure love of mischief. One afternoon in July, when the river had fallen some feet after an unusual rise, I was walking along the lines of drift left by the falling water, and watching the different birds which were picking up insects or other food from the wind-rows. A score or two of the little chestnut-backed *Centrites* were running about, and here and there a *Tænioptera* was looking quietly on. Suddenly I heard a chirp of distress, and looking up saw one of these small birds apparently making every effort to escape from a *Tænioptera*, which was following in full chase. The two birds were hardly a length apart and both going at full speed, doubling and dodging in a way that would have done credit to a bat. The chase lasted perhaps for half a minute, when the smaller bird alighted, and at once the other also alighted and began running about unconcernedly and picking up food. But the instant the smaller one made a start his enemy was at his heels (or more properly his tail) again, and he was forced to alight. This was repeated so often that

I was on the point of shooting the pursuer, when, without any notice, he flew quietly off, and resumed his usual demeanour. It looked like a case of simple spite, for even if there were twenty other birds about, one seemed to be followed without regard to the rest.

I have often watched *Tænioptera* of different species, also *Myiotheretes rufiventris*, behaving in a similar way, and agree with Mr. Barrows that it is "an amusement in which the larger bird indulges simply for the pleasure derived from the exercise of his power."

DOMINICAN TYRANT

(*Tænioptera dominicana*)

Above pure white; wings black, with a broad whitish sub-apical band across the first six primaries, beyond which the tips are blackish; tail black; beneath pure white; length 8 inches. Female similar, but head above and back cinereous.

THIS bird ranges from South Brazil and Paraguay to the southernmost pampas of Buenos Ayres. Its total length is eight inches. The wings and tail are black, the former barred with white; all the rest of the plumage in the male is pure white; in the female the upper parts are grey.

It is to some extent migratory, and usually goes in flocks of a dozen or twenty birds, and frequents open situations where there are bushes and trees, also plains covered with giant grasses. They are more social in their habits than *T. coronata*, but in other respects closely resemble it, and are exceedingly active, lively birds, and when the flock is on the wing continually pursue each other in a playful manner.

Mr. Barrows observed them in autumn on the Pigue (southern pampas) preparing for their migration. "Late in March," he says, "we found them in large

scattered flocks, which collected in one place towards evening, and went through a series of aerial evolutions accompanied with vocal exercises of a varied and entertaining kind, lasting half an hour or more.

“I presume this was in preparation for their northward (or westward?) migration, as we did not see them again after leaving this spot.”

LITTLE WIDOW TYRANT

(*Tænioptera irupero*)

Above and beneath pure white; wings with the primaries black except the innermost, which are white at their bases and tipped with black, and secondaries which have narrow black shafts; broad end of the tail black; bill and feet black; two outer primaries acuminate; length 7 inches. Female similar.

THIS pretty species is found throughout the Argentine country, and is well known to the natives, and usually called *Viudita* (Little Widow) on account of its mourning colours. It is also sometimes curiously named *Anjelito de las ánimas*, from a superstitious notion due to the intense whiteness of its plumage and to its supposed habit of frequenting graveyards.

I have on a few occasions found the Little Widow in a village graveyard, and supposed that it had chosen the spot on account of its quietude. The superstitious notion about it varies: thus, some think the bird is a re-incarnation in bird form of a child buried there; others that it is a little angel in disguise, whose mission it is to keep watch and guard over the sleeping souls of little buried children. In both sexes the entire plumage is snowy white, except the primaries and the tip of the tail, which are black. In habits it is more

sedentary than other *Tæniopterae*, and obtains its food chiefly by patiently watching the surface of the ground for its insect prey. Its marvellously white plumage, and the habit of sitting motionless on the summit of a bush or tree, make it a most conspicuous object, so that it is strange to find such a bird existing in districts which abound in raptorial species; for Hawks, I have frequently noticed, will always single out a white or conspicuously coloured bird for pursuit, and though the Little Widow, like the other members of its genus, is swift and strong of wing, the feeble and the young must often fall victims to their shining white plumage.

The Little Widow is a solitary bird, and not nearly so lively and playful in manner as *T. coronata* and *T. dominicana*, its surpassing whiteness being its most interesting feature. Its nesting habits are unlike those of other *Tæniopterae*, for it breeds only in holes, usually in the bole or branch of a tree; but sometimes it takes possession of the oven of *Furnarius* to lay in. The nest is composed chiefly of feathers and contains four eggs, creamy white, with a few very minute red spots, irregularly distributed. Mr. Dalgleish says,

Some eggs have only two or three spots, none have more than eight or ten.

Mr. Barrows says:

The adults have several of the primaries remarkably attenuated. Young birds appear to acquire these attenuate primaries only after a complete moult. But I took one specimen which showed one or more primaries with tips of ordinary shape but with a line apparently *worn* into the vane of the inner web, so as to mark out distinctly the attenuate tip, and it seemed as if a little more wearing would cut out a piece which would leave the primary as in the old bird.

MOUSE-COLOURED TYRANT

(Tænioptera murina)

Above sandy cinereous, whitish round the eyes; wings and tail blackish with whitish edgings; below much paler, throat whitish with slight black striations; belly and crissum tinged with ochraceous; under wing-coverts and flanks pale ochraceous; bill horn-colour; feet black; two outer primaries acuminate; length 7 inches. Female similar, but outer primaries normal.

THIS species inhabits the Mendoza district, and migrates south in spring. I met with it on the Rio Negro, in Patagonia, where it made its appearance in October. The sexes are alike. The entire upper plumage is dull grey with a pale rufous tinge; throat, breast, and belly pale buff tinged with grey. It is a solitary bird, restless in manner, has a swift flight, and sits on a stalk or other slight elevation, from which it darts down to seize any insect it spies on the ground. Its only language is a very low whistling note.

CHAT-LIKE TYRANT

(Tænioptera rubetra)

Above sandy brown, lores and superciliaries white; wings black, greater coverts and outer secondaries edged with whitish, lesser coverts like the back, tail black, outer web of the outer tail-feathers and tips of others white; below white, with black striations on the sides of the throat and on the breast; flanks, under wing-coverts, and inner webs of the primaries deep rufous; two outer primaries acuminate; length 7.5 inches. Female rather paler, throat and breast washed with ochraceous, and outer primaries not acuminate.

I HAVE met with this bird at all seasons of the year in Patagonia on the Rio Negro, and think it probable that it has no migration. It is seen in flocks of twenty or thirty individuals, and in its lively actions when on the wing, and in its habit of perching on a bush or elevation of some kind, from which it pounces down

on an insect seen on the ground, it resembles other *Tænioptera*; but it runs about on the ground a great deal, and in this respect is more like a *Myiotheretes* or *Muscisaxicola*. In its colour it also diverges widely from the typical *Tænioptera* in their black and white Dominican plumage. The whole upper parts are light chestnut, with a white mark on the side of the head; wings and tail dark, tipped with pale rufous; throat breast, and belly whitish rufous, with dark lines on throat and bosom. The chestnut hue in the female is paler and mixed with grey.

SWALLOW-LIKE TYRANT

(*Fluvicola albiventris*)

Above black; front half of head, narrow band across the rump, and slight edgings to wing-coverts and outer secondaries white; below white; bill and feet black; length 5.5 inches.

THIS small black-and-white Tyrant is not uncommon in the marshes and on the river-margins in the Plata district, its spring migration extending south to Buenos Ayres. Like the Kingfisher, it haunts the waterside and is found nowhere else. It has a shy, retiring disposition, concealing itself in the close thickets overhanging a stream, so that one does not often see it, notwithstanding its conspicuous white plumage. When disturbed it emits a series of low ticking notes, or darts swiftly out from the thicket, showing itself for a moment over the water before disappearing once more into a hiding-place. When thus seen darting above the surface it has a strikingly Swallow-like appearance.

D'Orbigny says it makes a purse-shaped nest, of slender twigs, moss, and feathers neatly interlaced, and lays four white eggs, spotted at the large end with brown.

COCK-TAILED TYRANT

(*Alectrurus tricolor*)

Above black, rump greyish; sides of the head, scapularies, lesser wing-coverts, and outer margins of secondaries white; tail black, outer rectrix on each side produced, expanded, fan-shaped; below white, patch on each side of the breast (forming an incomplete collar) black; bill horn-colour; feet black; length 7.2 inches. Female: above brown, rump and lesser wing-coverts pale; beneath dirty white, sides of breast brown.

THIS species generally resembles the one next described, and has, like it, a black, white, and grey plumage. But the tail, although strange, is constructed on a different pattern. The total length of the bird is five and a half inches, the tail being only two and a half. The two outer tail-feathers have remarkably stout shafts, with broad coarse webs, and look like stumps of two large feathers originally intended for a bigger bird, and finally cut off near their base and given to a very small one. In the male these two feathers are carried vertically and at right angles to the plane of the body, giving the bird a resemblance to a diminutive cock; hence the vernacular name *Gallito*, or Little Cock, by which it is known.

I have not observed this species myself, but Azara has the following paragraph about its habits:

The male sometimes rises slowly and almost vertically, with tail raised, and rapidly beating its wings, and looking while ascending in this way more like a butterfly than a bird; and when it has reached a height of ten or twelve yards, it drops obliquely to the earth, and perches on a stalk.

He adds that the males are solitary, but several females are sometimes seen near together, and that the females are greatly in excess of the males.

STRANGE-TAILED TYRANT

(*Alectrurus risorius*)

Above black, rump grey; front varied with white; wings black; scapularies, outer margins of wing-feathers and coverts white; tail black, two outer rectrices much elongated, denuded at the base with a broad inner and no outer vane; below white, broad band across the breast black; throat in the breeding season bare of feathers and of a bright orange; bill yellowish; feet black; length 11 inches. Female: above brown, wings varied with white; beneath white; breast-band pale brown; tail with the two outer rectrices slightly elongated and denuded, terminated with spatulations on the inner vane.

Azara named this species *Cola estraña* (Strange-tail) but mentions incidentally that its Guarani name is *Guira-yetapá* (Scissor-tail), a term which the Indians apply indiscriminately to several species having the same sort of tail.

The *Guira-yetapá* is a very curious little bird, with a black, white, and grey plumage and the beak of a true Tyrant; but it differs from all its congeners in having the skin of the chin, throat, and sides of the head bare of feathers, and these parts in the breeding-season are a bright orange colour. It is a feeble flier, its wings being very short, while the two outer tail-feathers are abnormally long and peculiar in form. Mr. Barrows says:

The remarkable condition of the outer pair of tail-feathers is interesting. In the male these two feathers reach a length of nearly ten inches, the rest of the tail being about three inches in length. The vane on the *inner* side of each is wanting for the first two inches, and then suddenly develops to a width of nearly two inches, which it maintains almost to the tip, when it gradually narrows. The vane on the *outer* side of the shaft is only about one-quarter of an inch wide, and is folded so tightly against the shaft that it is quite inconspicuous. In the only two males of this species which I have seen flying, these long feathers seemed to be carried folded together

beneath the rest of the tail, and stretched out behind like a rudder or steering-oar, their vanes at right angles to the plane of the rest of the tail.

Mr. Gibson gives a different account, and says the flight is singularly feeble, resembling the fluttering passage of a butterfly through the air, while the tail streams out behind.

It inhabits Paraguay, Uruguay, and the eastern portion of the Argentine Republic, ranging as far south as the pampas in the neighbourhood of Patagonia. It is usually seen singly or in pairs; Azara says he saw a flock of thirty individuals, but as they were all *females*, it may be that in this species, as in *Lichenops perspicillata*, the females are sometimes gregarious, and the males always solitary. It frequents open places, such as the borders of marshes, or plains covered with tall grasses, and perches in a conspicuous place, from which it darts at passing insects like a Flycatcher.

Mr. Gibson found its nest on the ground amongst herbage, and describes it as a neat structure of dried grass, containing three white eggs with a faint cream-coloured tinge.

YELLOW-BROWED TYRANT

(*Sisopygis icterophrys*)

Above bright olive-green, head rather greyish, lores and superciliary stripes yellow; wings blackish, broad ends of coverts and outer edges of secondaries dirty white; tail blackish; beneath bright yellow, sides of breast and flanks olivaceous; under wing-coverts whitish; bill dark horn-colour; feet black; length 6·1 inches.

THIS small and pretty Tyrant-bird is quite common in the woods along the Plata, and is also seen a great deal in orchards and groves in the cultivated districts.

In Buenos Ayres it is a summer visitor, appearing there in October, and is a shy, solitary bird, which catches insects on the wing, and rarely visits the ground.

The nest is placed in a tree, ill-concealed, and very shallow; it is built of fine sticks, and lined with fine grass, horsehair, and feathers. The eggs are four, pointed, pale cream-colour, with large dark red spots, chiefly at the larger end.

The only language of this species is a very low plaintive whistle, uttered as a faint protest when the nest is approached.

The upper plumage is olive-green; the entire under surface and a stripe on the side of the head pure yellow; wing- and tail-quills dark.

ASHY-BLACK TYRANT

(*Cnipolegus anthracinus*)

Above dull black, a broad bar across the vanes of the inner webs of the wing-feathers white; bill plumbeous; feet black; length 6.3 inches. Female ashy brown; rump, upper tail-coverts, and basal portions of tail bright fulvous; wings blackish, with two white transverse stripes; beneath pale fulvous, white on the belly, bill and feet black.

UNFORTUNATELY very little is yet known about the habits of these interesting little Tyrant-birds, for which I should like to suggest the common name "Spectacular," for reasons I shall say more about when I come to describe the *Lichenops perspicillatus*, a species which undoubtedly belongs to this peculiar well-defined group. The plumage of the male is, in most cases, intensely black, and there is a pure white bar on the remiges, hidden when the bird is perched, and when it flies made doubly conspicuous by the

peculiar motion of the wings. In all the known species the female has a dull brown plumage, lined or mottled with dusky tints, and with some portion of the wing-quills marked with rufous or chestnut colour.

The Ashy-black Tyrant inhabits the Mendoza district, and is also a summer visitor in Patagonia, where it was obtained by Dr. Doring. Speaking of its habits he says the male is solitary, perches on the summit of a bush or dry twig, emits at intervals a song or call composed of two syllables, plaintive and flute-like in character, and uttered while the bird rises up a few feet into the air. During this performance the white bands on the wings are displayed conspicuously and a humming sound is produced.

BLACK TYRANT

(*Cnipolegus hudsoni*)

Uniform dull black; a broad bar across the bases of the inner webs of the wing-feathers white; two outer primaries much pointed at their extremities; bill plumbeous; feet black; length 6 inches. At once distinguishable from the preceding species (*C. anthracinus*) by its smaller size and the peculiar narrowed outer remiges.

THIS species is found in the western provinces of the Argentine Republic, and, like *C. anthracinus*, which it closely resembles, is a summer visitor to Patagonia, where it makes its appearance in October. The plumage is intense black, with the inner webs of the remiges at their base white, but the wing-band, which is over an inch in breadth, shows only when the bird flies. There is also a small white spot on the flank, scarcely visible, and excepting for this speck the bird at rest appears entirely black. When it flies the white band

appears suddenly, producing a curious effect, for the wings are opened and shut successively and with great rapidity, making the white band appear like a succession of flashes. All the movements of the bird are eccentric to a degree. It selects a dead twig on the summit of a bush, and this perch it occupies during many hours every day. Occasionally it darts after a passing insect, but I believe it feeds principally on the ground, like *Lichenops perspicillatus*. At intervals it quits its perch very suddenly and revolves round it with the rapidity of a moth whirling round the flame of a candle, the wings producing a loud humming sound, and the bird uttering a series of sharp clicking notes. During this performance the white wing-band appears like a pale mist surrounding the bird. This fantastical dance over, it resumes its perch, and, until moved to a second display, sits as motionless as a bird carved out of jet.

Three more species of this curious genus have been found in Argentina, but unfortunately their discoverers have told us nothing of their habits.

SILVERBILL

(*Lichenops perspicillatus*)

Black; primaries white with black tips and bases; fleshy ring round eye and bill palest yellow; length 5.6 inches. Female: above dark brown with light edging to feathers; remiges chestnut, with dark brown tips; wing-coverts dark brown with fulvous tips; beneath fulvous white, breast with dark striations; bill yellowish.

NATURALISTS have said a great deal about the well-known Silverbill (the most important member of my "Spectacular" group), the question as to whether the black and red birds are sexes or two distinct species

having long remained unsettled. Azara, writing in the last century, under the heading *Pico de Plata*, rightly described the red bird as the female of the black; but unfortunately, in another part of his work, he describes the female again as a different species, naming it *Suiriri chorreado*. Darwin also separated the sexes, and gave the name of *Lichenops erythropterus* to the red-plumaged bird. He made a minute examination of both, and proved to his own satisfaction that it was impossible to believe that two birds with so many structural differences could be one species.

When one considers the habits of the two birds, even where they are most abundant and seen continually, it is indeed difficult to believe that they are one and the same species. They are never seen associating together, even in the love season, and when I have watched a pair actually engaged in constructing their nest, they appeared to keep as far apart as possible. More than that, the male, while unfriendly towards all other species, appears to cherish a special antipathy against the red bird; and when one comes near him never fails to pursue it with the greatest violence from the neighbourhood. He is also strictly solitary, but the red birds frequently unite in small parties, especially in autumn, when I have often seen as many as a dozen together. Evidently they have a more social temper than their black mates.

The native boys have discovered a strange weakness in the Silverbill. When the bird is running about seeking food on the ground, the boy approaches it and hurls a stick or clod and at the same time rushes at it, whereupon the bird as if paralysed remains motionless, and may be taken by the hand.

Altogether the Silverbill has been a puzzle in the past, and it would appear, from some observations

made by Mr. Barrows, that we have not yet got to the end of all the curious points in its habits. Without doubt it is migratory. Its range extends from Paraguay to Patagonia, where it is not common. In Paraguay and the hotter parts of the Argentine country it is probably stationary; in Buenos Ayres, where it is most abundant, many individuals remain all the year in sheltered places, and the migration appears to become more definite the further south we get. Mr. Barrows travelled south across the pampas in the autumn, and says:

The species was met with at all points visited, but south of the Azul not a single male in the black plumage was seen, though the brown birds (presumably females or young) were met with almost every day for nine weeks, and frequently in large numbers. Of course I began to suspect that the males must moult into a brown suit after nesting, as do our Bobolinks and many other birds, but I shot specimens at various times, and all proved to be either females or young males, and as I was confident that at Concepcion black males were to be found through the year, I was at a loss for an explanation, and am so still.

The male Silverbill is entirely black, there is nothing in nature blacker than its plumage; and, to enhance the effect, the beak is of a very delicate primrose-yellow, which at a little distance appears white, hence the vernacular name. The eye, and broad free skin surrounding it, which is ruffed like an Elizabethan collar, are of the same faint primrose hue. The secondary wing-quills are pure white, but the white is only displayed when the bird flies. The female has the naked skin encircling the eye, but its colour, as also that of the beak, is much darker than in the male. Entire upper plumage dark brown; secondaries chestnut; lower parts fawn-colour, marked with brown. The young males are at first like the females in colour, and do not acquire the black plumage until the end of the summer.

The bird ranges over the whole of the Argentine Republic, and, according to Gay, is also common throughout Chili, where it is known as the *Colegial* (Collegian or learned person), on account of its grave manner, black dress, and spectaclled appearance.

The male is a solitary bird, and feeds chiefly on the ground, running rapidly about in open places like a *Muscisaxicola*. It is also frequently seen perched conspicuously on the summit of a tall stalk or bush, and occasionally making a dart into the air after passing insects, showing in this habit his relationship with the Tyrant-birds. But he perches on an elevation less to watch for insects than for the purpose of his curious spectacular performance. This highly eccentric habit is strikingly like that of *Cnipolegus hudsoni*; and I have no doubt that all the *Cnipolegi* possess similar habits. Both birds perch on a conspicuous place, upright, motionless, and looking more like grotesque little automata than living things; they both also leave the perch suddenly, as if shot from it by means of a steel spring. This singularly sudden movement, and the motion of the wings, rapid as in the Humming-bird, or shut and opened alternately and exhibiting the white wing-colour in a series of flashes, seems related to the conspicuous white mark. In both species also, the wings make a humming sound during flight. The motions of the Silverbill are, however, in some respects different from those of the *Cnipolegus*. Springing from its perch at intervals, it darts vertically to a height of about fifteen yards, then turns a somersault, uttering at the same moment a shrill-sounding little cry, after which it drops down again and alights on its perch suddenly, as if jerked back to it, and there remains stiff, erect, and motionless as before.

The nest is made of dry grass in a thistle-bush or

clump of reeds, and is rather deep and cup-shaped. The eggs are four in number, white, and spotted at the larger end with dark red.

SHORT-WINGED TYRANT

(*Machetornis rixosa*)

Above brownish olive; wings and tail brown, the latter terminated by a yellowish band; middle of cap occupied by a scarlet crest; beneath bright yellow, paler on the throat; bill and feet black; length 7.2 inches. Young without the scarlet crest.

THIS species, found in the open districts throughout South America, from Venezuela to Buenos Ayres, where it is quite common, has very interesting habits. It is seven inches and a half long, has a plump body, short wings, and long legs. The upper plumage is light brown, the throat, breast, and belly yellow, and the male has a concealed crest of a bright orange-red colour.

It resembles the true Tyrants in disposition, in its shrill piercing language, and in the habit of perching and breeding in trees. On the other hand, like the long-legged *Myiotheretes*, that lives on the open plains, it feeds exclusively on the ground, over which it runs with a speed possessed by few perching species. The general impression one forms is that in manners and appearance the Short-winged Tyrant is quite unlike any other species, though all its habits are to be found in one or other of the various groups comprising the Tyrannidæ.

These birds have no migration, but pair for life, and always remain on the same spot, and will continue to breed in the same hole for many years, even where they are frequently deprived of their eggs. Azara saw them sometimes uniting in small flocks in Paraguay;

in Buenos Ayres they are always seen in pairs, or, after the young have left the nest, in families. They prefer to live near a human habitation, where there are trees: even one tree, in which they can breed and find shelter at night, will be sufficient to attach them to a dwelling, so great is their partiality for the clean-trodden ground where they can freely run about and catch insects. They haunt the cattle-pens, and become extremely familiar with the cows, horses, and sheep, following them to the pasture-grounds, where they are often seen perched on the back of a horse or other domestic animal, or stationed close to its nose on the ground, watching for insects. On the bare ground they run about with wonderful swiftness, and are able to overtake and capture flying insects without rising. The male and female invariably hunt together, and at intervals fly to some favourite perch to indulge in a duet composed of loud, rapid, shrill notes, somewhat metallic in sound. Though able to fly swiftly when in pursuit of a passing Hawk or other bird, at other times their flight is strangely slow; the round body, short blunt wings and tail giving the bird a somewhat curious appearance as it progresses laboriously through the air. I have frequently seen them make the most unprovoked assaults on birds of an inoffensive kind; possibly they are in these attacks moved by a playful rather than by a vindictive spirit. I once saw one drop like a stone from a height of fifty yards on to a Pigeon perched on a leafless tree. The Pigeon fell as if shot to the earth; the Tyrant-bird then released his hold; the Pigeon rushed away terrified through the trees, while its persecutor rose up high in the air and resumed its journey.

I have elsewhere spoken of the wars waged by this bird against other species, all seeking to gain possession

of the large nest of *Anumbius acuticaudatus*. A hole in the trunk of a tree is also a favourite breeding-place. The nest is neatly built of slender twigs and leaves, and lined with horsehair. The eggs are slightly oval, and densely marked with dark brown spots or stripes on a white or brownish-white ground.

CHIN-SPOTTED TYRANT

(*Muscisaxicola macloviana*)

Above cinereous, lores blackish, cap brown; tail-coverts and tail black, outer margins of outer tail-feathers white; below pale cinereous, passing into white on lower belly, crissum, and under wing-coverts; chin-spot brown; bill and feet black; length 6.1 inches. Female similar, but chin-spot not so well marked.

THIS South Patagonian species is one of a small group of Tyrant-birds which resemble in their habits and appearance the *Saxicolæ* of Europe. They inhabit Patagonia, the Falkland Isles, and Chili, and on the Pacific side extend their range to Peru and Bolivia. The plumage is generally grey, with more or less rufous colour on the crown; they have long legs, and run swiftly on the ground, frequent open sterile situations, and perch only occasionally on trees.

The present bird is about seven inches long; the upper parts are dull grey, except the crown, which is dark chestnut; under surface light grey, and tail nearly black. In the month of June I met with these birds on the Rio Negro, on their arrival there from the south. They went in flocks of a dozen or twenty birds; they had a swift easy flight, were shy and restless in their manner, and uttered low plaintive whistling notes. When a flock alights on the ground the

birds all instantly scatter, running rapidly about in all directions over the bare ground. Occasionally one was seen to perch on some slight elevation, and dart like a Flycatcher after passing insects.

Darwin saw this bird as far north on the Atlantic coast as Bahia Blanca. He also found it at Tierra del Fuego, where it lives entirely on the sea-beaches; and in the sterile upper valleys of the Chilian Andes, at a height of ten thousand feet, where the last traces of vegetation occur and where no other bird lives.

LITTLE BLACK RED-BACK

(*Centrites niger*)

Intense black; back, except the rump and scapularies, bright chestnut-red; length 5 inches. Female, above brown; back fulvous red; tail black; beneath ashy brown.

THE Little Red-backed Tyrant comes nearest to *Muscisaxicola mentalis* in habits, but does not perch on bushes and trees, and is less gregarious than that bird. It is the smallest of all those varied members of the Tyrannidæ family which have abandoned forests and marshes and the pursuit of insects on the wing, to live on the wintry uplands of Patagonia, and on the sterile plains bordering on the Andes.

The male is only five and a quarter inches long. The entire plumage of the male is intensely black, except the back, which is bright chestnut. The inside of the mouth and tongue are vivid orange-yellow. The chestnut colour on the female is pale, the rest of the plumage grey, except the quills, which are dark.

Its summer home is in the southern portion of Patagonia, but its nesting-habits are not known. In March

it migrates north, and is very common everywhere on the pampas throughout the winter. They arrive in small parties of three or four, or in little loose flocks of about a dozen individuals, travelling with a swift, low flight. Males, females, and young, grey like the last, arrive together; shortly after arriving the young males become mottled with black, and before leaving acquire the adult plumage. They appear to leave in spring all together, but from a note by Durnford it would appear that the males travel in advance of the females. He says:

Males of this species were common at Chupat throughout September and during the first few days of October. On the 5th of the latter month I observed the first females, which gradually increased in number.

The Little Red-backs inhabit open unsheltered plains, and have so great a predilection for bare ground on which they can run freely about, that on their arrival on the pampas, where the earth is thickly carpeted with grass, they are seen attaching themselves to roads, sheep-pens, borders of streams, Vizcacha villages, and similar places. They are exceedingly restless, running swiftly over the ground, occasionally darting into the air in pursuit of small flies, and all the flock so scattered that there will be a dozen yards between every two birds. Mr. Barrows describes their lively habits very well:

I think this is one of the most restless birds I ever saw. You cannot depend upon him to be in the same place two consecutive half-seconds. He runs like a Sanderling, and whenever he keeps his feet still by accident, his wings are flirtd in a way that shows his anxiety to be off. Several are usually found together, and sometimes a loose flock of a hundred or more is seen. They are very strong on the wing, sometimes mounting rapidly for several hundred feet, if suddenly startled, and after a few moments spent in circling like a Snipe, they drop again almost as suddenly as a shot, and as if from the very clouds.

REED TYRANT

(*Hapalocercus flaviventris*)

Above mouse-brown; wings and tail rather darker, with edgings like the back; vertex more or less tinged with rufous; beneath yellow; under wing-coverts pale yellow; bill and feet black; length 4 inches.

THIS little bird is rarely met with in the desert pampas, but throughout the settled portion of the Buenos-Ayreal province it is one of the most common species of the Tyrannidæ. It arrives from the north in September and is very regular in its migrations, although apparently a very feeble flier. It frequents open grounds abounding in thistles, tall weeds, or bushes, and is consequently most abundant about houses. It is extremely active, and occasionally darts after a passing insect, and captures it on the wing, especially soft insects, like moths and butterflies, to which it is most partial. It subsists principally, however, on small caterpillars and spiders, for which it searches diligently among the leaves, after the manner of the Wren. Although belonging to the songless division of the Passeres, this small Tyrant-bird possesses a formal song, which the male utters with great frequency, the only other member of the Tyrant family that I am acquainted with which really sings being the Scarlet Tyrant (*Pyrocephalus rubineus*). The music of the Reed Tyrant is weak but curious; it is composed of five brief persuasive notes, distinctly metallic in sound, which may be imitated by gently and slowly striking *fa la mi sol fa* on the highest keys of a piano. To utter this quaint little song the bird perches itself on the summit of a reed or bush where it solicits attention with a little chirping prelude, and then jerks its head vigorously with each note,

delivering its few drops of sound with all the assurance of a master in the art of melody.

In October it builds a deep elaborate nest of fine dry grass, thistledown, webs, feathers, and other soft materials, usually in the fork of a weed or thistle three or four feet from the ground. It lays four cream-coloured eggs, the colour deepening to grey at the larger end.

LITTLE LONG-TAILED TYRANT

(*Stigmatura flavo-cinerea*)

Above greyish olive, lores and superciliary stripe whitish; wings blackish, with whitish edgings to the coverts and outer secondaries; tail blackish; outer web of the external rectrix and broad tips of the four external pairs white; beneath pale yellow; bill and feet black; length 5·8 inches, tail 3 inches.

THIS little bird inhabits the Mendoza and Patagonian districts, and does not appear to be migratory, for on the Rio Negro I found it at all seasons. It is slender in form, with a long tail, its total length being six inches. The sexes are alike in colour; the upper parts are yellowish grey, breast and belly light yellow. They are found living in pairs, all the year round, in thorn bushes, and are scarcely ever seen to rest, but hop incessantly from twig to twig, in a delicate leisurely manner, seeking on the leaves for the minute caterpillars and other insects on which they live. While thus engaged they utter a variety of little chirping and twittering notes, as if conversing together, and occasionally the two birds unite their voices in a shrill impetuous song.

LITTLE CRESTED GREY TYRANT

(*Serpophaga subcristata*)

Above cinereous, usually with a slight olivaceous tinge on the rump; crest-feathers white at their bases, tipped with cinereous, and slightly varied with black; wings blackish, wing-coverts tipped with whitish, forming two handsome bands; outer secondaries externally margined with the same colour; tail dark ashy; beneath ashy white, with more or less yellowish tinge on the belly and under wing-coverts; bill horn-colour; feet black; length 4.5 inches.

THIS species is one of the smallest members of our Tyrannidæ, its total length being only four and a half inches. The sexes are alike; the upper plumage is grey, with a greenish tinge on the back; the breast paler grey, becoming pale yellow on the belly. There is a white concealed spot under the loose feathers of the crown.

It is quite common in Buenos Ayres, and probably has a partial migration, as it is most abundant in summer. In its habits it closely resembles the species last described, being always found in pairs, living in thickets, where they hop incessantly about, exploring the leaves for small caterpillars, and always conversing in low chirping and twittering notes. They also sing together a little confused song. The nest is fastened to the slender twigs of a low bush, and is a deep cup-shaped and beautiful structure, composed of a great variety of soft materials bound together with spider's webs, the interior lined with feathers or vegetable down, and the outside covered with lichen. The eggs are two, bluntly pointed, and cream-colour.

LITTLE RIVER-SIDE GREY TYRANT

(Serpophaga nigricans)

Above dull brownish cinereous; wings and tail blackish, the coverts and outer secondaries with slight edgings like the back; crest slight, with a well-marked white basal spot; beneath paler and rather purer cinereous; under wing-coverts pale cinereous; bill and feet dark horn-colour; length 4.7 inches.

THIS species differs markedly in habits, language, and appearance from the last. In both sexes the colour is a uniform slaty grey; the tail, which the bird incessantly opens and flirts like a fan, is black; as in *S. subcristata*, there is a hidden spot of white under the loose feathers forming the crest.

It frequents the borders of running streams, seldom being found far from a water-course; and it alights as often on stones or on the bare ground as on plants. Male and female are always seen together, as it pairs for life, and the migration, if it has any, is only partial. It flits restlessly along the borders of the stream it frequents, making repeated excursions after small winged insects, taking them in the air, or snatching them up from the surface of the water, and frequently returning to the same stand. While thus employed it perpetually utters a loud, complaining *chuck*, and at intervals the two birds meet, and, with crests erect and flirting their wings and tails, utter a series of trills and hurried sharp notes in concert.

The nest is generally placed beneath an overhanging bank, attached to hanging roots or grass, a few inches above the water; but it is sometimes placed in a bush growing on the borders of a stream. It is a neat, cup-shaped, but rather shallow structure, thickly lined

inside with feathers. The eggs are four, pointed, white or pale cream-colour, with black and grey spots at the large end.

LITTLE TIT-LIKE GREY TYRANT

(*Anæretes parulus*)

Above cinereous, with an olivaceous tint on the lower back; head black, front varied with white, elongated vertical crest black, sometimes varied with white; wings blackish, with slight whitish tips to the coverts and whitish margins to the outer secondaries; tail blackish, outer webs of external rectrices whitish; below pale straw-colour, white on the throat; throat and breast with numerous and well-marked black striations; bill and feet black; length 4 inches.

THIS small bird is only four and a half inches long; in both sexes the colour on the upper parts is dull grey, on the throat and breast ash-coloured; the belly pale yellow. It has the distinction of a slender curling Lapwing-like crest, composed of a few narrow, long, black feathers. The eye is white. It is found in the thorny thickets on the dry plains of Mendoza, and is also common in Patagonia. In its habits it closely resembles *Serpophaga subcristata*; lives always in pairs, perpetually moves about in a singularly deliberate manner while searching through the bush for small insects, the two birds always talking together in little chirping notes, and occasionally bursting out into a little shrill duet. It builds a deep nest of fine dry grass, lined with feathers, in a low thorn, and lays two white eggs.

This diminutive Tyrant has a wide range on the west side of the continent, extending from Patagonia to the Ecuador Andes.

MANY-COLOURED TYRANT

(Cyanotis azaræ)

Above dark bronzy green; head black; superciliaries yellow; vertical spot crimson; wings black; broad tips of the lesser wing-coverts and broad edgings of some of the secondaries white, forming a large white bar on the wing; tail black, greater part of outer pair of rectrices and outer web and broad tip of next pair and narrow tips of third pair white; beneath bright ochreous yellow; chin whitish; crissum crimson; incomplete band across the lower breast black; under wing-coverts white; length 4·8 inches.

THIS charming little bird is variously called by the country people All-coloured or Seven-coloured. Azara calls it "The King"—a name which this species deserves, he says, not only on account of the crown of loose feathers on its head, but because it is exceeded by few birds in beauty. It is the most beautiful bird found in Chili, says Gay; and Darwin, who is seldom moved to express admiration, calls it "an exquisitely beautiful little bird." There are many species possessing a more brilliant plumage, none with so great a variety of distinct colours; for on its minute body, which is less than that of the House-Wren, are seen black, white, green, blue, orange, yellow, and scarlet; and all these hues are disposed and contrasted in such a manner as to produce a very pleasing effect—the olive-green and delicate yellow predominating, while the vivid scarlet is a mere spot, like the bright gem or ornament which serves to set off and enhance the beauty of the dress. The whole under plumage is pure lovely yellow, while a broad mark of velvet-black extends belt-wise from the bend of each wing, but without meeting in the centre of the bosom. The sides of the head are deep blue; over the blue runs a bright yellow stripe, surmounted with the loose, slender,

almost hair-like feathers of the crown, which stand partially erect, and are blue mixed with black, with vivid scarlet in the centre. Above, from the back of the head to the tail, the colour is deep green. The wings are black, crossed with a pure white band; tail also black, the two outer quills pure white, and the succeeding two partially white, the white colour appearing only when the bird flies. Moreover, as though this diversity of colour were not enough, the soles of the black feet are bright orange, the eye of the male delicate sky-blue, while the female has white eyes.

While on the subject of the colouring of this species, I will mention a curious phenomenon which I have observed many times. When the bird is flying away from the spectator in a strong sunlight, and is at a distance of from twenty to thirty yards from him, the upper plumage, which is dark green, sometimes appears bright blue. At first I thought that a distinct species of *Cyanotis*, cerulean blue in colour, existed, but finally became convinced that the green feathers of the *C. azaræ* appear blue in certain lights. This is curious, as the feathers of the back are not glossed.

The Many-coloured Tyrant is, apparently, a very feeble flier, rising reluctantly when frightened from the rushes, and fluttering away to a distance of a few yards, when it again drops down. Yet it is strictly migratory. Darwin met with it at Maldonado in the month of June, and therefore concluded that it does not migrate; but he mentions that it was very rare. I have also occasionally seen one in winter on the pampas, but many migratory species leave a few stragglers behind in the same way. At the end of September they suddenly appear all over the pampas, in every swamp and stream where there are beds of rushes; for in such situations only is the bird found: and this migration extends far into

Patagonia. They are always seen in pairs amongst the dense rushes, where they perch on the smooth stems, not near the summit, but close down to the surface of the water, and perpetually hop from stem to stem, deftly picking up small insects from the surface of the water. They also occasionally leave the rushes and search for insects in the grass and herbage along the border. They are very inquisitive, and if a person approach the rush-bed, they immediately come out of their concealment, both birds uttering their singular notes—a silvery, modulated sound, not meant for a song apparently, and yet I do not know any sweeter, purer sound in nature than this. All through the close-growing dark rushes these pretty little melodists may be heard calling to each other in their delicate gurgling notes.

The nest is a marvel of skill and beauty. As a rule it is attached to a single polished rush, two or three feet above the water and about the middle of the stem. It is cup-shaped inside, and about four inches long, circular at the top, but compressed at the lower extremity, and ending in a sharp point. It is composed entirely of soft bits of dry yellow sedge, cemented together with gum so smoothly that it looks as if made in a mould. The eggs are two, oval, and dull creamy white, sometimes with a ring of colour at the large end.

BIENTEVEO TYRANT

(Pitangus bolivianus)

Above brown; head black; front, superciliaries, and line round the nape white; large vertical crest yellow, tipped with black; wings and tail brown with rufous margins; beneath sulphur-yellow, inner margins of wing- and tail-feathers pale rufous; bill and feet black; length 9 inches.

THE Bienteveo is in its habits the most interesting member of the Tyrannine family. It would be difficult to find two species more dissimilar in disposition than are the Silverbill, already described, and the Bienteveo; the former being like an automaton, having only a few set motions, gestures, and instincts, while the other is versatile in an extraordinary degree, and seems to have studied to advantage the various habits of the Kestrel, Flycatcher, Kingfisher, Vulture, and fruit-eating Thrush; and when its weapons prove weak it supplements them with its cunning. How strange it is that these two species, mentally as widely separated as the Humming-bird and Crow, should be members of the same family!

The Bienteveo has a wide range in South America, and inhabits the whole of the Argentine country down to Buenos Ayres, where it is very common. It is resident and lives in pairs, the sexes being always faithful. The body is stout, somewhat large for a Tyrant-bird; the length being nine and a half inches, including the beak, which is a little over an inch in length. The wings are blunt and comparatively short, measuring when spread fourteen inches. The head is large, and a broad black band extends from the beak its entire length, and above this is a pure white stripe; the crown is black, concealing in its loose abundant feathers a brilliant yellow crest, which shows only when the bird is excited. The upper

plumage, including wings and tail, is pale brown; the entire under-surface sulphur yellow. In both sexes the plumage is alike.

In Buenos Ayres the Bientevéo is found in every orchard and plantation; it is familiar with man and invariably greets his approach with loud notes—especially with a powerful three-syllabled cry, in which people fancy there is a resemblance to the words *Biente-veo* (“I see you well”); while its big head and beak and strongly contrasted colours, especially the black and white head-stripes, seem to give it a wonderfully knowing look, as it turns its head from side to side to examine the intruder. It is a loud-voiced garrulous bird, and has a great range of sounds, from grating screams to long, clear, almost mellow call-notes. It has one pretty habit, which brings out an agreeable feature in its character. Though the male and female are greatly attached, they do not go far afield to hunt in company, like the Short-winged Tyrant, but separate to meet again at intervals during the day. One of a couple (say the female) returns to the trees where they are accustomed to meet, and after a time, becoming impatient or anxious at the delay of her consort, utters a very long, clear call-note. He is perhaps three or four fields away, watching for a frog beside a pool, or beating, harrier-like, over a thistle-bed, but he hears the note and presently responds with one of equal power. Then perhaps for half an hour, at intervals of half a minute, the birds answer each other, though the powerful call of the one must interfere with his hunting. At length he returns; then the two birds, perched close together, with their yellow bosoms almost touching, crests elevated, and beating the branch with their wings, scream their loudest notes in concert—a confused jubilant noise that rings through the whole plantation.

Their joy at meeting is patent, and their action corresponds to the warm embrace of a loving human couple.

I have frequently stood for the space of half an hour concealed amongst the trees where a Bienteveo was calling to her mate, cheered at intervals by the far-off faint response, for the pleasure of witnessing in the end the joyful re-union of the two birds.

Except when breeding the Bienteveo is a peaceful bird, never going out of its way to make gratuitous attacks on individuals of its own or of other species; but in the pursuit of its prey it is cunning, bold, and fierce. Like the true Tyrant-birds it preys a great deal on large insects when they are abundant in the warm season, and is frequently seen catching its prey in the air. A large beetle or grasshopper it invariably beats against a branch before devouring it. But even in summer, when insect prey is most abundant, it prefers a more substantial diet whenever such is to be had. It frequently carries off the fledglings of the smaller birds from their nests, in the face of the brave defence often made by the parents. It is also fond of fishing, and may be seen perched by the hour on a bank or overhanging branch beside a stream, watching the water like a Kingfisher, and at intervals dashing down to capture the small fry. In shallow pools, where there are tadpoles and other prey, the Bienteveo does not mind getting a little wet, but alights in the water and stands belly-deep watching for its prey. I have seen a Bienteveo standing in the water in the midst of a flock of Glossy Ibises. They are often seen, as Darwin remarks, hovering like a Kestrel over the grass and then dashing down to seize their prey. Small snakes, frogs, mice, and lizards all minister to its appetite, and with a capture of this kind it invariably flies to the nearest stone or branch, against which it beats out the life of

its victim before devouring it. I once saw one fly out of some weeds carrying a little wriggling glass-snake about eight inches long in its beak. Alighting on a gate it proceeded to kill its capture, and at the first blow on the wood the snake flew into two pieces. A mouse gives it a great deal of trouble, for after it has been killed it cannot be devoured until reduced by repeated blows to a soft pulp, after which it is with great labour pulled to pieces and eaten. Snails and *Ampullariæ* are also pounded until the shell breaks. In spring they sometimes join the train of Hooded Gulls, Guira Cuckoos, Cow-birds, and various other kinds which follow the plough to pick up worms and larvæ; but on the ground the Bienteveo is awkward in its motions, for it cannot run like the Tyrant-birds of terrestrial habits, but only hops. At estancia houses, when a cow is slaughtered, it comes in with the fowls, Carrion Hawks, and dogs, for small pickings, being very fond of fresh meat. It is a common thing to see a Bienteveo following a rural butcher's cart, and waiting for an opportunity to dash in and carry off any small piece of meat or fat it is able to detach. In the autumn they feed very much on ripe fruit, preferring grapes, which they can swallow whole, and figs, which are soft and easily devoured.

In its nidification the Bienteveo also departs widely from the, so to speak, traditional habits of its congeners; for whereas most Tyrants make shallow nests, this species makes a very big elaborate domed structure, and sometimes takes five or six weeks to complete it. It is placed in a tree, without any attempt at concealment, and is about a foot deep and eight or nine inches broad, and composed of a variety of soft materials, chiefly wool. The entrance is placed near the top. Outside, the nest has a very disorderly appearance, as there are always long straws and sometimes rags

hanging down; the cavity is deeply lined with feathers, and is the *hottest* nest I know. The eggs are five, very long, pointed, cream-coloured, and spotted, chiefly at the larger end, with chocolate and purple.

They are bold in defence of their nest; one pair which bred annually in my orchard always attacked me with the greatest fury whenever I ventured near the peach-tree in which they had their big nest of wool, darting down repeatedly and striking my head with beak and wings.

SCARLET TYRANT

(*Pyrocephalus rubineus*)

Above very dark cinereous, crested head and body below scarlet; bill and feet black; length 5.2 inches. Female, above pale cinereous, below white; breast striated with crimson; belly more or less rosy red.

THE Scarlet Tyrant is about five and a half inches long; the neck, back, wings, and tail are black; all the rest of the plumage the most vivid scarlet imaginable. The loose feathers of the crown, which form a crest, are especially brilliant, and seem to glow like a live coal amidst the green foliage. Beside this bright Tyrant-bird even the Rainbow Tanagers look pale, and the "Jewel Humming-birds," seen in the shade, decidedly sad-coloured. It is not strange, therefore, that in South America, where it has a very wide range, it is a species well known to the country people, and that they have bestowed on it many pretty names, most of which have reference to its splendid scarlet colour. In the Argentine Republic it is usually called *Churinche*, from its note, also *Federal* and *Fuegero* (Fireman); in other countries

Sangre de toro (bull's blood), and, better still, *Sangre pura*. Little Soldier and Coal of Fire are also amongst its names. The Guarani tribes call it *Guira-pita* (red bird); but another Indian name, mentioned by d'Orbigny, is the best—*Quarhi-rabi*, which means a child of the sun.

The Churinche appears in Buenos Ayres about the end of September, and is usually first seen in localities to which Tyrant-birds are partial, such as low grassy grounds with here and there a stalk or bush, and near a wood or plantation. Insects are most abundant in such places; and here the Churinche is seen perched on a twig, darting at intervals to snap at the flies after the fashion of the Flycatchers, and frequently uttering its low, plaintive note. It is very common in the woods along the Plata; every orchard on the pampas is visited by a few of them; and they are very abundant about Buenos Ayres city. Going south they become rarer; but, strange to say, a few individuals find their way to the shores of the Rio Negro, though before reaching it they must cross a high, barren country quite unsuited to them. The natives of the Carmen have no name for the Churinche, but speak of it as a bird wonderful for its beauty and seldom seen. Amongst the dull-plumaged Patagonian species it certainly has a very brilliant appearance.

A very few days after their arrival the Churinches pair; and the male selects a spot for the nest—a fork in a tree from six to twelve feet from the ground, or sometimes a horizontal bough. This spot the male visits about once a minute, sits on it with his splendid crest elevated, tail spread out, and wings incessantly fluttering, while he pours out a continuous stream of silvery gurgling notes, so low they can scarcely be heard twenty paces off, and somewhat resembling the sound

of water running from a narrow-necked flask, but more musical and infinitely more rapid. Of the little bird's homely, grey, silent mate, the observer will scarcely obtain a glimpse, she appearing as yet to take little or no interest in the affairs that so much occupy the attention of her consort, and keep him in a state of such violent excitement. He is exceedingly pugnacious, so that when not fluttering on the side of his future nest, or snapping up some insect on the wing, he is eagerly pursuing other male Churinches, apparently bachelors, from tree to tree. At intervals he repeats his remarkable little song, composed of a succession of sweetly modulated metallic trills uttered on the wing. The bird usually mounts upwards from thirty to forty yards, and, with wings very much raised and rapidly vibrating, rises and drops almost perpendicularly half a yard's space five or six times, appearing to keep time to his notes in these motions. This song he frequently utters in the night, but without leaving his perch; and it then has a most pleasing effect, as it is less hurried and the notes seem softer and more prolonged than when uttered by day. About a week after the birds have arrived, when the trees are only beginning to display their tender leaves, the nest is commenced. Strange to say, the female is the sole builder; for she now lays-by her indifferent mien, and the art and industry she displays more than compensate for the absence of those beauties and accomplishments that make her mate so pleasing to the sight and ear. The materials of which the nest is composed are almost all gathered on trees; they are lichens, webs, and thistle-down: and the dexterity and rapidity with which they are gathered, the skill with which she disposes of them, the tireless industry of the little bird, who visits her nest a hundred times an hour with invisible webs in her bill, are truly interesting

to the observer. The lichens firmly held together with webs, and smoothly disposed with the tops outside, give to the nest the colour of the bark it is built on.

After the Churinche's nest is completed, the Bien-teveo (*Pitangus bolivianus*) and the Common Cow-bird (*Molothrus bonariensis*) are the troublers of its peace. the first of these sometimes carries off the nest bodily to use it as a material in building its own; the female Cow-bird is ever on the look-out for a receptacle for her eggs. Seldom, however, does she succeed in gaining admittance to the Churinche's nest, as he is extremely vigilant and violent in repelling intruders. But his vigilance at times avails not; the subtle bird has watched and waited till, seizing a moment when the little Scarlet Tyrant is off his guard, she drops her surreptitious egg into his nest. When this happens, the Churinches immediately forsake their nest. The nest is sometimes lined with feathers, but usually with thistle-down; the eggs are four, pointed, and spotted at the broad end with black; usually each egg has also a few large grey spots. The young are at first grey, marked with pale rufous, but soon become entirely grey, like the female. In about a month's time the belly of the males begins to assume a pale mauve-red; this spreads upwards towards the breast and throat; and finally the crest also takes this colour. The Churinches raise two broods in a season—but if the nest is destroyed, will lay as many as four times.

The Scarlet Tyrant is the first of our summer visitors to leave us. As early as the end of January and so soon as the young of the second brood are able to feed themselves, the adults disappear. Their going is not gradual, but they all vanish at once. The departure of all other migratory species takes place after a very sensible change in the temperature; but at the end of January

the heat is unmitigated—it is in fact often greater than during December.

When the adults have gone, the silent young birds remain. Within a month's time the sexes of these may be distinguished. After another month the males begin to sing, and are frequently seen pursuing one another over the fields. It is only at the end of April, three months after the old birds have disappeared, that the young also take their departure. This is one of the strangest facts I have encountered in the migration of birds. The autumnal cold and wet weather seems to be the immediate cause of the young bird's departure; but in the adults, migration appears to be an instinct quite independent of atmospheric change.

BLACK-AND-YELLOW CRESTED TYRANT

(*Empidonomus aurantio-atro-cristatus*)

Above cinereous; cap shortly crested, black, with a large vertical spot of bright yellow; wings and tail brownish black, wing-coverts and secondaries slightly edged with whitish; beneath as above but rather paler, and with a very slight yellow tinge on the crissum; bill and feet black; length 6.5 inches.

ALCIDE D'ORBIGNY met with this fine species in Corrientes, and Dr. Burmeister in Entrerios, and again near Mendoza. In the neighbourhood of Concepcion Mr. Barrows speaks of it as a "not very abundant summer resident, but one not easily overlooked, owing to its habit of perching on the topmost twig of any tree on which it alights, making forays from time to time, when tempted by its winged prey."

In the vicinity of Buenos Ayres, which may be considered the southern limit of its range, it was far from

common, two or three pairs being the greatest number I ever met with during a summer season. Like other birds of its genus, it has an easy, rapid flight, and perches on trees or other elevated places, from which it occasionally makes a dash at passing insects. The nest, as in *T. melancholicus*, is a very slight structure of slender sticks, and the eggs are four, parchment colour, and spotted at the large end with dark brown or chocolate. Mr. Barrows found a Cow-bird's egg in a nest of this species, which makes me think that it is less vigilant and warlike than *T. melancholicus*.

This Tyrant is distinguished (in the books) by the longest scientific name bestowed by ornithologists on any South American species.

BELLICOSE TYRANT

(*Tyrannus melancholicus*)

Above grey with a slight greenish tinge; head with a concealed vertical crest of scarlet and yellow; lores and ear-coverts blackish; wings and tail brownish black with more or less of paler margins; beneath yellow, throat greyish white, breast more or less greyish, under-wing coverts pale yellow; bill and feet black; outer primaries attenuated; tail deeply forked; length 8.5 inches.

THE violent and bold temper exhibited by most Tyrant-birds during the breeding-season, a quality from which is derived the name of the family, is perhaps to a greater degree in this species than in any other; and when one spends many days or weeks in the marshy, littoral forests, where the bird is most abundant, and hears its incessant distressful screams, the specific name *melancholicus* does not seem altogether inappropriate: that is the most that can be said of any specific name

invented by science, which does not merely describe some peculiarity of form or colour.

Nevertheless it is not the right name: the bird's temper rather than the effect produced by its voice on the listener was probably in the French naturalist's mind when he bestowed it; better than *melancholy* would have been *warring*, *violent*, *furious*, *bellicose*, or some such word. It therefore seems best in this as in several other instances to alter the English name I gave this bird in the *Argentine Ornithology* (1888). It was there called "Melancholy Tyrant," and I have now re-named it *Bellicose Tyrant*, and hope that future Anglo-Argentine naturalists will find some better designation for this and many other of the hundreds of species I have had to invent names for.

This Tyrant is one of the largest of its kind, its total length being nearly nine inches. The wings are long and suited for an aerial life; the legs are exceedingly short, and the feet are used for perching only, for this species never alights on the ground. The throat and upper parts are grey, tinged with olive on the back; the wings and tail dark; the breast yellow tinged with green; the belly pure yellow. Under the loose grey feathers of the crown is a fiery orange crest, displayed in moments of excitement.

In Buenos Ayres these birds arrive in September, after which their shrill, angry cries are incessantly heard, while the birds are seen pursuing each other through the air or in and out amongst the trees—perpetually driven about by the contending passions of love, jealousy, and rage. As soon as their domestic broils are over, a fresh war against the whole feathered race begins, which does not cease until the business of propagation is finished. I have frequently spent hours watching the male, successively attacking, with

scarcely an interval of rest, every bird, big or little, approaching the sacred tree where its nest was placed. Its indignation at the sight of a cowardly Carrion-Hawk (*Milvago*) skulking about in search of small birds' nests, and the boundless fury of its onset, were wonderful to witness.

They are extremely active, and when not engaged in their endless aerial battles, are pursuing large insects on the wing, usually returning after each capture to their stand, from which they keep a jealous watch on the movements of all winged things about them. They are fond of marshy places and water-courses, where they perch on a tall stalk to watch for insects, and also frequently skim over the water like Swallows to drink and dip their feathers.

A tall tree is usually selected for the nest, which is not infrequently placed on the very topmost twigs, exposed to the sight of every creature passing overhead, and as if in defiance of birds of prey. With such an aggressive temper as this bird possesses it is not strange perhaps that it builds in the most exposed places, from which the female, in the absence of her vigilant consort, can keep a sharp eye on the movements of her feathered neighbours; but I have often thought it singular that they do not make a deeper receptacle for their eggs, for the nest is merely a slight platform of slender sticks, and very ill adapted to retain its burden during high winds. The parasitical Cow-bird never enters this nest, which is not strange.

The eggs are four in number, small for the bird, pointed, parchment-white, spotted with dark brown at the larger end.

SCISSOR-TAIL TYRANT

(*Milvulus tyrannus*)

Above cinereous, rump blackish; cap jet-black, with a concealed yellow vertical crest; wings dark brown; tail black, outer web of the outer rectrix white; bill and feet black; three outer primaries excised at the tips; length 14 inches. Female similar, but outer tail-feathers not so long.

THE *Tijereta* (Scissor-tail)—a name derived from the habit the bird has of opening and closing the two outer long feathers of the tail when flying—is found throughout South America, and in the summer of the Southern Hemisphere ranges as far south as Patagonia.

The tail is forked, and the two outer feathers exceed by over four inches in length the next two. The total length of the adult male is fourteen inches, the tail being ten inches long; this species is therefore one of the longest-tailed we know of. The tail of the female is about two inches shorter than that of the male. The head is intense black; the plumage of the crown is rather long and loose, and when raised displays a vivid yellow crest. The neck and upper surface is light, clear grey; the under surface pure white; the tail black. During flight the two long feathers of the tail stream out behind like a pair of black ribbons; frequently the bird pauses suddenly in its flight, and then the two long feathers open out in the form of the letter V.

The Scissor-tail is migratory, and arrives, already mated, at Buenos Ayres at the end of September, and takes its departure at the end of February in families, old and young birds together. In disposition and general habits it resembles the true Tyrant-birds, but differs from them in language, its various chirping

and twittering notes having a hard percussive sound, which Azara well compares to the snapping of castanets. It prefers open situations with scattered trees and bushes; and is also partial to marshy grounds, where it takes up a position on an elevated stalk to watch for insects, and seizes them in the air like the Fly-catcher. It also greedily devours elderberries and other small fruits.

The nest is not deep, but is much more elaborately constructed than is usual with the Tyrants. Soft materials are preferred, and in many cases the nests are composed almost exclusively of wool. The inside is cup-shaped, with a flat bottom, and is smooth and hard, the thistle-down with which it is lined being cemented with gum. The eggs are four, sharply pointed, light cream-colour, and spotted, chiefly at the large end, with chocolate. In the breeding-time these Tyrants attack other birds approaching the nest with great spirit, and have a particular hatred to the Carrion Hawk, pursuing it with the greatest violence through the air with angry notes, resembling in sound the whetting of a scythe, but uttered with great rapidity and emphasis. How greatly this species is imposed upon by the Cow-bird, notwithstanding its pugnacious temper, has already been seen in my account of that bird.

The Scissor-tails have one remarkable habit; they are not gregarious, but once every day, just before the sun sets, all the birds living near together rise to the tops of the trees, calling to one another with loud, excited chirps, and then mount upwards like rockets to a great height in the air; then, after whirling about for a few moments, they precipitate themselves downwards with the greatest violence, opening and shutting their tails during their wild zig-zag flight, and uttering a succession of sharp, grinding notes. After this curious

performance they separate in pairs, and perching on the tree-tops each couple utters together its rattling castanet notes, after which the company breaks up.

RED-BREASTED PLANT-CUTTER

(*Phytotoma rutila*)

Above plumbeous, washed with olive; front of head and whole under parts bright red; wings and tail blackish, two well-marked wing-bars and tips of lateral rectrices white; length 7 inches. Female, above grey, striated with black; beneath light buff with dense black striations.

THERE are four known species of this curious South American group, the Plant-cutters, the only members of the family Phytotomidæ. The older naturalists associated them with the Finches on account of their toothed Fringilline bill, but they are now placed at a great distance from that family, quite outside of the Sub-Order Oscines or Songsters. The Red-breasted Plant-cutter is the only species found in the Argentine Republic.

I found it quite common in Patagonia, where the natives call it *Chingolo grande*, on account of the superficial resemblance of the female to the common Song-Sparrow (*Zonotrichia pileata*). The colouring of the sexes differs considerably, the forehead and under surface of the male being deep brick-red; the upper parts dull grey, with a bar on the wing and the tips of the rectrices white; while in the female the upper parts are yellowish grey, obscurely mottled, and the breast and belly buff, with dark stripes. In both sexes the eye is yellow, and the feathers of the crown pileated to form a crest.

This bird is usually seen singly, but sometimes associates in small flocks; it is resident, and a very weak flier, and feeds on tender buds and leaves, berries and small seed. The male is frequently seen perched on the summit of a bush, and, amidst the dull-plumaged species that people the grey thickets of Patagonia, the bright red bosom gives it almost a gay appearance. When singing, or uttering its alarm notes when the nest is approached, its voice resembles the feeble bleatings of a small kid or lamb. When approached it conceals itself in the bush, and when flying progresses by a series of short jerky undulations, the wings producing a loud humming sound.

The nest is made in the interior of a thorny bush, and built somewhat slightly of fine twigs and lined with fibres. The eggs are four, bluish-green in colour, with brownish flecks.

This species is found throughout the Argentine country, in dry open situations abounding with a scanty tree and bush vegetation.

The solitary Plant-cutter described comes, in this book, between two numerous Passerine families, both also peculiar to America, and both differing widely from it in structure, appearance, habits, and language—more widely in fact than a Greenfinch from a Flycatcher on one side and a Tree-creeper on the other. The astonishing thing to the uninformed person is how such a collocation is possible in any system. With such questions we are not concerned in this book. One can only say in passing, that in our linear system of classification (and all systems must be linear) a species or a family unrelated to any other must be given a place *somewhere* in the line. The Tyrant-birds, which come nearest superficially to the Old World Flycatchers, although structurally differing from them, number at

least 350 species; the Family we now come to, the Woodhewers or Dendrocolaptidæ, count about 250. Thus, these two South American families alone, both in the songless sub-order of the Passeres, outnumber all the species of birds in Europe from the Eagle to the Wren.

In Argentina the Dendrocolaptidæ number about fifty species, and of these I have to describe twenty known to me from personal observation.

LITTLE HOUSEKEEPER

(*Geositta cunicularia*)

Above nearly uniform earthy brown; wing-feathers pale cinnamon-red; greater part of the outer webs, excepting the inner secondaries, blackish; tail pale cinnamon-red, with a broad blackish band across the terminal half; beneath pale fulvous white, breast more or less variegated with blackish; under wing-coverts pale cinnamon; length 5.5 inches.

THE country people have a variety of names for this common and well-known species. In Buenos Ayres it is usually called *Manea-cola* (Shake-tail), in Patagonia *Caserita* (Little Housekeeper), and in other places *Minera* (Miner), or *Caminante* (Traveller or Pedestrian), from its habit of running rapidly along a clean road or bridle-path before a person riding or walking.

It is a stout little bird, with very short toes quite unsuited for perching, and it does not, in fact, ever perch on a tree, though it manages to cling to a perpendicular bank very well when engaged in tunnelling. It is resident and pairs for life, and lives in sterile places, feeding on small insects and spiders. In manner it is very lively, and runs swiftly over the bare ground, stopping very abruptly, then running on again, and at

every pause slowly moving its half-open tail up and down. It flies swiftly, close to the ground, and always during its short flight trills out its clear, ringing, rapidly reiterated cry, which in sound resembles the laughter of a child.

On the grassy pampas the *Mineras* invariably attach themselves to the *Vizcacheras*—as the groups of great burrows made by the large rodent, the *Vizcacha*, are called; for there is always a space free from grass surrounding the burrows where the birds can run freely about. In the sides of the deep pit-like entrance to one of these burrows the bird bores a cylindrical hole, from three to six feet long, and terminating in a circular chamber. This is lined with soft dry grass, and five white eggs are laid.

Though the birds inhabit the *Vizcacha* village all the year, they seem always to make a fresh hole to breed in every spring, the forsaken holes being given up to the small Swallow, *Atticora cyanoleuca*.

OVEN-BIRD

(*Furnarius rufus*)

Above earthy brown, with a slight rufescent tinge, wing-feathers blackish, margined with pale brown; whole of the outer secondaries pale brown, like the back; tail and upper tail-coverts bright ferruginous brown; below white, breast and flanks and under wing-coverts pale sandy-brown; under surface of the wing with a broad sandy bar across the basal portion; length 8 to 9 inches.

THE Red Oven-bird is an extremely well-known species in Argentina, and, where found, a great favourite on account of its familiarity with man, its loud, ringing, cheerful voice, and its wonderful mud nest, which it prefers to build near a human habitation, often on a

cornice, a projecting beam, or on the roof of the house itself.

It is a stout little bird, with a slender, slightly-curved beak nearly an inch in length, and strong legs suited to its terrestrial habits. The upper plumage is uniform rufous-brown in colour, brightest on the tail; the under surface very light brown. It ranges throughout the Argentine Republic to Bahia Blanca in the south, and is usually named *Hornero* or *Casera* (Oven-bird or Housekeeper); in Brazil, *João de los barrios* (John of the Mud-puddles) or John Clay, as Richard Burton translates it. In Paraguay and Corrientes it is *Alonzo Garcia* or else *Alonzito*, the affectionate diminutive. Azara, that sensible naturalist, losing his mind for a moment, solemnly says that he can give no reason for such a name! He might have found the reason in his own country in Europe, where as a boy he knew the wild bird life and where a bird which inspires affectionate admiration in the country people is sometimes called by a human name. As a rule it is a Christian name, as in the case of our Robin, in England, which in Norway is called Peter, and our Jack—we have several Jacks—and our Margaret or Mag, and our Peggy and Kitty and Jenny. The *Alonzo Garcia* is specially favoured in having both a Christian and a surname. I have often been assured by natives that the *Hornero* is a religious bird and always suspends his labours on a Sunday and on all holy days.

It is resident, pairs for life, and finds its food, which consists of larvæ and worms, exclusively on the ground. It delights in open places, where it can move freely about on the ground; and is partial to courtyards, clean garden-walks, etc., where, with head thrown back and bosom prominent, it struts along with an air of great gravity, lifting its foot high at each step, and

holding it suspended for a moment in the air before setting it firmly down. I once saw one fly down on to a narrow plank about ten feet long lying out on the wet grass; it walked gravely to the end of the plank, then turned, and deliberately walked back to the other end, and so on for about twenty times, appearing to take the greatest pleasure in the mere act of promenading on a smooth, level surface. When disturbed, the Oven-bird has a loud monotonous note of alarm or curiosity, which never fails to bring all its fellows within hearing distance to the spot. The movements of a fox, weasel, or cat in a plantation can always be known from the noisy turmoil among the Oven-birds. At frequent intervals during the day the male and female meet and express their joy in clear, resonant notes sung in concert—a habit common to a very large number of Dendrocolaptine birds, including, I think, all those species which pair for life. In a majority of species this vocal performance merely consists of a succession of confused notes or cries, uttered with great spirit and emphasis; in the Oven-bird it has developed into a kind of harmonious singing. Thus, the first bird, on the appearance of its mate flying to the place of meeting, emits loud, measured notes, sometimes a continuous trilling note with a somewhat hollow, metallic sound; but immediately on the other bird joining, this introductory passage is changed to rapid triplets, strongly accented on the first and last notes, while the second bird utters a series of loud measured notes perfectly according with the triplets of the first. While thus singing they stand facing each other, their necks outstretched, wings hanging, and tails spread, the first bird trembling with its rapid utterances, the second beating on the branch with its wings. The finale consists of three or four notes uttered by the second bird alone,

and becoming successively louder and more piercing until the end. There is an infinite variety in the tone in which different couples sing, also in the order in which the different notes are uttered, and even the same couple do not repeat their duet in precisely the same way; but it is always a rhythmical and, to some extent, an harmonious performance, and as the voices have a ringing, joyous character, it produces a pleasing effect on the mind.

In favourable seasons the Oven-birds begin building in the autumn, and the work is resumed during the winter whenever there is a spell of mild, wet weather. Some of their structures are finished early in winter, others not until spring, everything depending on the weather and the condition of the birds. In cold, dry weather, and when food is scarce, they do not work at all. The site chosen is a stout horizontal branch, or the top of a post, and they also frequently build on the roof of a house; and sometimes, but rarely, on the ground. The material used is mud, with the addition of horsehair or slender fibrous rootlets, which make the structure harder and prevent it from cracking. I have frequently seen a bird, engaged in building, first pick up a thread or hair, then repair to a puddle, where it was worked into a pellet of mud about the size of a filbert, then carried to the nest. When finished the structure is shaped outwardly like a baker's oven, only with a deeper and narrower entrance.

It is always placed very conspicuously, and with the entrance facing a building, if one be near, or if at a roadside it looks toward the road; the reason for this being, no doubt, that the bird keeps a cautious eye on the movements of people near it while building, and so leaves the nest opened and unfinished on that side until the last, and there the entrance is necessarily

formed. When the structure has assumed the globular form with only a narrow opening, the wall on one side is curved inwards, reaching from the floor to the dome, and at the inner extremity an aperture is left to admit the bird to the interior or second chamber, in which the eggs are laid. A man's hand fits easily into the first or entrance chamber, but cannot be twisted about so as to reach the eggs in the interior cavity, the entrance being so small and high up. The interior is lined with dry, soft grass, and five white pear-shaped eggs are laid. The oven is a foot or more in diameter, and is sometimes very massive, weighing eight or nine pounds, and so strong that, unless loosened by the swaying of the branch, it often remains unharmed for two or three years. The birds incubate by turns, and when one returns from the feeding-ground it sings its loud notes, on which the sitting bird rushes forth to join in the joyous chorus, and then flies away, the other taking its place on the eggs. The young are exceedingly garrulous, and when only half-fledged may be heard practising trills and duets in their secure oven, in shrill tremulous voices, which change to the usual hunger-cry of young birds when the parent enters with food. After leaving the nest, the old and young birds live for two or three months together, only one brood being raised in each year. A new oven is built every year, and I have more than once seen a second oven built on the top of the first, when this has been placed very advantageously, as on a projection and against a wall.

A very curious thing occurred at the estancia house of a neighbour of mine in Buenos Ayres one spring. A pair of Oven-birds built their oven on a beam-end projecting from the wall of a rancho. One morning one of the birds was found caught in a steel trap placed the evening before for rats, and both of its legs were

crushed above the knee. On being liberated it flew up to and entered the oven, where it bled to death, no doubt, for it did not come out again. Its mate remained two days, calling incessantly, but there were no other birds of its kind in the place, and it eventually disappeared. Three days later it returned with a new mate, and immediately the two birds began carrying pellets of mud to the oven, with which they plastered up the entrance. Afterwards they built a second oven, using the sepulchre of the dead bird for its foundation, and here they reared their young. My neighbour, an old native, had watched the birds from the time the first oven was begun, feeling greatly interested in their diligent ways, and thinking their presence at this house a good omen; and it was not strange that, after witnessing the entombment of the one that died, he was more convinced than ever that the little House-builders are "pious birds."

PATAGONIAN EARTH-CREEPER

(*Upucerthia dumetoria*)

Above earthy brown; long superciliary stripe pale ochraceous; wings blackish, with a broad transverse cinnamon bar; tail blackish, lateral rectrices tipped with pale cinnamon; beneath dirty white, clear white on the throat and middle of the belly; breast feathers margined with blackish; under wing-coverts pale cinnamon; bill dark horn-colour, pale at the base; feet horn-colour; length 9 inches.

THESE birds are common in Patagonia, being resident there; some individuals, however, migrate north in winter, and I once obtained a pair, male and female, near Buenos Ayres city in the month of June.

Their legs are short, but on the ground their movements are very rapid, and, like the Miner (*Geositta*)

already described, they fly reluctantly, preferring to run rapidly from a person walking or riding, and at such times they look curiously like a pigmy Curlew with an extravagantly long beak. They are active, lively birds, and live in pairs, sometimes uniting in small, loose flocks; they are partial to places where scattered bushes grow on a dry, sterile soil, and have a swift, low flight; when flying they frequently utter a shrill, trilling, or rapidly reiterated note, in sound resembling laughter. In manners, flight, language, and colouring this bird closely resembles the smaller short-beaked *Geositta cunicularia*, and like that species it also breeds in deep holes in banks; but I am not able to say whether it excavates the breeding-hole or takes possession of one already made. Durnford found it breeding in a hole four feet deep in the bank of a dry lagoon. The nest was of dry grass and lined with the fur of the cavy. It contained three white eggs.

BROWN CINCLODES

(*Cinclodes fuscus*)

Above dark, earthy brown, lores and superciliaries whitish; wings blackish, with a broad transverse cinnamon-coloured bar; outer tail-feathers blackish, broadly tipped with pale cinnamon white; beneath pale cinereous, with a cinnamon tinge; throat white, slightly spotted with blackish; bill and feet horn-colour; length 7.3 inches.

THIS homely little species differs considerably from most Dendrocolaptine birds in colour and habits; and being of a uniform dull fuscous hue, its appearance is not strikingly interesting. It inhabits Patagonia, but is migratory, possessing, what is rare in this family, a powerful flight. In winter it is common all over the

pampas and the Plata district, ranging north to Paraguay. It is always found near water, its favourite hunting ground being the borders of a stream. On the ground its motions are quick and lively, but when perching on a tree it sits motionless in one position, and when attempting to move appears to lose its balance. These birds cannot be called strictly gregarious, but where abundant they are fond of gathering in loose flocks, sometimes numbering one or two hundred individuals, and when thus associating are very playful, frequently pursuing and wheeling about each other, and uttering a sharp, trilling note. On a warm day in winter they are occasionally heard attempting to sing, the bird darting up vertically into the air and pouring out with great energy a confused torrent of unmusical sounds.

Their habits, so much less sedate and strikingly in contrast with those of most of the birds in this family, are no doubt due to the greater powers of flight possessed by *Cinclodes*.

RUSH-LOVING SPINE-TAIL

(*Phlæocryptes melanops*)

Above, forehead brown, crown blackish, broad superciliaries buffy white; upper half of back black; marked with a few grey stripes; lower back and rump, also sides of back and neck, light brown; wings blackish, mottled with light chestnut on the coverts; and a broad band of the same colour occupying the basal half of the wing-feathers; tail blackish, the two middle feathers brownish grey, the others slightly tipped with the same colour; beneath white, more or less tinged on the throat, flanks, and under tail-coverts with pale brown; under wing-coverts fulvous; length 5·8 inches.

THIS is one of our few strictly migratory species in the family Dendrocolaptidæ. Probably it winters in South Brazil, as in the northern parts of the Argentine

country it is said to be a summer visitor. On the pampas it appears in September, and all at once becomes very abundant in the rush-beds growing in the water, where alone it is found. The migration no doubt is very extensive, for in spring I found it very abundant in the rush-beds in the Rio Negro valley, and Durnford met with it much further south on the river Sanguelen, a tributary of the Chupat. Migratory birds are, as a rule, very little given to wandering; that is to say, they do not go much beyond the limits of the little coppice, reed-bed, or spot of ground which they make their summer home, and this species is no exception. It spends the warm season secluded in its rush-bed; and when disturbed flies with great reluctance, fluttering feebly away to a distance of a few yards, and then dropping into the rushes again, apparently quite incapable of a sustained flight. How a bird so feeble on the wing, and retiring in its habits, is able to perform a long annual migration, when in traversing vast tracts of open country it must be in great peril from rapacious kinds, is a great mystery. No doubt many perish while travelling; but there is this circumstance in their favour: an incredible number of birds of various kinds, many as weak and exposed to attack as the *Phlæocryptes*, migrate simultaneously; Hawks are but thinly scattered along their route, and as a rule these birds feed only once or twice a day, if the meals are large enough to fill the stomach, so that while the Hawk is inactive, digesting his meal, thousands of migrants have sped by on their journey and are beyond his reach for ever.

The Spine-tail seldom ventures out of its rush-bed, but is occasionally seen feeding in the grass and herbage a few yards removed from the water. Its language is peculiar, this being a long cicada-like note, followed by

a series of sounds like smart taps on a piece of dry wood. It frequents the same places as the small Many-coloured Tyrant (*Cyanotis azaræ*), and these little neighbours, being equally inquisitive, whenever a person approaches the rushes often emerge together, one uttering wooden-sounding creaks and raps, the other liquid gurgling notes—a little brown bird and a little bird with many bright colours, both, in very different tones, demanding to know the reason of the intrusion.

The nest is a very wonderful structure, and is usually attached to three upright stems; it is domed, oval-shaped, about nine inches deep, and the small circular aperture which is close to the top is protected by a sloping tile-like projection. It is built of tough grass-leaves, which are apparently first daubed with wet clay and then ingeniously woven in, with the addition, I think, of some kind of mucilage: the whole nest is, when finished, light but very strong, and impervious to wet. Until the rushes die and drop the nest remains securely fastened to them, and in winter affords a safe and comfortable retreat to the small rush- or reed-frogs, of which sometimes as many as three or four are found living in one nest. The interior is very thickly lined with feathers; the eggs are three, pear-shaped, and a bright, beautiful blue colour, sometimes with a slight greenish tinge.

The bird is so abundant in extensive marshes that I have on several occasions, during a half-day's ramble, found as many as forty or fifty nests, sometimes a dozen or more being placed close together, but I have never taken more than three eggs from one nest. I mention this because I have seen it stated that four or five eggs are sometimes found.

I trust that no reader of this sketch imagines that I robbed all the eggs contained in so many nests. I

did nothing so barbarous, although it is perhaps "prattling out of fashion" to say so; but with the destructive, useless egg-collecting passion I have no sympathy. By bending the pliant rushes downwards the eggs can be made to roll out into the hand; and all those which I thus took out to count were put back in their wonderful cradles. I had a special object in examining so many nests. A gaucho boy once brought me a nest which had a small circular *stopper*, made of the same texture as the body of the nest, attached to the aperture at the *side* and when swung round into it fitting it as perfectly as the lid of the trap-door spider fits the burrow. I have no doubt that it was used to close the nest when the bird was away, perhaps to prevent the intrusion of reed-frogs or of other small birds; but I have never found another nest like it, nor have I heard of one being found by any one else; and that one nest, with its perfectly-fitting stopper, has been a puzzle to my mind ever since I saw it.

TIT-LIKE SPINE-TAIL

(*Leptasthenura ægithaloides*)

Above pale earthy brown; crown black, striped with clear brown; lores, sides of head, and throat white, with minute black spots; wings blackish, the edges of the outer webs of the primaries and the basal part of the secondaries light rufescent brown; tail black, lateral rectrices tipped and margined with pale grey; beneath pale grey, throat white; length 6·8 inches.

THIS is a restless little bird, seen singly or in parties of three or four. In manner and appearance it resembles the Long-tailed Titmouse (*Parus*), as it diligently searches for small insects in the trees and bushes, frequently hanging head downwards to explore the

under surface of a leaf or twig, and while thus engaged continually uttering a little sharp querulous note. They are not migratory, but in winter seem to wander about from place to place a great deal; and in Patagonia, in the cold season, I have frequently seen them uniting in flocks of thirty or forty individuals, and associating with numbers of Spine-tails of other species, chiefly with *Synallaxis sordida*, and all together advancing through the thicket, carefully exploring every bush in their way.

D'Orbigny says that it makes a nest of rootlets and moss in a bush; but where I have observed this bird it invariably breeds in a hole in a tree, or in the nest of some other bird, often in the clay structure of the Oven-bird. But in Patagonia, where the Oven-bird is not known, this Spine-tail almost always selects the nest of the *Synallaxis sordida*. It carries in a great deal of soft material—soft grass, wool, and feathers—to re-line the cavity, and lays five or six white, pointed eggs.

CHICLI SPINE-TAIL

(*Synallaxis spixi*)

Above, crown chestnut; lores and sides of head dark cinereous; hind-neck, back, also wing- and tail-feathers olive brown; upper wing-coverts chestnut; beneath dark cinereous, becoming whitish on the belly, throat blackish; under wing-coverts fulvous chestnut; length 6·7 inches.

I LIKE Azara's name *Chicli*, which, to one acquainted with the habits of this and of the following species, seems very appropriate, suggesting, as I imagine it does, a small creature possessing a sharp two-syllabled note; for although Hartlaub, in his *Nomenclature of Azara*, gives *S. ruficapilla* as the species meant by

Chicli, the account of its habits in the *Birds of Paraguay* seems to point to *S. spixi* or to *S. albescens*.

Azara says:

I give it this name because it sings plainly, in a loud sharp tone, which may be heard at a distance, repeating it so frequently that the pauses last no longer than the sound. It is resident (in Paraguay), solitary and not abundant: inhabits thickets of aloes and thorn, without rising more than two yards above the surface, or showing itself in open places. It moves about incessantly, but does not leave its thicket to visit the woods or open ground, its flight being only from bush to bush; and though it is not timid, it is hard to detect it in its stronghold, and to hear it one would imagine that it was perched overhead on a tree, when it is hidden all the time in the brushwood at the roots.

This habit of concealing itself so closely inclines me to think that this species, rather than *S. albescens*, was the bird described by Azara, although in both species the language is nearly the same. I have nothing to add to the above account from Azara, except that in the love-season this species has a low, strange-sounding little song, utterly unlike its usual strident cry. When singing, it sits motionless on the summit of a low bush in a dejected attitude with head drawn in, and whispers its mysterious little melody at intervals of half a minute.

WHITE-THROATED SPINE-TAIL

(*Synallaxis albescens*)

Above, forehead grey, crown pale chestnut; sides of head and neck, back, and tail pale earth-brown; upper wing-coverts pale chestnut, wing feathers olive-brown; beneath white, faintly washed with earthy brown, under wing-coverts fulvous; length 5·3 inches.

THIS species, although by no means abundant in Buenos Ayres, is met with much more frequently than the *S. spixi*, which it closely resembles in size,

colour, habits, and language. It is indeed an unusual thing for two species so closely allied to be found inhabiting the same district. In both birds the colours are arranged in precisely the same way; but the chestnut tint on *S. albescens* is not nearly so deep, the browns and greys are paler, and there is less black on the throat.

I am pretty sure that in Buenos Ayres it is migratory, and as soon as it appears in spring it announces its arrival by its harsh, persistent, two-syllabled call, wonderfully strong for so small a bird, and which it repeats at intervals of two or three seconds for half an hour without intermission. When close at hand it is quite as distressing as the grating song of a Cicada. This painful noise is uttered while the bird sits concealed amid the foliage of a tree, and is renewed at frequent intervals, and continues every day until the Spine-tail finds a mate, when all at once it becomes silent. The nest is placed in a low thorn-bush, sometimes only two or three feet above the ground, and is an oblong structure of sticks, twelve or fourteen inches in depth, with the entrance near the top, and reached by a tubular passage made of slender sticks, and six or seven inches long. From the top of the nest a crooked passage leads to the cavity near the bottom; this is lined with a little fine grass, and nine eggs are laid, pear-shaped and pale bluish white in colour. I have found several nests with nine eggs, and therefore set that down as the full number of the clutch, though I confess it seems very surprising that this bird should lay so many. When the nest is approached, the parent birds remain silent and concealed at some distance. When the nest is touched or shaken, the young birds, if nearly fledged, have the singular habit of running out and jumping to the ground to conceal themselves in the grass.

I have no doubt that this species varies greatly in

its habits in different districts, and probably also in the number of eggs it lays. Mr. Barrows, an excellent observer, says it lays three or four light blue eggs. He met with it at Concepcion, in the northern part of the Argentine Republic, and writes that it is "an abundant species in thorny hedges or among the masses of dwarfed and spiny bushes, which cling to each other so tenaciously amid the general desolation of the sandy barrens." The nests which he describes vary also in some particulars from those I have seen. "Entrance is gained by the bird," he says, "through a long tube, which is built on to the nest at a point about half way up the side. This tube is formed by the interlocking of thorny twigs, and is supported by the branches and twigs about it. It may be straight or curved; its diameter externally varies from two to four inches, and its length from one to two feet. The passage-way itself is but just large enough to admit the birds one at a time, and it has always been a mystery to me how a bird the size of a Chipping-Sparrow could find its way through one of these slender tubes, bristling with thorns, and along which I found it difficult to pass a smooth slender twig for more than five or six inches. Yet they not only pass in and out easily, but so easily that I was never yet able to surprise one in the nest, or to see the slightest disturbance of it by the bird's hurried exit."

The bird has a very wide range in South America, and Mr. Salmon observed its breeding-habits in Antioquia in Colombia. There also the bird varies the form of its nest, making it as large as that of an English Magpie, and roofing the top with a mass of large leaves to protect it from the heavy rains. The eggs, he says, are very pale greenish blue, nearly white; but he does not give the number.

BLACK-AND-YELLOW THROATED SPINE-TAIL

(Synallaxis phryganophila)

Above, front brown, crown chestnut, superciliaries white; sides of head, neck, back and tail pale fulvous brown, with broad blackish striations on the neck and back; upper wing-coverts pale chestnut; wing feathers blackish, the outer webs edged with pale fulvous brown; beneath, upper half of throat sulphur-yellow, lower half black, with a white patch on each side of the black; breast and belly whitish, washed with earthy brown, slightly fulvous on the breast and flanks; under wing-coverts fulvous white; length 8.5 inches.

THIS pretty Spine-tail is nowhere common in the Argentine country, and in Buenos Ayres it is exceedingly scarce. It is rather large for a *Synallaxis*, the total length being nine inches. The two middle feathers of the acuminate tail greatly exceed the others in length, measuring five inches. The plumage is pale brown, marked with fuscous; the crown and wing-coverts rufous. The beauty of the bird is in the throat, which has three strongly contrasted colours, distinguishing it from all other *Synallaxes*. In the angle of the beak the colour is sulphur-yellow, under this is a patch of velvet black, and on each side of the yellow and black a pure white patch.

Mr. Barrows has the following interesting note on its nesting-habits:

A nest containing four white eggs, faintly tinted with blue, was found in a thorny tree, and some eight feet from the ground. The nest was quite similar to the one just described (of *S. albescens*), but the cavity in which the eggs were laid was near the *top* of the body of the nest, while the passage-way descended from it to the base of the nest, and there becoming external, rose gradually to the level of the eggs at a distance of almost three feet.

STRIPED SPINE-TAIL

(Synallaxis striaticeps)

Above earthy brown, darker on the crown, which has slight greyish striations; broad superciliaries white; upper wing-coverts pale chestnut; wing feathers blackish, glossed with olive; tail pale chestnut; beneath white; under wing-coverts pale fulvous; length 5.9 inches.

THIS species has a wide range south of the Equator, being found in Bolivia, Uruguay, and throughout the Argentine Republic, including Patagonia. In its habits it differs widely from other *Synallaxes*, and in structure and coloration is also unlike its relatives.

The beak is longer, and more curved, the claws more crooked, and the tail stiffer than in other *Synallaxes*, and this difference in structure corresponds to a different mode of life. The Striped Spine-tail creeps on the trunk and larger branches of trees, seeking its insect-food in the crevices of the bark, and when seen clinging to the trunk, supported by its tail in a vertical position, with head thrown far back, and progressing upwards by short quick hops, it looks wonderfully like a small *Picolaptes* with shortened beak. Or it might be taken for a very near relation of *Certhia familiaris* by a visitor from Europe. It is very restless, and while searching for insects constantly utters a short, trilling, querulous-sounding note.

It builds an open nest in the fork of a branch, of soft grasses and hair, thickly lined with feathers, and lays four or five pure white eggs.

MODEST SPINE-TAIL

(*Synallaxis modesta*)

THIS species so closely resembles the following in size and dull earthy-brown colour, that when seen in the thickets it is impossible to distinguish them. In habits they also seem alike; but this bird is, I think, less retiring, for I have seen it associating with other species of *Synallaxis*.

On comparing the specimens together, however, it is easy to separate the present bird from *S. sordida* by noticing the colour of the external rectrices, which are black, externally edged with rufous, instead of being wholly rufous.

SORDID SPINE-TAIL

(*Synallaxis sordida*)

Above earthy brown; wing feathers blackish brown, their basal parts pale chestnut-brown, forming a transverse bar; tail blackish, the three outer rectrices and outer web of the fourth rectrix on each side wholly pale chestnut-brown; beneath pale earthy brown, clearer on the belly, and with a bright fulvous spot on the throat; under wing-coverts pale cinnamon; length 6.9 inches.

THIS species, which, on close comparison, is at once distinguishable from *S. modesta* by the absence of any black colour on the three exterior pairs of tail-feathers, ranges from the extreme north of the Argentine Republic to Patagonia, where it is quite common, and is invariably found in dry situations abounding in thorny vegetation.

It does not migrate, and lives with its mate in thorny

bushes, but does not attempt to conceal itself, and sits much on the summit of a bush, where the male in spring utters at intervals a clear, trilling call. In its inactive disposition, slow deliberate movements, also in its language, it strikingly resembles the *Phacellodomus ruber*. In its nidification it also comes nearest to that species. The nest is a large structure of sticks, eighteen inches to two feet long, placed upright among the twigs at the summit of a bush. From the top where the entrance is placed, a winding passage leads down to the chamber at the bottom of the nest; this is lined with soft dry grass and feathers, and four pure white eggs are laid.

YELLOW-SPOT SPINE-TAIL

(*Synallaxis sulphurifera*)

Above brown, slightly olivaceous; wings blackish; lesser wing-coverts, margins of the feathers of the greater wing-coverts, and outer webs of the basal halves of the wing-feathers pale chestnut; tail-feathers chestnut-brown, ends much elongated and pointed; beneath white, throat and breast mottled with grey, spot in middle of throat sulphur-yellow; flanks washed with brown; bend of wing and under tail-coverts fulvous; length 6.5 inches.

I HAVE found this *Synallaxis*, which was first described by Prof. Burmeister from specimens obtained near Buenos Ayres, in the swamps along the Plata river; also on the Rio Negro, in Patagonia, where, however, it is rare. It inhabits the dense sedge- and rush-beds growing in the water, where the *Limnornis curvirostris* is also found. It closely resembles that species in habits and language, and is also like it in colour and in the rather long, curved beak, sharp claws, stout body, and short stiff tail. It is stationary, pairs for life, and lives

always closely concealed in its chosen bed of close-growing sedge. When a person approaches their hiding-place the two birds creep up to the summit of the sedges, protesting in peculiar, loud angry, rattling notes. The *Limnornis*, which also pairs for life, has precisely the same habit.

Durnford describes the nest, found in a rush-bed, as a circular or domed structure of grass, with the aperture at the side; the eggs white.

PATAGONIAN SPINE-TAIL

(*Synallaxis patagonica*)

Above greyish earthy brown; wing-feathers blackish brown, basal halves of secondaries very pale clear brown, forming a transverse band; tail blackish, edged with greyish brown; outer web of outer feathers on each side pale brown; beneath cinereous, with an obscure blackish spot on the throat; belly and flanks dull buff; under wing-coverts cinnamon; length 6 inches.

THIS dull-coloured little bird, which is found in Patagonia, and also near the Andes in the north-western provinces of the Argentine Republic, is one of those species which diverge greatly in habits from the typical Spine-tails. The body is stout, the tail, square and short, is carried vertically as in the House-Wren.

The Patagonian Spine-tail is a resident in the Rio Negro district. It is a silent, shy, solitary little bird, which lives on the ground and seeks its food after the manner of the Cachalote (*Homorus*). Being small and feeble, however, it does not hunt about the roots of trees and large bushes like the larger and more powerful *Homorus*, but keeps under the diminutive scrubby plants in open, sterile situations. About the roots of these wiry little bushes, only twelve to eighteen inches high,

the bird searches for small insects, and when disturbed has a feeble jerky flight, which carries it to a distance of about twenty yards. It flies with great reluctance, and when approached runs swiftly away, leaving a person in doubt as to whether he has seen a mouse or a little obscure bird. The only note I have heard it utter is a faint creaking sound when alarmed or flying.

HUDSON'S SPINE-TAIL

(*Synallaxis hudsoni*)

Above fulvous brown, mottled with black, each feather being marked with a large black spot; on the upper part of the back the feathers are faintly edged with whitish grey; wings blackish, basal halves of feathers pale clear brown, forming a transverse bar, the terminal part of the feathers slightly edged on the outer webs and tips with ochraceous; tail blackish, the outer pair of rectrices and broad tips of the next two pairs on each side very pale brown, the two middle feathers broadly margined on both webs with pale greyish brown; beneath pale ochraceous brown, with a pale sulphur-yellowish gular spot; flanks with a few black marks; under wing-coverts light cinnamon; length 7·8 inches.

THIS Spine-tail, which Sclater named after me, is the Argentine representative of *S. humicola* of Chili. It is common on the pampas, and is sometimes called by the gauchos *Tíru-ríru del campo*, on account of its resemblance in the upper plumage and in language to *Anumbius acuticaudatus*, which is named *Tíru-ríru* in imitation of its call-note. The addition of *del campo* signifies that it is a bird of the open country. It is, in fact, found exclusively on the grassy pampas, never perching on trees, and in habits is something like a Pipit, usually being taken for one when first seen. It is quite common everywhere on the pampas, and speci-

mens have also been obtained in Cordova, Uruguay, and Patagonia.

This Spine-tail is resident, solitary, and extremely timid and stealthy in its movements, living always on the ground among the long grass and cardoon-thistles. At times its inquisitiveness overcomes its timidity, and the bird then darts up three or four yards into the air, and jerking its tail remains some moments poised aloft with breast towards the intruder, emitting sharp little notes of alarm, after which it darts down again and disappears in the grass. This is a habit common to most Pipits. When driven up it has a wild zig-zag flight, and after reaching a considerable height in the air darts down again with astonishing swiftness, and comes back to the very spot from which it rose. It is, however, incapable of sustained flight, and after being flushed two or three times refuses to rise again. In spring the male perches on the summit of a cardoon-bush, or other slight elevation, and at regular intervals utters a pleasing and melancholy kind of song or call, which can be heard distinctly at a distance of a thousand yards, composed of four long clear plaintive notes, increasing in strength, and succeeded by a falling trill. When approached it becomes silent, and dropping to the ground conceals itself in the grass. Under a cardoon-bush or tussock it scoops out a slight hollow in the ground, and builds over this a dome of fine dry grass, leaving a small aperture arched like the door of a baker's oven. The bed is lined with dry powdered horse-dung, and the eggs are five, bluntly pointed and of a very pale buff colour. The interior of the nest is so small that when the five young birds are fledged they appear to be packed together very closely, so that it is difficult to conceive how the parent bird passes in and out.

The nest is always very cunningly concealed, and

I have often spent days searching in a patch of cardoon-bushes where the birds were breeding without being able to find it. Something more will be said about the nesting-habits of this species in the account of the Carrion-Hawk, *Milvago chimango*.

WREN-LIKE SPINE-TAIL

(*Synallaxis maluroides*)

Above, front and middle of crown chestnut; hind-head, neck, and back pale fulvous brown, thickly marked with longitudinal black shaft-spots; lores white; wings blackish, the feathers edged with pale ochraceous, the basal part of secondaries very pale brown, forming a transverse bar; tail pale chestnut-brown, the two middle feathers with a broad black mark on the inner web; beneath white breast and flanks washed with pale brown, and freckled with very small dark brown spots; under wing-coverts white; length 6.1 inches.

D'ORBIGNY discovered this small Spine-tail near Buenos Ayres city, but did not record its habits. Like the species just described it is abundant on the pampas, but in its habits resembles a Wren of the genus *Cistothorus* rather than a Pipit, being partial to moist situations, where there is a rank growth of grass and herbage. The wings are very short, and the flight so feeble that the bird refuses to rise after being pursued a distance of one or two hundred yards. And yet I am not prepared to say that it does not migrate, as I have found that in spring it all at once becomes very abundant, while in the cold season it is rarely seen. It is solitary, and in spring sits on a thistle or stalk, uttering at short intervals its small grasshopper-like song or call. The nest is a slight open structure of grass, lined with a few feathers, placed in a tuft of grass or reeds. The eggs are pure white in colour.

FIREWOOD-GATHERER

(*Anumbius acuticaudatus*)

Above earthy brown, forehead chestnut, superciliaries white; head, neck, and back marked with black striations; primaries blackish, secondaries pale chestnut-brown; tail black, all the feathers except the middle pair broadly tipped with cream-colour; beneath pale ochraceous brown, white on the throat, the white bordered on each side by numerous black spots; length 8.5 inches.

THIS is a common and very well-known species throughout the Argentine country and Patagonia, also in Uruguay and Paraguay, and is variously called *Espinero* (Thorn-bird), *Tiru-riru*, in imitation of its note, and *Añumbi* (the Guarani name); but its best-known name is *Leñatero*, or "Firewood-gatherer," from the quantity of sticks which it collects for building purposes.

The Firewood-gatherer is a resident in Argentina, and pairs for life. Sometimes the young birds remain with their parents for a period of three or four months, all the family going about and feeding in company, and roosting together in the old nest. The nest and the tree where it is placed are a favourite resort all the year round. Here the birds sit perched a great deal, and repeat at intervals a song or call, composed of four or five loud ticking chirps, followed by a long trilling note. They feed exclusively on the ground, where they creep about, carrying the body horizontally and intently searching for insects. When disturbed they hurry to their usual refuge, rapidly beating their very feeble wings, and expanding the broad acuminate tail like a fan. When the male and female meet at their nest, after a brief separation, they sing their notes in concert, as if rejoicing over their safe re-union; but they seldom separate, and Azara says that when one

incubates the other sits at the entrance to the nest, and that when one returns to the nest with food for the young the other accompanies it, though it has found nothing to carry.

To build, the *Añumbi* makes choice of an isolated tree in an open situation, and prefers a dwarf tree with very scanty foliage; for small projecting twigs and leaves hinder the worker when carrying up sticks. This is a most laborious operation, as the sticks are large and the bird's flight is feeble. If the tree is to its liking, it matters not how much exposed to the winds it may be, or how close to a human habitation, for the bird is utterly unconcerned by the presence of man. I have frequently seen a nest in a shade or ornamental tree within ten yards of the main entrance to a house; and I have also seen several on the tall upright stakes of a horse-coral, and the birds working quietly, with a herd of half-wild horses rushing round the enclosure beneath them, pursued by the men with lassoes. The bird uses large sticks for building, and drops a great many; frequently as much fallen material as would fill a barrow lies under the tree. The fallen stick is not picked up again, as the bird could not rise vertically with its load, and is not intelligent enough, I suppose, to recover the fallen stick and to carry it away thirty yards from the tree and then rise obliquely. It consequently goes far afield in quest of a fresh one, and having got one to its liking, carefully takes it up exactly by the middle, and, carrying it like a balancing-pole, returns to the nest, where, if one end happens to hit against a projecting twig, it drops like the first. The bird is not discouraged, but, after a brief interview with its mate, flies cheerfully away to gather more wood.

Durnford writes wonderingly of the partiality for building in poplar trees shown by this bird in Buenos

Ayres, and says that in a tall tree the nest is sometimes placed sixty or seventy feet above the ground, and that the bird almost invariably rises with a stick at such a distance from the tree as to be able just to make the nest, but that sometimes failing it alights further down, and then climbs up the twigs with its stick. He attributes the choice of the tall poplar to *ambition*; but the *Añumbi* has really a much simpler and lowlier motive. In the rich Buenos-Ayorean soil all trees have a superabundance of foliage, and in the slim Lombardy poplar alone can the nest be placed where the bird can reach it laden with building-material, without coming in contact with long projecting twigs.

The nest of the *Añumbi* is about two feet in depth, and from ten to twelve inches in diameter, and rests in an oblique position amongst the branches. The entrance is at the top, and a crooked or spiral passage-way leads down to the lower extremity, where the breeding chamber is situated; this is lined with wool and soft grass, and five white eggs are laid, varying considerably in form, some being much more sharply pointed than others.

The nest, being so secure and comfortable an abode, is greatly coveted by several other species of birds to breed in; but on this subject I have already spoken in the account of the genus *Molothrus*. When deprived of their nest, the birds immediately set to work to make a new one; but often enough without being ejected from the first they build a second nest, sometimes demolishing the first to use the materials. I watched one pair make three nests before laying; another pair made two nests, and after the second was completed they returned to the first and there elected to remain. Two or three nests are sometimes seen on one tree, and Azara says he has seen as many as six. Mr.

Barrows observed the bird at Concepcion, where it is very common, and writes that in that district the nest is sometimes four feet long with an average diameter of two feet, and that the same nest in some cases is used for several seasons successively; also that several nests are sometimes joined together and all occupied at the same time.

CURVED-BILL RUSH-BIRD

(*Limnornis curvirostris*)

Above rufous-brown, brighter on the rump; lores and superciliaries white; wings and tail chestnut-brown; beneath white; flanks and under tail-coverts pale brown; under wing-coverts white; length 7 inches.

THIS species is found everywhere in marshy places in the eastern part of the Argentine Republic, and is also common in Uruguay, where Darwin discovered it. It inhabits dense rush-beds growing in the water, and is not found in any other situation. It pairs for life, has a feeble flight, and flies with great reluctance, but lives always in close concealment in one spot. It is, however, very inquisitive, and when approached the two birds creep up to the summit of the rushes and utter peculiar loud, rattling, and jarring notes, as if angrily protesting against the intrusion.

The rush-bird has a stout body and short graduated tail, strong claws, and a slender curved beak three-fourths of an inch long. The upper plumage is brown, the tail rufous, the under surface and a mark over the eye white.

RED THORN-BIRD

(*Phacellodomus ruber*)

Above olive-brown, front chestnut; tail brownish chestnut; beneath whitish, throat, breast, and flanks washed and mottled with bright reddish brown; under wing-coverts and inner margins of wing-feathers bright cinnamon; length 7.3 inches.

THIS is a common species throughout the eastern portion of the Argentine country, and extends as far south as the southern boundary of the Buenos-Ayreal province.

It is resident, living in pairs in places where there are scattered thorny trees and bushes, and is never found in deep woods. It never attempts to conceal itself, but, on the contrary, sits exposed on a bush and will allow a person to approach within three or four yards of it. Nor has it the restless manner of most Synallaxine birds which live in the same places with it, but moves in a slow, deliberate way, and spends a great deal of time sitting motionless on its perch, occasionally uttering its call or song, composed of a series of long, shrill, powerful notes in descending scale and uttered in a very leisurely manner. It builds a large oblong nest of sticks, about two feet deep, and placed obliquely among the thorny twigs of a bush or low tree. Mr. Barrows writes:

There are commonly two cavities in the nest, one being half open to the weather, and forming the entrance, the other further back and connected with the former by only a short passage-way, which in many cases is reduced to a simple hole through a broad partition, which alone separates them.

The eggs are four and of a pure white.

The bird described is one of a group of four species found in Argentina. Of these the smallest and most

interesting in its nesting habits is the Whistling Thorn-bird, *Phacellodomus sibilatrix*.

It inhabits the thorny woods of the northern districts of the Argentine country, but I have no reason to regret that I have not personally observed this species, since Mr. Barrows' careful account of its nesting-habits leaves nothing to be desired. He writes:

An abundant species among the open woods along the Uruguay, and hardly distinguishable at ten paces from half a dozen others. Its nest, however, is unmistakable. The birds begin by fixing a few crooked and thorny twigs among the terminal sprays of some slender branch which juts out horizontally from a tree, or rises obliquely from near its base, and around these twigs as a nucleus more are gathered, until by the time the nest has reached the proper size, its weight has bent the branch so that its tip points directly to the earth. Nests which are thus begun at a distance of fifteen or twenty feet from the ground are often only two or three feet from it when finished, and a thorough soaking by a heavy rain will sometimes weigh them down until they actually touch. They are more or less oval or cylindrical in shape, and commonly about two feet long by twelve or fifteen inches in diameter, and contain from a peck to a bushel of twigs and thorns. The nest-cavity within is small in proportion to the size of the nest, and occupies its upper part. It is reached by a more or less direct passage-way from below, the external opening being very nearly at the lowest part of the nest, though sometimes a little shelf, or even a pocket, is built on to the side, forming a resting-place in front of the door.

The nests vary interminably in shape and size, but are pretty constant in the material used; this being almost always irregular and thorny twigs of various trees growing in the neighbourhood, while the interior is formed of less thorny twigs and with some wool and hair. Usually, also, if the material be at hand, a quantity of old dry horse-droppings is placed loosely on the top of the nest, and gradually becomes felted into it, rendering it more nearly waterproof. In place of this I have frequently found quantities of broken straw, weed-stalks, grass, and even chips; all doubtless collected from the ridges of drift which the last overflow of the river had left near at hand. So compactly is the whole nest built, that it often lasts more than one year, and may sometimes serve the same pair two successive summers. More often, however, a new nest is built directly above the old one, which serves as a foundation, and occasionally as many as three nests are seen thus on the same branch-tip, two of them at least being occupied. When other

branches of the same tree are similarly loaded, and other trees close at hand also bear the same kind of fruit, the result is very picturesque. The eggs, which are white, are laid from 1st October to 1st January, but many of the birds work at nest-building all the winter, sometimes spending months on a single nest.

RUFOUS CACHALOTE

(*Homorus lophotes*)

Above bright brown, with olive tinge on the back; crest feathers dark brown; quills blackish; tail bright chestnut; beneath duller brown, throat rufous; bill bright blue, eye white; length 9.8 inches.

THIS interesting species inhabits the north and north-western parts of the Argentine territory; in the province of Buenos Ayres its presence is confined to the narrow strip of subtropical wood fringing the low shores of the Plata river.

When surprised, its white eye, blue dagger-like beak, and raised crest give it a strikingly bold and angry appearance, the effect of which is heightened by the harsh, rasping, jay-like scream it utters when disturbed. This resentful look is deceptive, however, for the bird is the shyest creature imaginable. Its language has the shrill excited character common to this most loquacious family; and at intervals throughout the day two birds, male and female, meet together and make the woods echo with their screaming concert. For many weeks after I had become familiar with these loud-sounding notes, while collecting in the littoral forest where it is found, the bird was still to me only a "wandering voice"; but I did not give up the pursuit till I had seen it several times and had also secured two or three specimens. I found one nest, though without eggs, a rough-looking domed structure, made with material enough to fill a barrow. I also discovered that the bird feeds

exclusively on the ground, close to the boles of low-branching trees, where there is usually an accumulation of fallen bark, dead leaves, and other rubbish. Here the bird digs with its sharp beak for the small insects it preys on. When approached it does not fly away, but runs swiftly to the nearest tree, behind the trunk of which it hides, then scuttles on to the next tree, and so escapes without showing itself.

Mr. Barrows, who observed the Cachalote at Concepcion, says that it is a bird which cannot be overlooked, with an outrageous disposition and voice, and a nest the size of a barrel. He gives the following account of its nidification:

His nest is built entirely of sticks, and many of them of goodly size, frequently as large round as your little finger and two feet or more long. These are disposed in such a way as to form a structure three or four feet in length by about two in breadth at the widest part, the whole very much resembling a gigantic powder-flask lying on its side among the lower branches of a spreading tree. It is quite loosely built and the nest-cavity is rather indefinite, being any portion of the floor of the nest which the bird selects for the reception of the eggs. These are usually three or four in number, pure white, and are laid from October until January. They can usually be counted through the loose floor of the nest, though sometimes its thickness prevents this.

LAUGHING CACHALOTE

(*Homorus gutturalis*)

Nearly uniform earthy grey, faintly tinged with olivaceous brown above, and much paler beneath; lores and upper part of throat pure white, lower part of throat black, or white and black mixed; under wing-coverts white, faintly tinged with pale cinnamon; beak and feet bluish grey; length 9.4 inches.

I FOUND this bird quite common on the dry open plains in the neighbourhood of the Rio Negro in Patagonia. In size, form, and crest it is like the northern Cachalote,

but has a white throat, while the rest of the plumage is of a pale earthy brown instead of rufous. Like the Rufous Cachalote it is also shy in disposition, and, being so dull in colour and without the bright beak and eye tints, has not the bold, striking appearance of that species; still I do not think any ornithologist can meet with it and fail to be strongly impressed with its personality, if such a word can be applied to a bird.

Dendrocolapine birds are, as a rule, builders of big nests and very noisy; *H. gutturalis* is, I believe, the loudest screamer and greatest builder of the family. Male and female live together in the same locality all the year; the young, when able to fly, remain with their parents till the breeding-season, so that the birds are found occasionally in pairs, but more frequently in families of five or six individuals. When feeding they scatter about, each bird attaching itself to a large bush, scraping and prodding for insects about the roots; and at intervals one of the old birds, ascending a bush, summons the others with loud shrill cries, on which they all hurry to the place of meeting, and from the summits of the bushes burst forth in a piercing chorus, which sounds at a distance like screams of hysterical laughter. At one place where I spent some months, there were some bushes over a mile and a quarter from the house I lived in, where these birds used to hold frequent meetings, and in that still atmosphere I could distinctly hear their extravagant cries at that distance. After each performance they pursue each other, passing from bush to bush with a wild jerky flight, and uttering harsh excited notes.

They select a low, strong, wide-spreading bush to build in; the nest, which is made of stout sticks, is perfectly spherical and four to five feet deep, the chamber

inside being very large. The opening is at the side, near the top, and is approached by a narrow arched gallery, neatly made of slender sticks resting along a horizontal branch, and about fourteen inches long. This peculiar entrance no doubt prevents the intrusion of snakes and small mammals. The structure differs from all the domed nests of other species of Wood-hewers in the spaciousness of the cavity where the eggs are laid. The dome removed, an eagle or vulture could breed in it quite comfortably. So strongly made is the nest that I have stood on the dome of one and stamped on it with my heavy boots without injuring it in the least, and to demolish one I had to force my gun barrel into it, then prize it up by portions. I examined about a dozen of these enormous structures, but they were all met with before or after the laying season, so that I did not see the eggs.

CLIMBING WOOD-HEWER

(*Picolaptes angustirostris*)

Above, head and neck blackish, with oblong whitish shaft-spots on the crown and neck; broad superciliaries white, extending nearly to the back and broken at their lower ends into shaft-spots; rest of upper surface dull brown, brighter on the rump; wing-feathers pale obscure chestnut; outer webs and broad tips of primaries blackish; tail chestnut; sides of breast and belly thickly marked with faint blackish stripes; under wing-coverts cinnamon; length 8.2 inches.

THIS is the only member of the genus *Picolaptes* as yet met with within the limits of the Argentine Republic. Azara found it abundant in Paraguay, and on this account named it the Common Climber, *Trepador común*. In Buenos Ayres it is a summer visitant, appearing at the end of September. It is a solitary bird, never

seen away from the woods, and invariably utters a loud melancholy cry when passing from one tree to another. It always alights on the trunk close to the ground, clinging to the bark in a vertical position, supported by the tail, and with head thrown far back in order to give free play to the extremely long beak. Having thus alighted, it progresses upwards by short hops, exploring the crevices in the wood for small insects, until it reaches the branches, when it flies off to the next tree. It is in fact a Tree-creeper in its manner of seeking its food.

RED-CAPPED BUSH-BIRD

(*Thamnophilus ruficapillus*)

Above olive-brown tinged with rufous; lores yellowish-white; superciliaries and sides of head whitish grey; quills olive-brown; tail black, the rectrices, except the middle pair, tipped and broadly spotted on the inner webs with white; beneath whitish grey, every feather transversely barred with black; length 6.2 inches. Female like the male except that the tail is rufous brown and the markings beneath scarcely perceptible.

THE Red-capped Bush-bird, or Bush-lover, is one of four species of its genus, which range as far south as the Argentine country and are the only representatives in it of the Family Formicaridæ or Ant-birds. Like the Tyrants and Wood-hewers it is confined to America, but less diffused than those two families, being mostly birds of the tropical forest region.

The present species is quite common in the eastern provinces of Argentina, and extends south to Buenos Ayres. It is a shy, solitary bird, found in woods and thickets along the shores of La Plata; and utters occasionally a singular low rasping note, its only language.

The nest is a slight shallow structure placed in a low tree; the eggs are white, thinly spotted with reddish brown. Probably this species is to some extent migratory, as I have only observed it in the summer season.

Azara's account of another species, the Larger Bush-bird, *Thamnophilus major*, which inhabits Paraguay and North Argentina, is prefaced by the following interesting remarks on the birds of this genus known to him:

These birds inhabit only the dense and tangled thickets, and never show themselves outside of their hiding-place, except for a few moments in the early morning and in the evening; but at no time do they perch high on the trees, but keep always within a few feet of the earth. They live in pairs; feed solely on insects caught in the bushes which they frequent, or on the ground, on which, however, the bird alights only to pick up its prey, and then returns to the twig to devour it. They are stationary, and fly only from one thicket to another. Many of the species have a similar voice or song, which is singular, powerful, and heard only in the love-season. The call is a trill of a single note rapidly reiterated, and loud enough to be heard half a mile away; the cry being accompanied by vibratory motions of the wings.

LITTLE COCK

(*Rhinocrypta lanceolata*)

Above, head and upper neck reddish brown with a fine white shaft-stripe on each feather, the stripes being most conspicuous on the crest-feathers; lower neck, back, rump, and wings greyish olive; tail blackish; beneath, throat and upper part of breast grey, becoming pure white on the middle of the belly; sides of belly and flanks bright chestnut; lower part of belly and flanks and under tail-coverts like the back; bill horn-colour, feet black; length 9 inches.

THE last Passerine species to be described is the only one known to me belonging to the singular South American Family, Pterotochidæ. They are mostly

natives of Chili and the south-western extremity of the South American continent, but have representatives in the Andes of Ecuador and Columbia and the high plateau of Central Brazil.

The vernacular name *Gallito*, or "Little Cock," by which this species is familiarly known in Patagonia, cannot fail to strike everyone who sees the bird as appropriate, for it struts and runs on the ground with tail erect, looking wonderfully like a minute domestic fowl. In the neighbourhood of Carmen, on the Rio Negro, it is very abundant, and when I went there its loud deep chirrup, heard from every side in the thicket, quickly arrested my attention, just as the perpetual chirping of the Sparrows did when I first landed in England. In the interior of the country it is not nearly so abundant, so that man's presence has probably in some way affected it favourably. Its habits amuse and baffle a person anxious to make its acquaintance; for it scarcely possesses the faculty of flight, and cannot be driven up, but it is so easily alarmed, so swift of foot, and so fond of concealment, that it is most difficult to catch a sight of it. At the same time it is extremely inquisitive, and no sooner does it spy an intruder in the bush than the warning note is sounded, whereupon every bird within hearing hops up into a thick thorn-bush, where it utters every three or four seconds a loud hollow chirp, and at intervals a violent scolding cry, several times repeated. When approached they all scuttle away, masked by the bushes, with amazing swiftness, to take refuge at a distance, where the loud protest is again resumed; but when the pursuer gives up the pursuit in disgust and turns away, they immediately follow him, so that he is perpetually encircled with the same ring of angry sound, moving with him, coming no nearer and never allowing its cause to be seen.

On three or four occasions I have seen one rise from the ground and fly several yards with a feeble fluttering flight; but when closely pursued in an open place they seem incapable of rising. They generally fly down from the top of a bush, but always ascend it by hopping from twig to twig.

The nest is made in the centre of a thorny bush two or three feet from the ground; and is round and domed, with a small aperture at the side, and built entirely of fine dry grass. The eggs are four in number and pure white.

GLITTERING HUMMING-BIRD

(*Chlorostilbon splendidus*)

Head, upper parts, and wing-coverts golden bronze, inclining to green on upper tail-coverts; wings purplish brown; tail black glossed with green; throat and breast glittering emerald-green; beak bright red; length 3.5 inches. Female bronze-green above and grey beneath.

THE Trochilidæ, or Humming-birds, a distinctly South American form, are one of the most numerous families of birds on the globe, numbering over four hundred known species, and ranging over the entire continent down to Tierra del Fuego. How surprising then to find that of this multitude of species no more than about a dozen are found in the entire Argentine country! It only adds to the surprise when it is found that humming-birds of these few species are common enough throughout the country. Even on the almost treeless grassy pampas of Buenos Ayres which are unsuited to the habits of this feathered forest sprite, one species at all events is found everywhere. Personally I was acquainted with

only three species, and I recall that when living on the open pampas, every season when the white acacia at my home was in flower we had an invasion of Humming-birds. The plantation was divided by avenues of large acacia trees, about a thousand in all, and as long as the blossoms lasted the little glittering birds were to be seen all over the place, in almost every tree, reveling in the fragrant sweetness; but no sooner were the flowers faded than they were gone, and thereafter two or three pairs only remained to breed and spend the summer months in the plantation. All these birds were of one species—the Glittering Humming-bird, but on going a few miles from home to the marsh and forest on the low shores of the Plata river I would find the other two species. I spent a summer bird-watching in a herdsman's hut in the marshy forest, and used to go out at sunset to a small open space overgrown with viper's-bugloss in flower. There is no flower the Humming-bird likes so well, and he is most busy feeding just before dark. Here, standing among the flowers, I would watch the shining little birds coming and going, each bird spending a minute or two sucking honey, then vanishing back into the shadowy trees, and from fifty to a hundred of them would always be in sight all around me at a time. Here all three species were feeding together; but I was familiar with the habits of only one, the bird I describe here.

The Glittering Humming-bird appears in the vicinity of Buenos Ayres in September, and later in the spring is found everywhere on the pampas where there are plantations, but it is never seen on the treeless plains. Its sudden appearance in considerable numbers in plantations on the pampas, where there are flowers to which it is partial, like those of the acacia tree, and its just

as sudden departure when the flowers have fallen, have led me to conclude that its migration extends much further south, probably into mid-Patagonia. Like most Humming-birds it is an exquisitely beautiful little creature, in its glittering green mantle; and in its aerial life and swift motions a miracle of energy. To those who have seen the Humming-bird in a state of nature all descriptions of its appearance and movements must seem idle. In the life-habits of the Trochilidæ there is a singular monotony; and the Glittering Humming-bird differs little in its customs from other species that have been described. It is extremely pugnacious; the males meet to fight in the air, and rapidly ascend, revolving round each other, until when at a considerable height they suddenly separate and dart off in opposite directions. Occasionally two or three are seen flashing by, pursuing each other, with such velocity that even the Swift's flight, which is said to cover four hundred miles an hour, seems slow in comparison. This species also possesses the habit of darting towards a person and hovering bee-like for some time close to his face. It also flies frequently into a house, at window or door, but does not, like birds of other kinds, become confused on such occasions, and is much too lively to allow its retreat to be cut off. It feeds a great deal on minute spiders, and is fond of exploring the surfaces of mud and brick walls, where it is seen deftly inserting its slender crimson bill into the small spider-holes in search of prey. The nest, like that of most humming-birds, is a small, beautifully-made structure, composed of a variety of materials held closely together with spiders' webs, and is placed on a branch, or in a fork, or else suspended from slender drooping vines or twigs. Sometimes the nest is suspended to the thatch overhanging the eaves of a cottage,

for except where persecuted the bird is quite fearless of man's presence. The eggs are two, and white.

Besides the little creaking chirp uttered at short intervals while flying or hovering, this species has a set song, composed of five or six tenuous and squeaking notes, uttered in rapid succession when the bird is perched. It is a song like that of the European Goldcrest *in shape*, and resembles it in sound, but is less musical, and more squeaky.

NACUNDA GOATSUCKER

(*Podager nacunda*)

Above brown with black vermiculations and blotches; wings black with a broad white bar across the base of the primaries; four outer tail-feathers broadly tipped with white; breast brown variegated with black; chin fulvous; band across throat and belly white; length 11, wing 9.5 inches. Female similar but without white on tail.

THE specific name of this Goatsucker is from the Guarani word *Ñacundá*, which Azara tells us is the Indian nickname for any person with a very large mouth. In the Argentine country it has several names, being called *Dormilón* (Sleepy-head) or *Duerme-duerme* (Sleep-sleep), also *Gallina ciega* (Blind Hen). It is a large, handsome bird, and differs from its congeners in being gregarious, and in never perching on trees or entering woods. It is an inhabitant of the open pampas. In Buenos Ayres, and also in Paraguay, according to Azara, it is a summer visitor, arriving at the end of September and leaving at the end of February. In the love season the male is sometimes heard uttering a song or call, with notes of a hollow mysterious character; at other times they are absolutely silent, except when disturbed in the daytime, and then each bird when

taking flight emits the syllable *kuf* in a hollow voice. When flushed the bird rushes away with a wild zigzag flight, close to the ground, then suddenly drops like a stone, disappearing at the same time from sight as effectively as if the earth had swallowed it up, so perfect is the protective resemblance in the colouring of the upper plumage to the ground. In the evening they begin to fly about earlier than most *Caprimulgi*, hawking after insects like swallows, skimming over the surface of the ground and water with a swift irregular flight; possibly the habit of sitting in open places exposed to the full glare of the sun has made them somewhat less nocturnal than other species that seek the shelter of thick woods or herbage during the hours of light.

The *Nacunda* breeds in October, and makes no nest, but lays two eggs on a scraped place on the open plain. Mr. Dalgleish says of the eggs:

They are oval-shaped, and resemble much in appearance those of the Night-jar, except that the markings, which are similar in character to those of the latter, are of a reddish-brown or port-wine colour.

After the breeding-season they are sometimes found in flocks of forty or fifty individuals, and will spend months on the same spot, returning to it in equal numbers every year. One summer a flock of about two hundred individuals frequented a meadow near my house, and one day I observed them rise up very early in the evening and begin soaring about like a troop of swallows preparing to migrate. I watched them for upwards of an hour; but they did not scatter as on previous evenings to seek for food, and after a while they began to rise higher and higher, still keeping close together, until they disappeared from sight. Next morning I found that they had gone.

In Entrerios, Mr. Barrows tells us, this Goatsucker is an abundant summer resident, arriving early in September and departing again in April. It is strictly crepuscular or nocturnal, never voluntarily taking wing by daylight. In November it lays a pair of spotted eggs in a hollow scooped in the soil of the open plain. These in shape and markings resemble eggs of the Night-hawk (*Chordeiles virginianus*), somewhat, but are of course much larger, and have a distinct reddish tinge. "We found the birds not uncommon near Bahia Blanca, 17th February, 1881, but elsewhere on the Pampas we did not observe them."

There are altogether close on fifty species of Goatsuckers in South America; of these, six are found in Argentina. I only knew two; the one here described and the small species *Antrostomus parvulus*, which is rare in Buenos Ayres.

RED-CRESTED WOODPECKER

(*Chrysoptilus cristatus*)

Above black barred with white; rump white with black spots; top of head black, nape scarlet; sides of head white, bordered with black; beneath white, yellowish on the neck, covered with round black spots; throat white striped with black; tail black, lateral rectrices slightly barred with yellow; length 10.5 inches. Female similar.

SOUTH and Central America has not fewer than one hundred and twenty species of Woodpeckers; in Argentina there are only thirteen species known, and most of these are confined to the northern and forest districts. Five species range as far south as Buenos Ayres; of these I was acquainted with the following four.

The Red-crested Woodpecker ranges as far south as the vicinity of Buenos Ayres, and is not uncommon

there in the few localities which possess wild forests. It is the handsomest of our Woodpeckers, having brighter tints than its congener of the plains, *Colaptes agricola*. Like that bird, though not to the same extent, it has diverged from the typical Picidæ in its habits, alighting sometimes on the ground to feed, and also frequently perching crosswise on branches of trees. It has a powerful, clear, abrupt, and oft-repeated note, and a rapid undulating flight.

The following interesting account of its breeding habits appears in a paper by Mr. Gibson:

The excavation for the nest is begun as early as September; but the eggs are only laid during the first half of October. The hole is generally commenced where some branch has decayed away; but care is taken that the remainder of the tree is sound. It opens at a height of from six to nine feet from the ground, and is excavated to a depth of nearly a foot. Occasionally it is sufficiently wide to admit of one's hand, but such is not always the case. No preparation is made for the eggs beyond the usual lining of some chips of wood.

The pair which frequented the garden excavated a hole in a paradise-tree, and bred there for two consecutive years. The tree stood near one of the walks, and on anyone passing the sitting bird immediately showed its head at the aperture, like a jack-in-the-box, and then flew away. Last year this pair actually bred in one of the posts of the horse-corral, notwithstanding the noise and bustle incident to such a locality. While waiting there, at sunrise, for the herd of horses to be shut in I used often to knock at the post, in order to make the Woodpecker leave its nest, but the bird seemed indifferent to such a mild attack, and would even sit still while a hundred horses and mares rushed about the corral or hurled themselves against the sides of it. In another case I had worked with hammer and chisel for half an hour, cutting a hole on a level with the bottom of a nest, when the female first demonstrated her presence by flying out almost into my face. This last nest contained four (considerably incubated) eggs, which I took. Happening to pass the spot a fortnight after, I inspected the hole and was surprised to find that it had been deepened and another five eggs laid, while the entrance I had cut was the one now used by the birds. The nest was again resorted to the following year and a brood hatched out, but since then a pair of Wrens have occupied the place to the exclusion of the rightful owners.

The eggs are white, four or five in number, pear-shaped, and with polished shells.

White obtained specimens of this Woodpecker in Catamarca, and Mr. Barrows found it resident in Entrerios. The latter tells us it is "abundant in the woods everywhere, and conspicuous for its activity, bright colours, and large size."

PAMPAS WOODPECKER

(*Colaptes agricola*)

Above greyish white, transversely barred with black; wings black with golden-yellow shafts, and white bars on the outer webs; rump white with small black cross-bars; crested head black; sides of head and neck in front yellow; malar stripe red; length 13 inches. Female similar, but without the red malar stripe.

THE species commonly called *Carpintero* in the Argentine country, and ranging south to Patagonia, is one of a group of the Picidæ of South America which diverge considerably in habits from the typical Woodpeckers. On trees they usually perch horizontally and crosswise, like ordinary birds, and only occasionally cling vertically to trunks of trees, using the tail as a support. They also seek their food more on the ground than on trees, in some cases not at all on trees, and they also breed oftener in holes in banks or cliffs than in the trunks of trees. As Darwin remarks in *The Origin of Species*, in his chapter on *Instinct*, these birds have, to some slight extent, been modified structurally in accordance with their less arboreal habits, the beak being weaker, the rectrices less stiff, and the legs longer than in other Woodpeckers. In South Brazil and Bolivia

the *Colaptes campestris* represents this group, in Chili *C. pitius*, and in the Argentine country *C. agricola*.

Azara's description, under the heading *El Campestre*, probably refers to the Brazilian species, but agrees so well in every particular with the Pampas Woodpecker that I cannot do better than quote it in full.

Though this name (*Campestre*) seems inappropriate for any Woodpecker, no other bettes describes the present species, since it never enters forests, nor climbs on trunks to seek for insects under the bark, but finds its aliment on the open plain, running with ease on the ground, for its legs are longer than in the others. There it forcibly strikes its beak into the matted turf, where worms or insects lie concealed, and when the ant-hills are moist it breaks into them to feed on the ants or their larvæ. It also perches on trees, large or small, on the trunks or branches, whether horizontal or upright, sometimes in a clinging position, and sometimes cross-wise in the manner common to birds. Its voice is powerful, and its cry uttered frequently both when flying and perching. It goes with its mate or family, and is the most common species in all these countries. It lays two to four eggs, with white, highly polished shells, and breeds in holes which it excavates in old walls of mud or of unbaked brick, also on the banks of streams; and the eggs are laid on the bare floor without any lining.

In Patagonia, where I have found this bird breeding in the cliffs of the Rio Negro, its habits are precisely as Azara says; but on the pampas of Buenos Ayres, where the conditions are different, there being no cliffs or old mud-walls suitable for breeding-places, the bird resorts to the big solitary ombú tree (*Pircunia dioica*), which has a very soft wood, and excavates a hole seven to nine inches deep, inclining upwards near the end, and terminating in a round chamber.

This reversal to an ancestral habit, which (considering the modified structure of the bird) must have been lost at a very remote period in its history, is exceedingly curious. Formerly this Woodpecker was quite common on the pampas. I remember that when I was a small boy—quite a colony lived in the ombú trees growing

about my home; now it is nearly extinct, and one may spend years on the plains without meeting with a single example.

Mr. Barrows speaks as follows of this species:

Abundant and breeding at all points visited. At Concepcion, where it is resident, it is by far the commonest Woodpecker. The ordinary note very much resembles the reiterated alarm-note of the Greater Yellow-legs (*Totanus melanoleucus*), but so loud as to be almost painful when close at hand, and easily heard a mile or more away. They spend much time on the ground, and I often found the bills of those shot quite muddy. A nest found near Concepcion, 6th November, 1880, was in the hollow trunk of a tree, the entrance being through an enlarged crack at a height of some three feet from the ground. The five white eggs were laid on the rubbish at the bottom of the cavity, perhaps a foot above the ground. In the treeless region about the Sierra da la Ventana we saw this bird about holes on the banks of the stream, where it doubtless had nests.

RINGED KINGFISHER

(*Ceryle torquata*)

Above greyish blue with narrow black shaft-stripes and small round white spots; wings black with a portion of the inner webs towards the base white, tail black barred with white; beneath chestnut-red; throat and belly white; length 15 inches. Female similar but with broad blue pectoral band.

THIS beautiful bird, the largest of the American Kingfishers, is found throughout the greater portion of South and Central America. In Argentina it is not common but is widely distributed and is known both in Buenos Ayres and Patagonia. In southern Patagonia it varies in colour and is of a slatey grey-blue on the upper parts, thickly sprinkled like a guinea-fowl with minute round white spots, hence the specific name *stellata*, bestowed on it by some ornithologists who regard it as a separate species.

Notwithstanding its wide distribution and great beauty, little has been recorded of the habits of this species. In Amazonia, Bartlett says:

It breeds in company with *Ceryle amazona*. The nest, however, is placed very much deeper in the bank than in the case of the last-named bird, the hole being from four to six feet in depth, with a chamber at the end sufficiently large for the young birds when nearly full-grown.

Two other species of Kingfishers range as far south as the Buenos Ayres pampas. The first, a third less in size than the Ringed Kingfisher, is the Amazonian Kingfisher, *Ceryle amazona*, its colour above dark green, beneath white with a broad chestnut pectoral band. In Buenos Ayres this bird was fairly common and was usually seen in pairs. Its cry is exceedingly loud, hard, and abrupt, and so rapidly reiterated as to give it a sound resembling that of a policeman's rattle. But this is not its only language, and I was greatly surprised one day at hearing one *warbling* long clear notes, somewhat flute-like in quality, as it flew from tree to tree along the borders of a stream. It seems very strange that there should be a melodious Kingfisher; but Mr. Barrows also heard the allied *Ceryle americana* sing, much to his surprise. My belief is that the birds of this group possess a singing faculty but very rarely exercise it; with *C. americana* I am well acquainted, yet I never heard it utter any note except its hard rattling cry, resembling that of *C. amazona*, but less powerful.

This Kingfisher was found by White at Cosquin, where it is usually met with along the *acequias*, or canals made for the purpose of irrigating the cultivated lands. These canals are in places bordered with brushwood and trees, and are tolerably deep, with a swiftly flowing current, and abound in small fishes, so

that this bird seems to prefer them as hunting-grounds to the rocky river-bed.

In Entrerios Mr. Barrows tells us this Kingfisher is not uncommon along the Lower Uruguay, and sometimes ascends the smaller streams a short distance. It is much more easily approached than *C. torquata*.

The other species, the smallest of its family in South America, the Little Kingfisher, *Ceryle americana*, is about the size of the European Kingfisher, and resembles the last one described in its colouring. In its habits and language it also resembles the *C. amazona*.

It should be noted that the Kingfishers are poorly represented in South America, there being but eight species known in the entire continent, and these all of the one genus *Ceryle*. In the Old World there are one hundred and twenty species known, and many genera.

GUIRA CUCKOO

(*Guira piririgua*)

Above dark brown with white shaft-stripes; head brown; wings reddish brown; rump white; tail white, crossed by a broad black band, the two central feathers uniform brown; beneath dull white; throat and breast with long linear black shaft-stripes; bill and feet yellow; length 15 inches. Female similar.

PIRIRIGUA, the specific term adopted by naturalists for this bird, is, according to Azara, the vernacular name of the species in Paraguay. He says in that country it is abundant, but scarce in the Plata district. No doubt it has greatly increased and extended its range southwards during the hundred years which have elapsed since his time, as it is now very common in Buenos Ayres, where its vernacular name is *Urraca*

(Magpie). In the last-named country it is not yet quite in harmony with its environment. Everywhere its habit is to feed exclusively on the ground, in spite of possessing feet formed for climbing; but its very scanty plumage, slow laborious flight, and long square tail, so unsuitable in cold boisterous weather, show that the species is a still unmodified intruder from the region of perpetual summer many degrees nearer to the equator.

The Guira Cuckoo is about sixteen inches long, has red eyes and blue feet, and an orange-red beak. The crown of the head is deep rufous, and the loose hair-like feathers are lengthened into a pointed crest. The back and rump are white, the wings and other upper parts very deep fuscous, marked with white and pale brown. Under surface dull white, with hair-like black marks on the throat and breast. The tail is square, nine to ten inches long; the two middle feathers dark brown, the others three-coloured—yellow at the base, the middle portion dark glossy green, the ends white; and when the bird is flying its tail, spread out like a fan, forms a conspicuous and beautiful object.

During the inclement winter of Buenos Ayres the Guira Cuckoo is a miserable bird, and appears to suffer more than any other creature from cold. In the evening the flock, usually composed of from a dozen to twenty individuals, gathers on the thick horizontal branch of a tree sheltered from the wind, the birds crowding close together for warmth, and some of them roosting perched on the backs of their fellows. I have frequently seen them roosting three deep, one or two birds at the top to crown the pyramid; but with all their huddling together a severe frost is sure to prove fatal to one or more birds in the flock; and sometimes several birds that have dropped from the branch stiff with cold are found under the trees in the morning. If the morning

is fair the flock betakes itself to some large tree, on which the sun shines, to settle on the outermost twigs on the northern side, each bird with its wings drooping, and its back turned towards the sun. In this spiritless attitude they spend an hour or two warming their blood and drying the dew from their scanty dress. During the day they bask much in the sun, and towards evening may be again seen on the sunny side of a hedge or tree warming their backs in the last rays. It is owing, no doubt, to its fecundity and to an abundance of food that the Guira Cuckoo is able to maintain its existence so far south in spite of its terrible enemy the cold.

With the return of warm weather this species becomes active, noisy, and the gayest of birds; the flock constantly wanders about from place to place the birds flying in a scattered desultory manner one behind the other, and incessantly uttering while on the wing a long complaining cry. At intervals during the day they also utter a kind of song, composed of a series of long modulated whistling notes, two-syllabled, the first powerful and vehement, and becoming at each repetition lower and shorter, then ending in a succession of hoarse internal sounds like the stertorous breathing of a sleeping man. When approached all the birds break out into a chorus of alarm, with rattling notes so annoyingly loud and sustained that the intruder, be it man or beast, is generally glad to hurry out of ear-shot. As the breeding-season approaches they are heard, probably the males, to utter a variety of soft low chattering notes, sounding sometimes like a person laughing and crying together: the flock then breaks up into pairs, the birds becoming silent and very circumspect in their movements. The nest is usually built in a thorn-tree, of rather large sticks, a rough large structure, the inside often lined with green leaves

plucked from the trees. The eggs are large for the bird, and usually six or seven in number; but the number varies greatly, and I have known one bird lay as many as fourteen. They are elliptical in form and beautiful beyond comparison, being of an exquisite turquoise-blue, the whole shell roughly spattered with white. The white spots are composed of a soft calcareous substance, apparently deposited on the surface of the shell after its complete formation: they are raised, and look like snow-flakes, and when the egg is fresh-laid may be easily washed off with cold water, and are so extremely delicate that their purity is lost on the egg being taken into the hand. The young birds hatched from these lovely eggs are proverbial for their ugliness, *Pichón de Urraca* being a term of contempt commonly applied to a person remarkable for want of comeliness. They are as unclean as they are ugly, so that the nest, usually containing six or seven young, is unpleasant both to sight and smell. There is something ludicrous in the notes of these young birds, resembling as they do the shrill half-hysterical laughter of a female exhausted by over-indulgence in mirth. One summer there was a large brood in a tree close to my home, and every time we heard the parent bird hastening to her nest with food in her beak, and uttering her plaintive cries, we used to run to the door to hear them. As soon as the old bird reached the nest they would burst forth into such wild extravagant peals and continue them so long that we could not but think it a rare amusement to listen to them.

According to Azara the Guira Cuckoo in Paraguay has very friendly relations with the Ani (*Crotophaga ani*), the birds consorting together in one flock, and even laying their eggs in one nest; and he affirms that he has seen nests containing eggs of both species.

These nests were probably brought to him by his Indian collectors, who were in the habit of deceiving him, and it is more than probable that in this matter they were practising on his credulity; though it is certain that birds of different species do sometimes lay in one nest, as I have found—the Common Teal and the Tinamu for instance. I also doubt very much that the bird is ever polygamous, as Azara suspected; but it frequently wastes eggs, and its procreant habits are sometimes very irregular and confusing, as the following case will show:

A flock numbering about sixteen individuals passed the winter in the trees about my home, and in spring scattered about the plantation, screaming and chattering in their usual manner when about to breed. I watched them, and found that after a time the flock broke up into small parties of three or four, and not in couples, and I could not detect them building. At length I discovered three broken eggs on the ground, and on examining the tree overhead found an incipient nest composed of about a dozen sticks laid crossways and out of which the eggs had been dropped. This was in October, and for a long time no other attempt at a nest was made; but wasted eggs were dropped in abundance on the ground, and I continued finding them for about four months. Early in January another incipient nest was found, and on the ground beneath it six broken eggs. At the end of that month two large nests were made, each nest by one pair of birds, and in the two fourteen or fifteen young birds were reared.

When taken young the Guira Cuckoos become very tame, and make bold, noisy, mischievous pets, fond of climbing over and tugging at the clothes, buttons, and hair of their master or mistress. They appear to be more intelligent than most birds, and in a domestic

state resemble the Magpie. I knew one tame Cuckoo that would carry off and jealously conceal bits of bright-coloured ribbon, thread, or cloth. In a wild state their food consists largely of insects, which they sometimes pursue running and flying along the ground. They also prey on mice and small reptiles, and carry off the fledglings from the nests of Sparrows and other small birds, and in spring they are frequently seen following the plough to pick up worms.

BLACK-BILLED CUCKOO

(*Coccyzus melanocoryphus*)

Above pale greyish brown; head cinereous, a black stripe through the eyes; beneath white, tinged with ochreous; tail black, tipped with white, the two central feathers like the back; length 11.5 inches. Female similar.

THE *Coucou*, so called from its note, is the commonest species of the genus in the Argentine Republic, and has an extensive range in South America. In September it migrates south, and a pair or a few individuals re-appear faithfully every spring in every orchard or plantation on the pampas. At intervals its voice is heard amidst the green trees—deep, hoarse, and somewhat human-like in sound, the song or call being composed of a series of notes, like the syllables *cou-cou-cou*, beginning loud and full, and becoming more rapid until at the end they run together. It is a shy bird, conceals itself from prying eyes in the thickest foliage, moves with ease and grace amongst the closest twigs, and feeds principally on large insects and caterpillars, for which it searches amongst the weeds and bushes near the ground.

The nest is the flimsiest structure imaginable, being

composed of a few dry twigs, evidently broken by the bird from the trees and not picked up from the ground. They are laid across each other to make a platform nest, but so small and flat is it that the eggs frequently fall out from it. That a bird should make no better preparation than this for the great business of propagation seems very wonderful. The eggs are three or four in number, elliptical in form, and of a dull sea-green colour.

There are three more species in Argentina of the characteristic American genus *Coccyzus*; one of these which I discovered to be an Argentine species being the common Yellow-billed Cuckoo of North America, *Coccyzus americanus*. I met with it in plantations on the pampas, but always in the late summer or autumn months—February to April—and am therefore unable to say whether or not it breeds in that district. It may be that this Cuckoo, like some of the Sandpipers and other shore birds of North America, extends its annual migration south to the pampas and Patagonia. But it is hardly believable that any Cuckoo could make that journey. If not, one must suppose that this Cuckoo, like the Purple Martin, has two races, which may have their meeting-ground in the tropics; at all events both winter in the tropics, and to breed one flies north in May, the other south in September.

Another interesting species is the Cinereous Cuckoo, *Coccyzus cinereus*, of a nearly uniform ashy grey colour with black bill. This Cuckoo is smaller than the preceding species, and also differs in having a square tail and a more curved beak. The beak is black, and the irides blood-red, which contrasts well with the blue-grey of the head, giving the bird a bold and striking appearance.

This species is not common, but it is, I believe,

slowly extending its range southwards, as within the last few years it has become much more common than formerly. Like other Cuckoos, it is retiring in its habits, concealing itself in the dense foliage, and it cannot be attracted by an imitation of its call, an expedient which never fails with the *Coucou*. Its language has not that deep mysterious or *monkish* quality, as it has been aptly called, of other *Coccyzi*. Its usual song or call, which it repeats at short intervals all day long during the love-season, resembles the song of our little Dove (*Columbula picui*), and is composed of several long monotonous notes, loud, rather musical, but not at all plaintive. It also has a loud harsh cry, which one finds it hard to believe to be the voice of a Cuckoo, as in character it is more like the scream of a Dendrocolaptine species.

Of the thirty species of Cuckoos inhabiting South America eight are found in Argentina. Four of the five species described above were known to me; the remaining three did not range so far south as Buenos Ayres—"my parish of Selborne," as I have ventured to call it in the *Naturalist in La Plata*—but they are such interesting birds that I cannot resist the temptation of giving a brief account of their habits in this place.

The Ani, *Crotophaga ani*, is about the size of our Magpie, and is one of the strangest of this strange family, with the plumage and some of the habits of a crow, being almost entirely of a uniform black, glossed with bronze, dark green, and purple. Its most peculiar feature is the beak, which is greater in depth than in length, and resembles an immense Roman nose, occupying the whole face, and with the bridge bulging up above the top of the head. The Ani is found only in the northern portion of the Argentine territory. According to Azara it is very common in Paraguay,

and goes in flocks, associating with the Guira Cuckoo, which it resembles in its manner of flight, in being gregarious, in feeding on the ground, and in coming a great deal about houses: in all which things these two species differ widely from most Cuckoos. He also says that it has a loud disagreeable voice, follows the cattle about in the pastures like the Cow-bird, and builds a large nest of sticks lined with leaves, in which as many as twenty or thirty eggs are frequently deposited, several females laying together in one nest. His account of these strange and disorderly breeding-habits has been confirmed by independent observers in other parts of the continent. The eggs are oval and outwardly white, being covered with a soft white cretaceous deposit; but this can be easily scraped off, and under it is found a smooth hard shell of a clear beautiful blue colour.

The second species is the Brown Cuckoo, *Diplopterus navius*, called *Crispin* in the vernacular and found throughout the hot portion of South America, and in different districts varying considerably in size and colouring. It is about twelve inches long, the beak much curved; the prevailing colour of the upper parts is light brown, the loose feathers on the head, which form a crest, deep rufous. The upper tail-coverts are long loose feathers of very unequal length, the longest reaching nearly to the end of the tail. The under surface is dirty white, or dashed with grey.

Azara says it is called *Chochi* in Paraguay, and has a clear, sorrowful note of two syllables, which it repeats at short intervals during the day, and also at night during the love-season. It is solitary, scarce, and excessively shy, escaping at the opposite side of the tree when approached, and when seen having the head and crest raised in an attitude of alarm. In the northern

part of the Argentine country it is called *Crispin*, from its note which clearly pronounces that name. Mr. Barrows found it common at Concepcion on the Uruguay river, and has written the following notes about it:

Several were taken in open bushy places, and many others were heard. It is a plain but attractive Cuckoo with a few-feathered crest, and long soft flowing upper tail-coverts. The note is very clear and penetrating, sounding much like the word "crispin" slowly uttered, and with the accent on the last syllable. The birds are very shy, and I followed one for nearly an hour before I saw it at all, and nearly twice that time before any chance of a shot was offered. There is some peculiarity in the note which makes it impossible to tell whether the bird is in front or behind you—even when the note itself is distinctly heard. I know nothing of nest or eggs.

From personal observation I can say nothing about this species, as I never visited the district where it is found; but with the fame of the Crispin I have always been familiar, for concerning this Cuckoo the Argentine peasants have a very pretty legend. It is told that two children of a woodcutter, who lived in a lonely spot on the Uruguay, lost themselves in the woods—a little boy named Crispin and his sister. They subsisted on wild fruit, wandering from place to place, and slept at night on a bed of dry grass and leaves. One morning the little girl awoke to discover that her brother had disappeared from her side. She sprang up and ran through the woods to seek for him, but never found him; but day after day continued wandering in the thickets calling "*Crispin, Crispin,*" until at length she was changed into a little bird, which still flies through the woods on its never-ending quest, following every stranger who enters them, calling after him "*Crispin, Crispin*" if by chance it should be her lost brother.

The last species is the Chestnut Cuckoo, *Piaya cayana*. This is a widely spread form of Cuckoo in Central and South America, and reaches the northern territories of

the Argentine Republic, having been obtained by Durnford near Tucuman, and by White in Misiones. The whole bird is about eighteen inches long, and the tail very long in proportion, about eleven inches. The entire plumage, except the breast and belly, which are grey, is chestnut colour. The beak is very strong, and yellowish green in colour; the irides ruby-red, the eyelids scarlet.

In Colombia this Cuckoo is said to be called *Pájaro ardilla* (Squirrel-bird), from its chestnut tint. It seems to feed chiefly, if not altogether, on the ground, and when perched always appears awkward and ill at ease. On a branch it sits motionless, until approached, and then creeps away through the leaves and escapes on the opposite side of the tree. This, however, is a habit common to most Cuckoos. Its language is a loud screaming cry, on account of which the Brazilians call it *Alma do gato*, implying that it possesses the soul of a cat. It is a very shy retiring bird, and in this respect is more like a *Coccyzus* than a *Guira*.

For these facts we are indebted to Leotaud, Fraser, Forbes, White, and others; each of these observers having contributed a few words to a history of this interesting bird's habits.

PATAGONIAN PARROT

(*Conurus patagonus*)

Above dark olive-green; wings edged with bluish; lower part of back yellow; beneath olive-green, darkest on throat; whitish band across the neck; belly yellow, with patch in the middle and thighs dark crimson; length 18, wing 9.2, tail 10.5 inches. Female similar.

THIS Parrot, called in La Plata the Bank- or Burrowing-Parrot, from its nesting-habits, is the only member of

its order found so far south as Patagonia. In habits it differs somewhat from most of its congeners, and it may be regarded, I think, as one of those species which are dying out—possibly owing to the altered conditions resulting from the settlement of the country by Europeans. It was formerly abundant on the southern pampas of La Plata, and being partially migratory its flocks ranged in winter to Buenos Ayres, and even as far north as the Paraná river. When, as a child, I lived near the capital city (Buenos Ayres), I remember that I always looked forward with the greatest delight to the appearance of these noisy dark-green winter visitors. Now they are rarely seen within a hundred miles of Buenos Ayres; and I have been informed by old gauchos that half a century before my time they invariably appeared in immense flocks in winter, and have since gradually diminished in numbers, until now in that district the Bank-Parrot is almost a thing of the past. Two or three hundreds of miles south of Buenos Ayres city they are still to be met with in rather large flocks, and have a few ancient breeding-places, to which they cling very tenaciously. Where there are trees or bushes on their feeding-ground they perch on them; they also gather the berries of the *Empetrum rubrum* and other fruits from the bushes; but they feed principally on the ground, and while the flock feeds one bird is invariably perched on a stalk or other elevation to act as sentinel. They are partial to the seeds of the giant thistle (*Carduus mariana*) and the wild pumpkin, and to get at the latter they bite the hard dry shell into pieces with their powerful beaks. When a horseman appears in the distance they rise in a compact flock, with loud harsh screams, and hover above him, within a very few yards of his head, their combined dissonant voices producing an uproar which is only equalled in

that pandemonium of noises, the Parrot house in the Zoological Gardens of London. They are extremely social, so much so that their flocks do not break up in the breeding-season; and their burrows, which they excavate in a perpendicular cliff or high bank, are placed close together; so that when the gauchos take the young birds—esteemed a great delicacy—the person who ventures down by means of a rope attached to his waist is able to rifle a colony. The burrow is three to five feet deep, and four white eggs are deposited on a slight nest at the extremity. I have only tasted the old birds, and found their flesh very bitter, scarcely palatable.

The natives say that this species cannot be taught to speak; and it is certain that the few individuals I have seen tame were unable to articulate.

Doubtless these Parrots were originally stray colonists from the tropics, although now resident in so cold a country as Patagonia. When viewed closely one would also imagine that they must at one time have been brilliant-plumaged birds; but either natural selection or the direct effect of a bleak climate has given a sombre shade to their colours—green, blue, yellow, and crimson; and when seen flying at a distance, or in cloudy weather, they look as dark as crows.

GREEN PARRAKEET

(*Bolborbynchus monachus*)

Green; front grey; wings blackish with slight bluish edgings; beneath grey; bill whitish; length 11 inches. Female similar.

THE Common Green Parrakeet, called *Cotorra* or *Catita* in the vernacular, is a well-known resident species in the Argentine Republic. It is a lively, restless bird,

shrill-voiced, and exceedingly vociferous, living and breeding in large communities, and though it cannot learn to speak so distinctly as some of the larger Parrots, it is impossible to observe its habits without being convinced that it shares in the intelligence of the highly favoured order to which it belongs.

In Buenos Ayres it was formerly very much more numerous than it is now; but it is exceedingly tenacious of its breeding-places, and there are some few favoured localities where it still exists in large colonies, in spite of the cruel persecution all birds easily killed are subjected to in a country where laws relating to such matters are little regarded, and where the agricultural population is chiefly Italian. At Mr. Gibson's residence near Cape San Antonio, on the Atlantic coast, there is still a large colony of these birds inhabiting the Tala woods (*Celtis tala*), and I take the following facts from one of his papers, contributed many years ago to the *Ibis*, on the ornithology of the district.

He describes the woods as being full of their nests, with their bright-coloured talkative denizens, and their noisy chatter all day long drowning every other sound. They are extremely sociable and breed in communities. When a person enters the wood, their subdued chatter suddenly ceases, and during the ominous silence a hundred pairs of black beady eyes survey the intruder from the nests and branches; and then follow a whirring of wings and an outburst of screams that spread the alarm throughout the woods. The nests are frequented all the year, and it is rare to find a large one unattended by some of the birds any time during the day. In summer and autumn they feed principally on the thistle; first the flower is cut up and pulled to pieces for the sake of the green kernel, and later they eat the fallen seed on the ground. Their flight is rapid,

with quick flutters of the wings, which seem never to be raised to the level of the body. They pay no regard to a *Polyborus* or *Milvago* (the Carrion Eagle and Carrion Hawk), but mob any other bird of prey appearing in the woods, all the Parrakeets rising in a crowd and hovering about it with angry screams.

The nests are suspended from the extremities of the branches, to which they are firmly woven. New nests consist of only two chambers, the porch and the nest proper, and are inhabited by a single pair of birds. Successive nests are added, until some of them come to weigh a quarter of a ton, and contain material enough to fill a large cart. Thorny twigs, firmly interwoven, form the only material, and there is no lining in the breeding-chamber, even in the breeding-season. Some old forest trees have seven or eight of these huge structures suspended from the branches, while the ground underneath is covered with twigs and remains of fallen nests. The entrance to the chamber is generally underneath, or if at the side is protected by an overhanging eave to prevent the intrusion of opossums. These entrances lead into the porch or outer chamber, and the latter communicates with the breeding-chamber. The breeding-chambers are not connected with each other, and each set is used by one pair of birds.

The number of pairs does not exceed a dozen, even with the largest nests. Repairs are carried on all the year round, but new nests are only added at the approach of spring. Opossums are frequently found in one of the higher chambers, when the entrance has been made too high, but though they take up their abode there they cannot reach the other chambers, and the Parrakeets refuse to go away. A species of Teal (probably *Querquedula brasiliensis*) also sometimes occupies and breeds in their chambers, and in one case Mr. Gibson

found an opossum domiciled in an upper chamber, Parrakeets occupying all the others except one, in which a Teal was sitting on eggs.

The breeding-season begins about 1st November, and as many as seven or eight eggs are laid; these are dull white, very thin-shelled, elongated, and have the greatest diameter exactly equidistant from the two ends.

Mr. Barrows speaks as follows of this species in Entrerios:

An abundant and familiar bird in the neighbourhood of Concepcion through the entire year. It is commonly seen in flocks of twenty and upwards, visiting grain-fields, gardens, etc., and sometimes, if I was correctly informed, completely stripping the grain-fields. They nest in communities, many pairs uniting in the building of a large common nest or mass of nests. I only saw these nests on two occasions, and had no opportunity of examining their structure. They were placed on high trees, and appeared from below to be simply irregular masses, six or eight feet in diameter, formed of small sticks and twigs. Where the nests are abundant the natives destroy the young by hundreds, and the "squabs" when nearly grown are said to be very fine eating. The young are easily tamed, and may be taught to articulate a few simple words.

SHORT-EARED OWL

(*Asio brachyotus*)

Above variegated with fulvous and blackish brown; face whitish, with black centre; wings pale tawny, with irregular broad blackish cross-bars; tail whitish, with four or five broad black cross-bands; beneath as above, but paler; bill black, eyes orange; length 15, wing 13, tail 6 inches. Female similar but larger.

THERE are but six Owls known in Argentina, a very small number in so vast a country when we remember that England alone has five species without counting the occasional visitants. It is also surprising to find that two of the Argentine Owls are well-known British

species—the Barn Owl and the wide-ranging Short-eared Owl. Of the six species I was acquainted with five, and will describe the two I knew most intimately, the Short-eared and the Burrowing Owls. The White or Barn Owl I occasionally saw in Buenos Ayres city, but always at night: the noble Magellanic Eagle Owl and the small Pigmy Owl I met with on the Rio Negro in Patagonia.

The Short-eared Owl is found throughout the Argentine country, where it is commonly called *Lechuzón* (Big Owl) in the vernacular. Like the Barn-Owl it has an exceedingly wide range. It is found throughout the continent of Europe; it also inhabits Asia and Africa, many of the Pacific Islands, and both Americas, from Canada down to the Straits of Magellan. Such a very wide distribution would seem to indicate that it possesses some advantage over its congeners, and is (as an Owl) more perfect than others. It is rather more diurnal in its habits than most Owls, and differs structurally from other members of its order in having a much smaller head. It is also usually said to be a weak flier; but this I am sure is a great mistake, for it seems to me to be the strongest flier amongst Owls, and very migratory in its habits, or, at any rate, very much given to wandering. Probably its very extensive distribution is due in some measure to a greater adaptability than is possessed by most species; also to its better sight in the daytime, and to its wandering disposition, which enables it to escape a threatened famine, and to seize on unoccupied or favourable ground.

The bird loves an open country, and sits by day on the ground concealed amongst the herbage or tall grass. An hour before sunset it quits its hiding-place and is seen perched on a bush or tall stalk, or sailing about a

few feet above the ground with a singularly slow, heron-like flight; and at intervals while flying it smites its wings together under its breast in a quick, sudden manner. It is not at all shy, the intrusion of a man or dog in the field it frequents only having the effect of exciting its indignation. An imitation of its cry will attract all the individuals within hearing about a person, and any loud unusual sound, like the report of a gun, produces the same effect. When alarmed or angry it utters a loud hiss, and at times a shrill laugh-like cry. It also has a dismal scream, not often heard; and at twilight hoots, this part of its vocal performance sounding not unlike the distant baying of a mastiff or a bloodhound. It breeds on the ground, clearing a circular spot, and sometimes, but not often, lining it with a scanty bed of dry grass. The eggs are three to five, white, and nearly spherical.

The Short-eared Owl was formerly common everywhere on the pampas, where the coarse indigenous grasses afforded the shelter and conditions best suited to it. When in time this old rough vegetation gave place to the soft perishable grasses and clovers, accidentally introduced by European settlers, the Owl disappeared from the country, like the large Tinamu (*Rhynchotis rufescens*), the Red-billed Finch (*Embernagra platensis*), and various other species; for the smooth level plains afforded it no shelter. Now, however, with the spread of cultivation, it has re-appeared, and is once more becoming a common bird in the more settled districts.

BURROWING-OWL

(Speotyto cunicularia)

Above dark sandy brown, with large white oval spots and small spots and freckles of pale brown; wings with broad whitish cross-bars; facial disk greyish brown; beneath white; length 10, wing 7.5, tail 3.5 inches. Female similar, but larger.

THE Burrowing-Owl is abundant everywhere on the pampas of Buenos Ayres and avoids woods, but not districts abounding in scattered trees and bushes. It sees much better than most Owls by day, and never affects concealment nor appears confused by diurnal sounds and the glare of noon. It stares fixedly—"with insolence," Azara says—at a passer-by, following him with the eyes, the round head turning about as on a pivot. If closely approached it drops its body or bobs in a curious fashion, emitting a brief scream, followed by three abrupt ejaculations; and if made to fly goes only fifteen or twenty yards away, and alights again with face towards the intruder; and no sooner does it alight than it repeats the odd gesture and scream, standing stiff and erect, and appearing beyond measure astonished at the intrusion. By day it flies near the surface with wings continuously flapping, and invariably before alighting glides upwards for some distance and comes down very abruptly. It frequently runs rapidly on the ground, and is incapable of sustaining flight long. Gaucho boys pursue these birds for sport on horseback, taking them after a chase of fifteen or twenty minutes. As a boy I have myself taken many. They live in pairs all the year, and sit by day at the mouth of their burrow or on the Vizcacha's mound, the two birds so close together as to be almost touching; when alarmed they both fly away, but sometimes the

male only, the female diving into the burrow. On the pampas it may be more from necessity than choice that they always sit on the ground, as they are usually seen perched on the summits of bushes where such abound, as in Patagonia.

These are the commonest traits of the Burrowing-Owl in the settled districts, where it is excessively numerous and has become familiar with man; but in the regions hunted over by the Indians it is a scarce bird and has different habits. Shy of approach as a persecuted game-fowl, it rises to a considerable height in the air when the approaching traveller is yet far off, and flies often beyond sight before descending again to the earth. This wildness of disposition is, without doubt, due to the active animosity of the pampas tribes, who have all the ancient widespread superstitions regarding the Owl. "Sister of the Evil Spirit" is one of their names for it; they hunt it to death whenever they can, and when travelling will not stop to rest or encamp on a spot where an Owl has been spied. Where the country is settled by Europeans the bird has dropped its wary habits and become extremely tame. They are tenacious of the spot they live in, and are not easily driven out by cultivation. When the fields are ploughed up they make their kennels on their borders, or at the roadsides, and sit all day perched on the posts of the fences.

Occasionally they are seen preying by day, especially when anything passes near them, offering the chance of an easy capture. I have often amused myself by throwing bits of hard clay near one as it sat beside its kennel; for the bird will immediately give chase, only discovering its mistake when the object is firmly clutched in its talons. When there are young to be fed, they are almost as active by day as by night. On

hot November days multitudes of a large species of *Scarabæus* appear, and the bulky bodies and noisy bungling flight of these beetles invite the Owls to pursuit, and on every side they are seen pursuing and striking down the beetles, and tumbling upon them in the grass. Owls have a peculiar manner of taking their prey; they grapple it so tightly in their talons that they totter and strive to steady themselves by throwing out their wings, and sometimes, losing their balance, fall prostrate and flutter on the ground. If the animal captured be small they proceed after a while to dispatch it with the beak; if large they usually rise laboriously from the ground and fly to some distance with it, thus giving time for the wounds inflicted by the claws to do their work.

At sunset the Owls begin to hoot; a short followed by a long note is repeated many times with an interval of a second of silence. There is nothing dreary or solemn in this performance; the voice is rather soft and sorrowful, somewhat resembling the lowest notes of the flute in sound. In spring they hoot a great deal, many individuals responding to each other.

In the evening they are often seen hovering like a Kestrel at a height of forty feet above the surface, and continuing to do so fully a minute or longer without altering their position. They do not drop the whole distance at once on their prey, but descend vertically, tumbling and fluttering as if wounded, to within ten yards of the earth, and then, after hovering a few seconds more, glide obliquely on to it. They prey on every living creature not too large to be overcome by them. Sometimes when a mouse is caught they tear off the head, tail, and feet, devouring only the body. The hind quarters of toads and frogs are almost invariably rejected; and inasmuch as these are the most

fleshy and succulent parts, this is a strange and unaccountable habit. They make an easy conquest of a snake eighteen inches long, and kill it by dealing it blows with the beak, hopping briskly about it all the time, apparently to guard themselves with their wings. They prey largely on the common *Coronella anomala*, but I have never seen one attacking a venomous species. When they have young many individuals become destructive to poultry, coming about the houses and carrying off the chickens and ducklings by day. In seasons of plenty they destroy far more prey than they can devour; but in severe winters they come, apparently starving, about the houses, and will then stoop to carry off any dead animal food, though old and dried up as a piece of parchment. This I have often seen them do.

Though the Owls are always on familiar terms with the Vizcachas (*Lagostomus trichodactylus*) and occasionally breed in one of their disused burrows, as a rule they excavate a breeding-place for themselves. The kennel they make is crooked, and varies in length from four to twelve feet. The nest is placed at the extremity, and is composed of wool or dry grass, often exclusively of dry horse-dung. The eggs are usually five in number, white, and nearly spherical; the number, however, varies, and I have frequently found six or seven eggs in a nest. After the female has begun laying the birds continue carrying in dry horse-dung, until the floor of the burrow and a space before it is thickly carpeted with this material. The following spring the loose earth and rubbish is cleared out, for the same hole may serve them two or three years. It is always untidy, but mostly so during the breeding-season, when prey is very abundant, the floor and ground about the entrance being often littered with castings, green beetle-shells, pellets of hair and bones, feathers of birds, hind-

quarters of frogs in all stages of decay, great hairy spiders (*Mygale*), remains of half-eaten snakes, and other unpleasant creatures that they subsist on. But all this carrion about the little Owl's disordered house reminds one forcibly of the important part the bird plays in the economy of nature. The young birds ascend to the entrance of the burrow to bask in the sun and receive the food their parents bring; when approached they become irritated, snapping with their beaks, and retreat reluctantly into the hole; and for some weeks after leaving it they make it a refuge from danger. Old and young birds sometimes live together for four or five months. I believe that nine-tenths of the Owls on the pampas make their own burrows, but as they occasionally take possession of the forsaken holes of mammals to breed in, it is probable that they would always observe this last habit if suitable holes abounded, as on the North American prairies inhabited by the marmot. Probably our Burrowing-Owl originally acquired the habit of breeding in the ground in the open level regions it frequented; and when this habit (favourable as it must have been in such unsheltered situations) had become ineradicable, a want of suitable burrows would lead it to clean out such old ones as had become choked up with rubbish, to deepen such as were too shallow, and ultimately to excavate for itself. The mining instinct varies greatly in strength, even on the pampas. Some pairs, long mated, only begin to dig when the breeding season is already on them; others make their burrows as early as April—that is, six months before the breeding-season. Generally both birds work, one standing by and regarding operations with an aspect of grave interest, and taking its place in the pit when the other retires; but sometimes the female has no assistance from her partner,

and the burrow then is very short. Some pairs work expeditiously and their kennel is deep and neatly made; others go about their task in a perfunctory manner, and begin, only to abandon, perhaps half a dozen burrows, and then rest two or three weeks from their unprofitable labours. But whether industrious or indolent, by September they all have their burrows made. I can only account for Azara's unfortunate statement, repeated by scores of compilers, that the Owl never constructs its own habitations, by assuming that a century ago, when he lived and when the country was still very sparsely settled, this owl had not yet become so abundant or laid aside the wary habit the aborigines had taught it, so that he did not become very familiar with its habits.

ARGENTINE HEN-HARRIER

(*Circus cinereus*)

Above light bluish grey with darker mottlings; primaries blackish; tail grey with four black cross-bands and tipped with white; beneath thickly banded with white and rufous bars; bill black, eyes and feet yellow; length 18, wing 12 inches. Female large; above dark brown, with light brown spots.

THERE are two species of Harriers in Argentina, the Broad-winged Harrier, *C. macropterus*, with a black upper and white lower plumage, and the present species, named Cinereous Harrier in *Argentine Ornithology*, but I prefer now to call it the Argentine Hen-Harrier, as at a distance it closely resembles the European Hen-Harrier, although a handsomer bird.

This hawk is found throughout the Argentine

Republic, and is also common in Patagonia and the Falkland Islands. On the pampas it is, I think, the most common bird of prey, after the excessively abundant *Milvago chimango*. Like the Chimango it also prefers an open unwooded country, and resembles that bird not a little in its general appearance, and when in the brown stage of plumage may be easily mistaken for it. In the Falklands it has even acquired the Carrion Hawk's habits, for Darwin distinctly saw one feeding on a carcase there, very much to his surprise. On the pampas I have always found it a diligent bird-hunter, and its usual mode of proceeding is to drive up the bird from the grass and to pursue and strike it down with its claws. Mr. Gibson's account of its habits agrees with mine, and he says that "it will raise any small bird time after time, should the latter endeavour to conceal itself in the grass, preferring, as it would seem, to strike it on the wing." He further says: "Its flight is low and rather rapid, while if its quarry should double it loses no ground, for it turns something in the manner of a Tumbler Pigeon, going rapidly head over heels in the most eccentric and amusing fashion."

Probably this Harrier has a partial migration, as a great many are always seen travelling across the pampas in the autumn and spring; many individuals, however, remain all the winter.

The nest is made on the ground among long grass, or in reed-beds in marshy places, and the eggs are white, blotched with dark red.

VOCIFEROUS HAWK

(Asturina pucherani)

Above dark brown; upper tail-coverts fulvous, barred with brown; wings chestnut barred and broadly tipped with black; tail fulvous, crossed with four black bars; beneath pale ochraceous, barred with rufous; bill black, feet yellow; length 18 inches. Female larger.

THIS brown-plumaged, short-winged, and exceedingly vociferous Hawk is common in the woods along the shores of the Plata and its tributaries, and is never found far removed from water. It perches on the summit of a tree, and sits there motionless for hours at a time, and at intervals utters singularly long, loud cries, which become more frequent and piercing when the bird is disturbed, as by the approach of a person. Its flight is rapid and irregular, the short blunt wings beating unceasingly, while the bird pours out a succession of loud, vehement, broken screams.

Mr. Barrows observed it on the Lower Uruguay, and writes: "It feeds largely if not exclusively on fish, nearly every specimen having their remains (and nothing else) in their stomachs." It would be very interesting to learn how it captures its prey.

WHITE-TAILED BUZZARD

(Buteo albicaudatus)

Above greyish black, scapulars and upper wing-coverts ferruginous; rump and tail white, the latter with a broad black band; throat black, beneath white; bill black, feet yellow; length 21, wing 18 inches. Female similar but larger.

THIS Buzzard does not breed on the pampas, where I have observed it, but appears there in the spring

and autumn, irregularly, when migrating, and in flocks which travel in a loitering, desultory manner. The flocks usually number from thirty or forty to a hundred birds, but sometimes many more. I have seen flocks which must have numbered from one to two thousand birds. When flying the flock is very much scattered, and does not advance in a straight line, but the birds move in wide circles at a great height in the air, so that a person on horseback travelling at a canter can keep directly under them for two or three hours. On the ground one of these large flocks will sometimes occupy an area of half a square league, so widely apart do the birds keep. I have dissected a great many and found nothing but coleopterous insects in their stomachs; and indeed they would not be able to keep in such large companies when travelling if they required a nobler prey.

At the end of one summer a flock numbering about two hundred birds appeared at an estancia near my home, and though very much disturbed they remained for about three months, roosting at night on the plantation trees, and passing the day scattered about the adjacent plain, feeding on grasshoppers and beetles. This flock left when the weather turned cold; but at another estancia a flock appeared later in the season and remained all the winter. The birds became so reduced in flesh that after very cold rain or severe frost numbers were found dead under the trees where they roosted; and in that way most of them perished before the return of spring.

RED-BACKED BUZZARD

(Buteo erythronotus)

Above slaty blue; wing feathers slaty with narrow black bars; upper tail-coverts and tail white, the latter crossed with narrow grey bars and broad black band; beneath white; bill dark horn-colour; feet yellow; length 25, wing 18.5 inches. Female similar, but back deep chestnut.

THIS is a fine bird—the king of South-American Buzzards. In the adult female the three colours of the plumage are strongly contrasted; the back being rusty rufous, the rest of the upper parts grey, the whole under surface pure white. It is occasionally met with in the northern provinces of the Argentine Republic, but is most common in Patagonia; and it has been said that in that region it takes the place of the nearly allied *Buteo albicaudatus* of Brazil. In habits, however, the two species are as different as it is possible for two Raptores to be; for while the northern bird has a cowardly spirit, is, to some extent, gregarious, and feeds largely on insects, the Patagonian species has the preying habits of the Eagle and lives exclusively, I believe, or nearly so, on cavies and other small mammals. When Captain King first discovered it in 1827, he described it as “a small beautiful Eagle.” In Patagonia it is very abundant, and usually seen perched on the summit of a bush, its broad snowy-white bosom conspicuous to the eye at a great distance—one of the most familiar features in the monotonous landscape of that grey country. The English colonists on the Chupat, Durnford says, call it the “White Horse,” owing to its conspicuous white colour often deceiving them when they are out searching for strayed horses on the hills. It is a wary bird, and when approached has the habit

of rising up in widening circles to a vast height in the air. When sailing about in quest of prey it usually maintains a height of fifty or sixty yards above the surface. The stomachs of all the individuals I have examined contained nothing but the remains of cavies (*Cavia australis*).

The nest is built on the top of a thorn bush, and is a large structure of sticks, lined with grass, fur, dry dung, and other materials. The eggs are greyish white in colour, blotched and marked, principally towards the large end, with two shades of umber-brown.

GREY EAGLE

(*Geranoaëtus melanoleucus*)

Above black, wings grey with narrow transverse black bars; tail black; throat grey; breast black with round whitish spots; abdomen white; bill horn-colour, feet yellow; length 26, wing 19 inches.

THE Grey or Chilian Eagle, like most diurnal birds of prey, undergoes many changes of colour, the plumage at different periods having its brown, black, and grey stages: in the old birds it is a uniform clear grey, and the under surface white. Throughout the Argentine country this is the commonest Eagle, and I found it very abundant in Patagonia. D'Orbigny describes it with his usual prolixity—pardonably so in this case, however, the bird being one of the very few species with which he appears to have become familiar from personal observation. He says that it is a wary bird; pairs for life, the male and female never being found far apart; and that it soars in circles with a flight resembling that of a Vulture; and that the form of its broad blunt wings increases its resemblance to that

bird. Cavies and small mammals are its usual prey; and in the autumn and winter, when the Pigeons congregate in large numbers, it follows their movements. During the Pigeon-season he has counted as many as thirty Eagles in the course of a three leagues' ride; and he has frequently seen an Eagle swoop down into a cloud of Pigeons, and invariably re-appear with one struggling in its talons. It is seldom found far from the shores of the sea or of some large river; and on the Atlantic coast, in Patagonia, it soars above the sands at ebb-tide, looking out for stranded fish, carcasses of seals, and other animal food left by the retiring waters, and quarrels with Condors and Vultures over the refuse, even when it is quite putrid. It acts as a weather prognostic, and before a storm is seen to rise in circles to a vast height in the air, uttering piercing screams, which may be heard after it has quite disappeared from sight.

The nest of this species is usually built on the ledge of an inaccessible rock or precipice, but not infrequently on a tree. Mr. Gibson describes one, which he found on the top of a thorn-tree, as a structure of large sticks, three feet in diameter, the hollow cushioned with dry grass. It contained two eggs, dull white, marked with pale reddish blotches.

Mr. Gibson compared its cry to a "wild human laugh," and also writes:

Its whereabouts may often be detected by an attendant flock of Caranchos (*Polyborus tharus*), particularly in the case of a young bird. As soon as it rises from the ground or from a tree, these begin to persecute it, ascending spirally also, and making dashes at it, while the eagle only turns its head watchfully from side to side, the mere action being sufficient to avert the threatened collision.

Gay, in his *Natural History of Chili*, describes the affectionate and amusing habits of an Eagle of this species which he had tamed. It took great delight in

playing with his hand, and would seize and pretend to bite one of his fingers, but really with as much tenderness as a playful dog displays when pretending to bite its master. It used also to amuse itself by picking up a pebble in its beak, and with a jerk of its head toss it up in the air, then seize it in its claws when it fell, after which it would repeat the performance.

CROWNED EAGLE

(*Harpyhaliaëtus coronatus*)

Above ashy brown, with a long crest of darker feathers; wings grey with blackish tips; tail black with a broad white median band and white tip; beneath pale ashy brown; length 33, wing 22 inches. Female similar but larger.

I MET with this fine Eagle on the Rio Negro, in Patagonia, where d'Orbigny also found it; the entire Argentine territory comes, however, within its range. Having merely seen it perched on the tall willows fringing the Rio Negro, or soaring in wide circles far up in the sky, I cannot venture to speak of its habits, while the account of them which d'Orbigny built up is not worth quoting, for he does not say how he got his information. One of his statements would, if true, be very important indeed. He says that his attention was drawn to a very curious fact concerning the Crowned Harpy, which was, that this bird preys chiefly on the skunk—an animal, he very truly adds, with so pestilential an odour that even the most carnivorous of mammals are put to flight by it; that it is the only bird of prey that kills the skunk, and that it does so by precipitating itself from a vast height upon its quarry, which it then quickly dispatches. It would not matter at all whether the Eagle dropped from a

great or a moderate height, for in either case the skunk would receive its enemy with the usual pestilent discharge. D'Orbigny's account is, however, pure conjecture, and though he does not tell us what led him to form such a conclusion, I have no doubt that it was because the Eagle or Eagles he obtained had the skunk-smell on their plumage. Most of the Eagles I shot in Patagonia, including about a dozen Chilian Eagles, smelt of skunk, the smell being in most cases old and faint. Of two Crowned Harpies obtained, only one smelt of skunk. This only shows that in Patagonia Eagles attack the skunk, which is not strange considering that it is of a suitable size and conspicuously marked; that it goes about fearlessly in the daytime and is the most abundant animal, the small cavy excepted, in that sterile country. But whether the Eagles *succeed* in their attacks on it is a very different matter. The probability is that when an Eagle, incited by the pangs of hunger, commits so great a mistake as to attack a skunk, the pestilent fluid, which has the same terribly burning and nauseating effect on the lower animals as on man, very quickly makes it abandon the contest. It is certain that pumas make the same mistake as the Eagles do, for in some that are caught the fur smells strongly of skunk. It might be said that the fact that many Eagles smell of skunk serves to show that they do feed on them, for otherwise they would learn by experience to avoid so dangerous an animal, and the smell of a first encounter would soon wear off. We do not think that hungry birds of prey, in a barren country like Patagonia, would learn from one repulse, or even from several, the fruitlessness and danger of such attacks; while the smell is so marvellously persistent that one or two such attacks a year on the part of each Eagle would be enough to account for the smell on so many

birds. If skunks could be easily conquered by Eagles, they would not be so numerous or so neglectful of their safety as we find them.

PEREGRINE FALCON

(*Falco peregrinus*)

Above plumbeous, lightest on the rump, more or less distinctly barred with black; head and cheeks black; beneath white tinged with cinnamon; abdomen and thighs traversed by narrow black bands; cere and feet yellow; length 20, wing 14 inches. Female similar; a third larger.

THE Peregrine Falcon is found throughout the Argentine Republic, but is nowhere numerous, and is not migratory; nor is it "essentially a duck-hawk," as in India according to Dr. Anderson, for it preys chiefly on land birds. It is solitary, and each bird possesses a favourite resting-place or *home*, where it spends several hours every day, and also roosts at night. Where there are trees it has its chosen site where it may always be found at noon; but on the open treeless pampas a mound of earth or the bleached skull of a horse or cow serves it for a perch, and here for months the bird may be found every day on its stand. It sits upright and motionless, springs suddenly into the air when taking flight, and flies in a straight line, and with a velocity which few birds can equal. Its appearance always causes great consternation amongst other birds, for even the Spur-winged Lapwing, the spirited persecutor of all other Hawks, flies screaming with terror from it. It prefers attacking moderately large birds, striking them on the wing, after which it stoops to pick them up. While out riding one day I saw a Peregrine sweep down from a great height and strike a Burrowing-Owl to the

earth, the Owl having risen up before me. It then picked it up and flew away with it in its talons.

The Peregrine possesses one very curious habit. When a Plover, Pigeon, or Duck is killed, it eats the skin and flesh of the head and neck, picking the vertebræ clean of the flesh down to the breast-bone, and also eating the eyes, but leaving the body untouched. I have found scores of dead birds with head and neck picked clean in this way; and once I watched for some months a Peregrine which had established itself near my home, where it made havoc among the Pigeons; and I frequently marked the spot to which it carried its prey, and on going to the place always found that the Pigeon's head and neck only had been stripped of flesh. The Burrowing Owl has an analogous habit, for it invariably rejects the hind quarters of the toads and frogs which it captures.

At the approach of the warm season the Peregrines are often seen in twos and threes violently pursuing each other at a great height in the air, and uttering shrill, piercing screams, which can be heard distinctly after the birds have disappeared from sight.

ARGENTINE HOBBY

(*Falco fusco-cærulescens*)

Above dull slaty black, rump variegated with white; superciliaries prolonged and meeting behind, rufous; beneath throat and breast pale cinnamon with black shaft-stripes on the breast; belly black with white transverse lines; wings and tail blackish with transverse white bars; bill yellow tipped with black, feet orange; length 13.5, wing 10 inches. Female similar but larger.

THE Orange-chested Hobby is found throughout South and Central America, but the form met with here differs, to some extent, in habits from its representatives

of the hotter region. It is a Patagonian bird, the most common Falcon in that country, and is migratory, wintering in the southern and central Argentine provinces. In its winter home it is solitary, and fond of hovering about farmhouses, where it sits on a tree or post and looks out for its prey. Compared with the Peregrine it has a poor spirit, and I have often watched it give chase to a bird, and just when it seemed about to grasp its prey, give up the pursuit and slink ingloriously away. It never boldly and openly attacks any bird, except of the smallest species, and prefers to perch on an elevation from which it can dart down suddenly and take its prey by surprise.

The nest is a slovenly structure of sticks on a thorny bush or tree. The eggs, which I have not seen, Darwin describes as follows:

Surface rough with white projecting points; colour nearly uniform dirty wood-brown; general appearance as if it had been rubbed in brown mud.

ARGENTINE KESTREL

(*Tinnunculus cinnamominus*)

Above reddish cinnamon with irregular black cross bands on the back; head bluish grey; front and sides of head white; nape and stripes on the sides of the neck black; wings bluish grey with black central spots; tail cinnamon red with broad black band and white tip; beneath white with buff tinge, and irregular oval black spots; length 10.5, wing 7.7 inches. Female similar but larger.

THE habits of this little Falcon closely resemble those of *Falco fusco-cærulescens*, and like that bird it is common in Patagonia and migrates north in winter. Many individuals, however, do not migrate, as I found when residing at the Rio Negro, where some pairs

remained at the breeding-place all the year. Many pairs are also found resident and breeding in other parts of the Argentine country, but it is common only in Patagonia.

It nests in holes in cliffs and also on trees, and sometimes builds its own nest on the large nest of a Dendrocolaptine bird or of a Parrakeet. It lays four eggs, large for the size of the bird, oval in shape, and white, thickly blotched with dull red.

The preying habits of the Little Kestrel are similar to those of the Orange-chested Hobby; it haunts farm-houses and plantations, and spends a great deal of time perched on some elevation watching for its prey, and making sudden dashes to capture it by surprise. But though not bold when seeking its food, it frequently makes violent unprovoked attacks on species very much larger than itself, either from ill temper or in a frolicsome spirit, which is more probable.

Thus I have seen one drive up a flock of Glossy Ibises and pursue them some distance, striking and buffeting them with the greatest energy. I saw another pounce down from its perch, where it had been sitting for some time, on a female skunk quietly seated at the entrance of her burrow, with her three half-grown young frolicking around her. I was watching them with extreme interest, for they were leaping over their parent's tail, and playing like kittens with it, when the Hawk dashed down, and after striking at them quickly three or four times, as they tumbled pell-mell into their kennel, flew quietly away, apparently well satisfied with its achievement.

WHITE KITE

(Elanus leucurus)

Above pale grey; lesser wing-coverts and scapulars black; tail white, the two middle feathers grey; beneath white; bill black, eyes crimson; feet yellow; length 14.5, wing 11, tail 7 inches. Female similar but larger.

THIS interesting Hawk is found throughout the Argentine Republic, but is nowhere numerous. It also inhabits Chili, where, Gay says, it is called *Bailarin* (Dancer) on account of its aerial performances. It is a handsome bird, with large ruby-red irides, and when seen at a distance its snow-white plumage and buoyant flight give it a striking resemblance to a gull. Its wing-power is indeed marvellous. It delights to soar, like the Martins, during a high wind, and will spend hours in this sport, rising and falling alternately, and at times, seeming to abandon itself to the fury of the gale, is blown away like thistle-down, until, suddenly recovering itself, it shoots back to its original position. Where there are tall Lombardy poplar-trees these birds amuse themselves by perching on the topmost slender twigs, balancing themselves with outspread wings, each bird on a separate tree, until the tree-tops are swept by the wind from under them, when they often remain poised almost motionless in the air until the twigs return to their feet.

When looking out for prey, this Kite usually maintains a height of sixty or seventy feet above the ground, and in its actions strikingly resembles a fishing Tern, frequently remaining poised in the air with body motionless and wings rapidly vibrating for fully half a minute at a stretch, after which it flies on or dashes down upon its prey.

The nest is placed upon the topmost twigs of a tall tree, and is round and neatly built of sticks, rather deep, and lined with dry grass. The eggs are eight in number, nearly spherical, the ground-colour creamy-white, densely marked with longitudinal blotches or stripes of a fine rich red, almost like coagulated blood in hue. There is, however, great variety in the shades of red, also in the disposition of the markings, these in some eggs being confluent, so that the whole shell is red. The shell is polished and exceedingly fragile, a rare thing in the eggs of a Raptor.

An approach to the nest is always greeted by the birds with long distressful cries, and this cry is also uttered in the love-season, when the males often fight and pursue each other in the air. The old and young birds usually live together until the following spring.

SOCIABLE MARSH-HAWK

(*Rostrohamus sociabilis*)

Deep slaty grey; wing feathers black; rump white; tail white with a broad grey band; eyes crimson, bill and feet orange; length 17, wing 13 inches. Female similar but larger.

THIS Hawk in size and manner of flight resembles a Buzzard, but in its habits and the form of its slender and very sharply hooked beak it differs widely from that bird. The name of Sociable Marsh-Hawk, which Azara gave to this species, is very appropriate, for they invariably live in flocks of from twenty to a hundred individuals, and migrate and even breed in company. In Buenos Ayres they appear in September and resort to marshes and streams abounding in large water-snails (*Ampullaria*), on which they feed exclusively. Each

bird has a favourite perch or spot of ground to which it carries every snail it captures, and after skilfully extracting the animal with its curiously modified beak, it drops the shell on the mound. When disturbed or persecuted by other birds, they utter a peculiar cry, resembling the shrill neighing of a horse. In disposition they are most peaceable, and where they are abundant all other birds soon discover that they are not as other Hawks are and pay no attention to them. When soaring, which is their favourite pastime, the flight is singularly slow, the bird frequently remaining motionless for long intervals in one place; but the expanded tail is all the time twisted about in the most singular manner, moved from side to side, and turned up until its edge is nearly at a right angle with the plane of the body. These tail-movements appear to enable it to remain stationary in the air without the rapid vibratory wing-motions practised by *Elanus leucurus* and other hovering birds; and I should think that the vertebræ of the tail must have been somewhat modified by such a habit.

Concerning its breeding habits Mr. Gibson writes:

In the year 1873 I was so fortunate as to find a breeding colony in one of our largest and deepest swamps. There were probably twenty or thirty nests, placed a few yards apart, in the deepest and most lonely part of the whole "cañadon." They were slightly built platforms, supported on the rushes and two or three feet above the water, with the cup-shaped hollow lined with pieces of grass and water-rush. The eggs never exceeded three in a nest; the ground-colour generally bluish-white, blotched and clouded very irregularly with dull red-brown, the rufous tint sometimes being replaced with ash-grey.

PIGMY FALCON

(Spizapteryx circumcinctus)

Above brown with black shaft-stripes; head black with brown stripes and white superciliaries which join round the nape; rump white; wings black with white oval spots on the outer and white bars on the inner webs; tail black, all but the central feathers crossed by five or six broad white bars; beneath white, the breast marked with narrow black shaft-stripes; beak plumbeous, lower mandible yellow; feet greenish; length 11, wing 6.5 inches. Female similar, rather larger.

THIS small Hawk is sometimes met with in the woods of La Plata, near the river; it is rare, but owing to its curious violent flight, with the short blunt wings rapidly beating all the time, it is very conspicuous in the air and well known to the natives, who call it *Rey de los Pájaros* (King of the Birds) and entertain a very high opinion of its energy and strength. I have never seen it taking its prey, and do not believe that it ever attempts to capture anything in the air, its short, blunt wings and peculiar manner of flight being unsuited for such a purpose. Probably it captures birds by a sudden dash when they mob it on its perch; and I do not know any Raptor more persistently run after and mobbed by small birds. I once watched one for upwards of an hour as it sat on a tree attended by a large flock of Guira Cuckoos, all excitedly screaming and bent on dislodging it from its position. So long as they kept away five or six feet from it the Hawk remained motionless, only hissing and snapping occasionally as a warning; but whenever a Cuckoo ventured a little nearer and into the charmed circle, it would make a sudden rapid dash and buffet the intruder violently back to a proper distance, returning afterwards to its own stand.

CHIMANGO, OR COMMON CARRION
HAWK

(*Milvago chimango*)

Upper plumage reddish brown; greater wing-coverts white with slight brown cross-bars; tail greyish white, banded and freckled with greyish brown. Under plumage grey, tinged with rufous on throat and breast; length 15, wing 11, tail 6.5 inches. Sexes alike.

AZARA says of the Carancho (*Polyborus tharus*): "All methods of subsistence are known to this bird: it pries into, understands, and takes advantage of everything." These words apply better to the Chimango, which has probably the largest bill of fare of any bird, and has grafted on to its own peculiar manner of life the habits of twenty diverse species. By turns it is a Falcon, a Vulture, an insect-eater, and a vegetable-eater. On the same day you will see one bird in violent Hawk-like pursuit of its living prey, with all the instincts of rapine hot within it, and another less ambitious individual engaged in laboriously tearing at an old cast-off shoe, uttering mournful notes the while, but probably more concerned at the tenacity of the material than at its indigestibility.

A species so cosmopolitan in its tastes might have had a whole volume to itself in England; being only a poor foreigner it has had no more than a few unfriendly paragraphs bestowed upon it. For it happens to be a member of that South-American sub-family of which even grave naturalists have spoken slightly, calling them vile, cowardly, contemptible birds; and the Chimango is nearly least of them all—a sort of poor relation and hanger-on of a family already looked upon as bankrupt and disreputable. Despite this evil reputation, few species are more deserving of careful

study; for throughout an extensive portion of South America it is the commonest bird we know; and when we consider how closely connected are the lives of all living creatures by means of their interlacing relations, so that the predominance of any one kind, however innocuous, necessarily causes the modification, or extinction even, of surrounding species, we are better able to appreciate the importance of this despised fowl in the natural polity. Add to this its protean habits, and then, however poor a creature our bird may seem, and deserving of strange-sounding epithets from an ethical point of view, I do not know where the naturalist will find a more interesting one.

The Chimango has not an engaging appearance. In size and figure it much resembles the Hen-Harrier, and the plumage is uniformly of a light sandy brown colour; the shanks are slender, claws weak, and beak so slightly hooked that it seems like the merest apology of the Falcon's tearing weapon. It has an easy, loitering flight, and when on the wing does not appear to have an object in view, like the Hawk, but wanders and prowls about here and there, and when it spies another bird it flies after him to see if he has food in his eye. When one finds something to eat the others try to deprive him of it, pursuing him with great determination all over the place; if the foremost pursuer flags, a fresh bird takes its place, until the object of so much contention—perhaps after all only a bit of bone or skin—is dropped to the ground, to be instantly snatched up by some bird in the tail of the chase; and he in turn becomes the pursued of all the others. This continues until one grows tired and leaves off watching them without seeing the result. They are loquacious and sociable, frequently congregating in loose companies of thirty or forty individuals, when they spend several

hours every day in spirited exercises, soaring about like Martins, performing endless evolutions, and joining in aerial mock battles. When tired of these pastimes they all settle down again, to remain for an hour or so perched on the topmost boughs of trees or on other elevations; and at intervals one bird utters a very long, leisurely chant, with a falling inflection, followed by a series of short notes, all the other birds joining in chorus and uttering short notes in time with those of their soloist or precentor. The nest is built on trees or rushes in swamps, or on the ground amongst grass and thistles. The eggs are three or four in number, nearly spherical, blotched with deep red on a white or creamy ground; sometimes the whole egg is marbled with red; but there are endless varieties. It is easy to find the nest, and becomes easier when there are young birds, for the parent when out foraging invariably returns to her young uttering long mournful notes, so that one has only to listen and mark the spot where it alights. After visiting a nest I have always found the young birds soon disappear, and as the old birds vanish also I believe that the Chimango removes its young when the nest has been discovered—a rare habit with birds.

Chimangos abound most in settled districts, but a prospect of food will quickly bring numbers together even in the most solitary places. On the desert pampas, where hunters, Indian and European, have a great fancy for burning the dead grass, the moment the smoke of a distant fire is seen there the Chimangos fly to follow the conflagration. They are at such times strangely animated, dashing through clouds of smoke, feasting among the hot ashes on roasted cavies and other small mammals, and boldly pursuing the scorched fugitives from the flames.

At all times and in all places the Chimango is ever

ready to pounce on the weak, the sickly, and the wounded. In other regions of the globe these doomed ones fall into the clutches of the true bird of prey; but the salutary office of executioner is so effectually performed by the Chimango and his congeners where these false Hawks abound, that the true Hawks have a much keener struggle to exist here. This circumstance has possibly served to make them swifter of wing, keener of sight, and bolder in attack than elsewhere. I have seen a Buzzard, which is not considered the bravest of the Hawks, turn quick as lightning on a Spur-wing Lapwing, which was pursuing it, and, grappling it, bear it down to the ground and dispatch it in a moment, though a hundred other Lapwings were uttering piercing screams above it. Yet this Plover is a large, powerful, fierce-tempered bird, and armed with sharp spurs on its wings. This is but one of numberless instances I have witnessed of the extreme strength and daring of our Hawks.

When shooting birds to preserve I used to keep an anxious eye on the movements of the Chimangos flying about, for I have had some fine specimens carried off or mutilated by these omnipresent robbers. One winter day I came across a fine *Myiotheretes rufiventris*, a pretty and graceful Tyrant-bird, rather larger than the Common Thrush, with a chocolate and silver-grey plumage. It was rare in that place, and, anxious to secure it, I fired a very long shot, for it was extremely shy. It rose up high in the air and flew off apparently unconcerned. What then was my surprise to see a Chimango start off in pursuit of it! Springing on to my horse I followed, and before going half a mile noticed the Tyrant-bird beginning to show signs of distress. After avoiding several blows aimed by the Chimango, it flew down and plunged into a cardoon

bush. There I captured it, and when skinning it to preserve found that one small shot had lodged in the fleshy portion of the breast. It was a very slight wound, yet the Chimango with its trained sight had noticed something wrong with the bird from the moment it flew off, apparently in its usual free, buoyant manner.

On another occasion I was defrauded of a more valuable specimen than the Tyrant-bird. It was on the east coast of Patagonia, when one morning, while seated on an elevation, watching the waves dashing themselves on the shore, I perceived a shining white object tossing about at some distance from land. Successive waves brought it nearer, till at last it was caught up and flung far out on to the shingle fifty yards from where I sat; and instantly, before the cloud of spray had vanished, a Chimango dashed down upon it. I jumped up and ran down as fast as I could, and found my white object to be a Penguin, apparently just killed by some accident out at sea, and in splendid plumage; but alas! in that moment the vile Chimango had stripped off and devoured the skin from its head, so that as a specimen it was hopelessly ruined.

As a rule, strong healthy birds despise the Chimango; they feed in his company; his sudden appearance causes no alarm, and they do not take the trouble to persecute him; but when they have eggs or young he is not to be trusted. He is not easily turned from a nest he has once discovered. I have seen him carry off a young Tyrant-bird (*Milvulus tyrannus*) in the face of such an attack from the parent birds that one would have imagined not even a true Hawk could have withstood. Curiously enough, like one of the boldest of our small Hawks (*Tinnunculus cinnamominus*), they sometimes attack birds so much too strong and big for them that they must know the assault will produce

more annoyance than harm. I was once watching a flock of Coots feeding on a grassy bank, when a passing Chimango paused in its flight, and, after hovering over them a few moments, dashed down upon them with such impetuosity that several birds were thrown to the ground by the quick successive blows of its wings. There they lay on their backs, kicking, apparently too much terrified to get up, while the Chimango deliberately eyed them for some moments, then quietly flew away, leaving them to dash into the water and cool their fright. Attacks like these are possibly made in a sportive spirit, for the *Milvago* is a playful bird, and, as with many other species, bird and mammal, its play always takes the form of attack.

Its inefficient weapons compel it to be more timid than the Hawk, but there are many exceptions, and in every locality individual birds are found distinguished by their temerity. Almost any shepherd can say that his flock is subject to the persecutions of at least one pair of lamb-killing birds of this species. They prowl about the flock, and watch till a small lamb is found sleeping at some distance from its dam, rush upon it, and, clinging to its head, eat away its nose and tongue. The shepherd is then obliged to kill the lamb; but I have seen many lambs that have been permitted to survive the mutilation, and which have grown to strong healthy sheep, though with greatly disfigured faces. One more instance I will give of the boldness of a bird of which Azara, greatly mistaken, says that it might possibly have courage enough to attack a mouse, though he doubts it. Close to my house, when I was a boy, a pair of these birds had their nest near a narrow path leading through a thicket of giant thistles, and every time I traversed that path the male bird, which, contrary to the rule with birds of prey, is larger and

bolder than the female, would rise high above me, then dashing down strike my horse a violent blow on the forehead with its wings. This action it would repeat till I was out of the path. I thought it very strange the bird never struck *my* head; but I presently discovered that it had an excellent reason for what it did. The gauchos ride by preference on horses never properly tamed, and one neighbour informed me that he was obliged every day to make a circuit of half a mile round the thistles, as the horses he rode became quite unmanageable in the path, they had been so terrified with the attacks of this Chimango.

Where the intelligence of the bird appears to be really at fault is in its habit of attacking a sore-backed horse, tempted thereto by the sight of a raw spot, and apparently not understanding that the flesh it wishes to devour is an inseparable part of the whole animal. Darwin has noticed this curious blunder of the bird; and I have often seen a chafed saddle-horse wildly scouring the plain closely pursued by a hungry Chimango, determined to dine on a portion of him.

In the hot season, when marshes and lagoons are drying up, the Chimango is seen associating with Ibises and other waders, standing knee-deep in the water and watching for tadpoles, frogs, and other aquatic prey. He also wades after a very different kind of food. At the bottom of pools, collected on clayey soil after a summer shower, an edible fungus grows, of a dull greenish colour and resembling gelatine. He has found out that this fungus is good for food, though I never saw any other creature eating it. In cultivated districts he follows the plough in company with the Black-headed Gulls, *Molothri*, Guira Cuckoos, and Tyrant-birds, and clumsily gleans amongst the fresh-turned mould for worms and larvæ. He also attends the pigs

when they are rooting on the plain to share any succulent treasure turned up by their snouts; for he is not a bird that allows dignity to stand between him and his dinner. In the autumn, on damp, sultry days, the red ants, that make small conical mounds on the pampas, are everywhere seen swarming. Rising high in the air they form a little cloud or column, and hang suspended for hours over the same spot. On such days the Milvagos fare sumptuously on little insects, and under each cloud of winged ants several of them are to be seen in company with a few Flycatchers, or other diminutive species, briskly running about to pick up the falling manna, their enjoyment undisturbed by any sense of incongruity.

Before everything, however, the Chimango is a vulture, and is to be found at every solitary rancho sharing with dogs and poultry the offal and waste meat thrown out on the dust-heap; or, after the flock has gone to pasture, tearing at the eyes and tongue of a dead lamb in the sheepfold. When the hide has been stripped from a dead horse or cow, on the plains, the Chimango is always first on the scene. While feeding on a carcass it incessantly utters a soliloquy of the most lamentable notes, as if protesting against the hard necessity of having to put up with such carrion fare—long querulous cries resembling the piteous whines of a shivering puppy chained up in a bleak backyard and all its wants neglected, but infinitely more doleful in character. The gauchos have a saying comparing a man who grumbles at good fortune to the Chimango crying on a carcass—an extremely expressive saying to those who have listened to the distressful wailings of the bird over its meal. In winter a carcass attracts a great concourse of the Black-backed Gulls; for with the cold weather these Vultures of the sea abandon their breeding-places

on the Atlantic shores to wander in search of food over the vast inland pampas. The dead beast is quickly surrounded by a host of them, and the poor Chimango crowded out. One at least, however, is usually to be seen perched on the carcass tearing at the flesh, and at intervals with outstretched neck and ruffled-up plumage uttering a succession of its strange wailing cries, reminding one of a public orator mounted on a rostrum and addressing harrowing appeals to a crowd of attentive listeners. When the carcass has been finally abandoned by foxes, armadillos, Gulls, and Caranchos, the Chimango still clings sorrowfully to it, eking out a miserable existence by tearing at a fringe of gristle and whetting his hungry beak on the bones.

Though an inordinate lover of carrion, a wise instinct has taught it that this aliment is unsuited to the tender stomachs of its fledglings; these it feeds almost exclusively on the young of small birds. In November the Chimangos are seen incessantly beating over the cardoon bushes, after the manner of Hen-Harriers; for at this season in the cardoons breeds the *Synallaxis hudsoni*. This bird, sometimes called *Tiru-riru del campo* by the natives, is excessively shy and mouse-like in habits, seldom showing itself, and by means of strong legs and a long, slender, wedge-like body is able to glide swiftly as a snake through and under the grass. In summer one hears its long, melancholy, trilling call-note from a cardoon bush, but if approached it drops to the ground and vanishes. Under the densest part of the cardoon bush it scoops out a little circular hollow in the soil, and constructs over it a dome of woven grass and thorns, leaving only a very small aperture; it lines the floor with dry horse-dung, and lays five buff-coloured eggs. So admirably is the nest concealed that I have searched every day for it through

a whole breeding-season without being rewarded with a single find. Yet they are easily found by the Chimango. In the course of a single day I have examined five or six broods of young Chimangos, and by pressing a finger on their distended crops made them disgorge their food, and found in every instance that they had been fed on nothing but the young of the Tíru-ríru. I was simply amazed at this wholesale destruction of the young of a species so secret in its nesting-habits; for no eye, even of a Hawk, can pierce through the leafage of a cardoon bush, ending near the surface in an accumulated mass of the dead and decaying portions of the plant. The explanation of the Chimango's success is to be found in the loquacious habit of the fledglings it preys on, a habit common in the young of Dendrocolaptine species. The intervals between the visits of the parent birds with food they spend in conversing together in their high-pitched tones. If a person approaches the solid fabric of the Oven-bird (*Furnarius rufus*) when there are young in it, he will hear shrill laughter-like notes and little choruses, like those uttered by the old birds, only feebler; but in the case of that species no harm can result from the loquacity of the young, since the castle they inhabit is impregnable. Hovering over the cardoons, the Chimango listens for the stridulous laughter of the fledglings, and when he hears it the thorny covering is quickly pierced and the dome broken into.

Facts like these bring before us with startling vividness the struggle for existence, showing what great issues in the life of a species may depend on matters so trivial, seemingly, that to the uninformed mind they appear like the merest dust in the balance, which is not regarded. And how tremendous and pitiless is that searching law of the survival of the fittest in its

operations, when we see a species like this *Synallaxis*, in the fashioning and perfecting of which Nature seems to have exhausted all her art, so exquisitely is it adapted in its structure, coloration, and habits to the one great object of concealment, yet apparently doomed to destruction through this one petty oversight—the irrepressible garrulity of the fledglings in their nest! It is, however, no oversight at all; since the law of natural selection is not prophetic in its action, and only preserves such variations as are beneficial in existing circumstances, without anticipating changes in the conditions. The settlement of the country has, no doubt, caused a great increase of Chimangos, and in some indirect way probably has served to quicken their intelligence; thus a change in the conditions which have moulded this *Synallaxis* brings a danger to it from an unexpected quarter. The situation of the nest exposes it, one would imagine, to attacks from snakes and small mammals, from bird-killing spiders, beetles and crickets, yet these subtle ground foes have missed it, while the baby-laughter of the little ones in their cradle has called down an unlooked-for destroyer from above. It might be answered that this must be a very numerous species, otherwise the Chimango could not have acquired the habit of finding the nests; that when they become rarer the pursuit will be given over, after which the balance will re-adjust itself. But in numbers there is safety, especially for a feeble, hunted species, unable from its peculiar structure to vary its manner of life. To such the remark made by Darwin, that “rarity is the precursor to extinction,” applies with peculiar force.

CARANCHO OR CARACARA

(Polyborus tharus)

Dark brown with whitish mottlings; head black; wings and tail greyish white with greyish brown cross-bars and black tips; beneath dark brown; throat and sides of head yellowish white; beak yellow; cere orange. Sexes alike.

THIS bird, which combines the raptorial instincts of the Eagle with the base carrion-feeding habits of the Vulture, has already had so many biographers that it might seem superfluous to speak of it again at any great length; only it happens to be one of those very versatile species about which there is always something fresh to be said; and, besides, I do not altogether agree with the very ignoble character usually ascribed to it by travellers. It is, however, probable, that it varies greatly in disposition and habits in different districts. In Patagonia I was surprised at its dejected appearance and skulking cowardly manner, so unlike the bird I had been accustomed to see on the pampas. I shot several, and they were all in a miserably poor condition and apparently half-starved. It struck me that in that cold, sterile country, where prey is scarce, the Carancho is altogether out of place; for it there has to compete with Eagles and Vultures in large numbers; and these, it is almost needless to say, are, in their separate lines, stronger than the composite and less specialised Carancho. In Patagonia he is truly a "miserable bird," with a very frail hold on existence. How different on that illimitable grassy ocean farther north, where he is the lord of the feathered race, for Eagles and Vultures, that require mountains and trees to breed and roost on, do not come there to set him aside; there the conditions are suited to him and have

served to develop in him a wonderfully bold and savage spirit. When seen perched on a conical ant-hill, standing erect above the tall plummy grass, he has a fine, even a noble appearance; but when flying he is not handsome, the wings being very bluntly rounded at the extremities and the flight low and ungraceful. The plumage is blackish in the adult, brown in the young. The sides of the head and breast are creamy white, the latter transversely marked with black spots. The crown is adorned with a crest or top-knot. The beak is much larger than in Eagles and Vultures, and of a dull blue colour; the cere and legs are bright yellow.

The species ranges throughout South America, and from Paraguay northwards is called everywhere, I believe, *Caracara*. South of Paraguay the Spanish name is *Carancho*, possibly a corruption of *Keanché*, the Puelche name for the allied *Milvago chimango*, in imitation of its peevish cry. The Indian name for the Carancho in these regions is *Trarú* (from its harsh cry), misspelt *Tharú* by Molina, a Spanish priest who wrote a book on the birds of Chili in the eighteenth century; hence the specific name *Tharus*.

The Caranchos pair for life, and may therefore be called social birds; they also often live and hunt in families of the parent and young birds until the following spring; and at all times several individuals will readily combine to attack their prey, but they never live or move about in flocks. Each couple has its own home or resting-place, which they will continue to use for an indefinite time, roosting on the same branch and occupying the same nest year after year; while at all times the two birds are seen constantly together and seem very much attached. Azara relates that he once saw a male pounce down on a frog, and carrying it to a tree call his mate to him and make her a present

of it. It was not a very magnificent present, but the action seems to show that the bird possesses some commendable qualities which are seldom seen in the raptorial family.

In uninhabited places I have always found the Caranchos just as abundant as in the settled districts; and after a deer has been pulled down by the dogs I have seen as many as seventy or eighty birds congregate to feed on its flesh within half an hour, although not one had been previously visible. D'Orbigny describes the bird as a parasite on man, savage and civilised, following him everywhere to feed on the leavings when he slays wild or domestic animals, and as being scarcely able to exist without him. No doubt the bird does follow man greatly to its advantage, but this is only in very thinly settled and purely pastoral and hunting districts, where a large proportion of the flesh of every animal slain is given to the fowls of the air. Where the population increases the Carancho quickly meets with the fate of all large species which are regarded as prejudicial.

Without doubt it is a carrion-eater, but only, I believe, when it cannot get fresh provisions; for when famished it will eat anything rather than study its dignity and suffer hunger like the nobler Eagle. I have frequently seen one or two or three of them together on the ground under a column of winged ants, eagerly feasting on the falling insects. To eat putrid meat it must be very hungry indeed; it is, however, amazingly fond of freshly-killed flesh meat, and when a cow is slaughtered at an estancia-house the Carancho quickly appears on the scene to claim his share, and catching up the first thing he can lift he carries it off before the dogs can deprive him of it. When he has risen to a height of five or six yards in the air he drops the meat from his

beak and dexterously catches it in his claws without pausing or swerving in his flight. It is singular that the bird seems quite incapable of lifting anything from the ground with its claws, the beak being invariably used, even when the prey is an animal which it might seem dangerous to lift in this way. I once saw one of these birds swoop down on a rat from a distance of about forty feet, and rise with its struggling and squealing prey to a height of twenty feet, then drop it from his beak and gracefully catch it in his talons. Yet when it pursues and overtakes a bird in the air it invariably uses its claws in the same way as other Hawks. This I have frequently observed, and I give the two following anecdotes to show that even birds which one would imagine to be quite safe from the Carancho are on some occasions attacked by it.

While walking in a fallow field near my home one day I came on a Pigeon feeding, and at once recognised it as one which had only begun to fly about a week before; for although a large number of Pigeons were kept, this bird happened to be of the purest unspotted white, and for a long time I had been endeavouring to preserve and increase the pure white individuals, but with very little success, for the Peregrines invariably singled them out for attack. A Carancho was circling about at some distance overhead, and while I stood still to watch and admire my Pigeon it stooped to within twenty yards of the surface and remained hovering over my head. Presently the Pigeon became alarmed and flew away, whereupon the Hawk gave chase—a very vain chase I imagined it would prove. It lasted for about half a minute, the Pigeon rushing wildly round in wide circles, now mounting aloft and now plunging downwards close to the surface, the Carancho hotly following all the time.

At length, evidently in great terror, the hunted bird flew down, alighting within a yard of my feet. I stooped to take hold of it, when, becoming frightened at my action, it flew straight up and was seized in the talons of its pursuer close to my face and carried away.

In the next case the bird attacked was the Spur-winged Lapwing, the irreconcilable enemy of the Carancho and its bold and persistent persecutor. The very sight of this Hawk rouses the Lapwings to a frenzy of excitement, and springing aloft they hasten to meet it in mid-air, screaming loudly, and continue to harry it until it leaves their ground, after which they return, and, ranged in triplets, perform their triumphal dances, accompanied with loud drumming notes. But if their hated foe alights on the ground, or on some elevation near them, they hover about him, and first one, then another, rushes down with the greatest violence, and gliding near him turns the bend of its wings so that the spur appears almost to graze his head. While one bird is descending others are rising upwards to renew their charges; and this persecution continues until they drive him away or become exhausted with their fruitless efforts. The Carancho, however, takes little notice of his tormentors; only when the Plover comes very close, evidently bent on piercing his skull with its sharp weapon, he quickly dodges his head, after which he resumes his indifferent demeanour until the rush of the succeeding bird takes place.

While out riding one day a Carancho flew past me attended by about thirty Lapwings, combined to hunt him from their ground, for it was near the breeding-season, when their jealous irascible temper is most excited. All at once, just as a Lapwing swept close by and then passed on before it, the Hawk quickened its

flight in the most wonderful manner and was seen in hot pursuit of its tormentor. The angry hectoring cries of the Lapwings instantly changed to piercing screams of terror, which in a very short time brought a crowd numbering between two and three hundred birds to the rescue. Now, I thought, the hunted bird will escape, for it twisted and turned rapidly about, trying to lose itself amongst its fellows, all hovering in a compact crowd about it and screaming their loudest. But the Carancho was not to be shaken off; he was never more than a yard behind his quarry, and I was near enough to distinguish the piteous screams of the chased Lapwing amidst all the tumult, as of a bird already captive. At the end of about a minute it was seized in the Carancho's talons, and, still violently screaming, borne away. The cloud of Lapwings followed for some distance, but presently they all returned to the fatal spot where the contest had taken place; and for an hour afterwards they continued soaring about in separate bodies, screaming all the time with an unusual note in their voices as of fear or grief, and holding excited conclaves on the ground, to all appearance as greatly disturbed in their minds as an equal number of highly emotional human beings would be in the event of a similar disaster overtaking them.

It is not often, however, that the Carancho ventures singly to attack adult and vigorous birds, except the Tinamu, the "Partridge" of South America; they prey by preference on the young and ailing, on small lambs and pigs left at a distance by their dams; and they also frequently attack and kill old and weakly sheep. Where anything is wrong with bird or beast they are very quick to detect it, and will follow a sportsman to pick up the wounded birds, intelligently keeping at a safe distance themselves. I once shot a Flamingo in

the grey stage of plumage and had some trouble to cross the stream, on the opposite side of which the bird, wounded very slightly, was rapidly stalking away. In three or four minutes I was over and found my Flamingo endeavouring to defend itself against the assaults of a Carancho which had marked it for its own, and was striking it on the neck and breast in the most vigorous and determined way, sometimes from above, at other times alighting on the ground before it and springing up to strike like a game-cock. A spot of blood on the plumage of the wounded bird, which had only one wing slightly damaged, had been sufficient to call down the attack; for to the Carancho a spot of blood, a drooping wing, or any irregularity in the gait, quickly tells its tale.

When several of these birds combine they are very bold. A friend told me that while voyaging on the Paraná river a Black-necked Swan flew past him hotly pursued by three Caranchos; and I also witnessed an attack by four birds on a widely different species. I was standing on the bank of a stream on the pampas watching a great concourse of birds of several kinds on the opposite shore, where the carcass of a horse, from which the hide had been stripped, lay at the edge of the water. One or two hundred Hooded Gulls and about a dozen Chimangos were gathered about the carcass, and close to them a very large flock of Glossy Ibises were wading about in the water, while amongst these, standing motionless in the water, was one solitary White Egret. Presently four Caranchos appeared, two adults and two young birds in brown plumage, and alighted on the ground near the carcass. The young birds advanced at once and began tearing at the flesh; while the two old birds stayed where they had alighted, as if disinclined to feed on half-putrid meat. Presently

one of them sprang into the air and made a dash at the birds in the water, and instantly all the birds in the place rose into the air screaming loudly, the two young brown Caranchos only remaining on the ground. For a few moments I was in ignorance of the meaning of all this turmoil, when, suddenly, out of the confused black and white cloud of birds the Egret appeared, mounting vertically upwards with vigorous measured strokes. A moment later, first one then the other Carancho also emerged from the cloud, evidently pursuing the Egret, and only then the two brown birds sprang into the air and joined in the chase. For some minutes I watched the four birds toiling upwards with a wild zig-zag flight, while the Egret, still rising vertically, seemed to leave them hopelessly far behind. But before long they reached and passed it, and each bird as he did so would turn and rush downwards, striking at the Egret with his claws, and while one descended the others were rising, bird following bird with the greatest regularity. In this way they continued toiling upwards until the Egret appeared a mere white speck in the sky, about which the four hateful black spots were still revolving. I had watched them from the first with the greatest excitement, and now began to fear that they would pass from sight and leave me in ignorance of the result; but at length they began to descend, and then it looked as if the Egret had lost all hope, for it was dropping very rapidly, while the four birds were all close to it, striking at it every three or four seconds. The descent for the last half of the distance was exceedingly rapid, and the birds would have come down almost at the very spot they started from, which was about forty yards from where I stood, but the Egret was driven aside, and sloping rapidly down struck the earth at a distance of two hundred

yards from the starting-point. Scarcely had it touched the ground before the hungry quartet were tearing it with their beaks. They were all equally hungry no doubt, and perhaps the old birds were even more hungry than their young; and I am quite sure that if the flesh of the dead horse had not been so far advanced towards putrefaction they would not have attempted the conquest of the Egret.

I have so frequently seen a pure white bird singled out for attack in this way, that it has always been a great subject of wonder to me how the two common species of snow-white Herons in South America are able to maintain their existence; for their whiteness exceeds that of other white waterfowl, while, compared with Swans, Storks, and the Wood-Ibis, they are small and feeble. I am sure that if these four Caranchos had attacked a Glossy Ibis they would have found it an easier conquest; yet they singled out the Egret, purely, I believe, on account of its shining white conspicuous plumage.

This wing-contest was a very splendid spectacle, and I was very glad that I had witnessed it, although it ended badly for the poor Egret; but in another case of a combined attack by Caranchos there was nothing to admire except the intelligence displayed by the birds in combining, and much to cause the mind to revolt against the blindly destructive ferocity exhibited by Nature in the instincts of her creatures. The scene was witnessed by a beloved old gaucho friend of mine, a good observer, who related it to me. It was in summer, and he was riding in a narrow bridle-path on a plain covered with a dense growth of giant thistles, nine or ten feet high, when he noticed some distance ahead several Caranchos hovering over the spot; and at once conjectured that some large animal had fallen

there, or that a traveller had been thrown from his horse and was lying injured among the thistles. On reaching the spot he found an open space of ground about forty yards in diameter, surrounded by the dense wall of close-growing thistles, and over this place the birds were flying, while several others were stationed near, apparently waiting for something to happen. The attraction was a large male Rhea squatting on the ground, and sheltering with its extended wings a brood of young birds. My friend was not able to count them, but there were not fewer than twenty-five or thirty young birds, small tender things, only a day or so out of the shell. As soon as he rode into the open space of ground, the old Ostrich sprang up, and with lowered head, clattering beak, and broad wings spread out like sails, rushed at him; his horse was greatly terrified, and tried to plunge into the dense mass of thistles, so that he had the greatest difficulty in keeping his seat. Presently the Ostrich left him, and casting his eyes round he was astonished to see that all the young Ostriches were running about, scattered over the ground, while the Caranchos were pursuing, knocking down, and killing them. Meanwhile the old Ostrich was frantically rushing about trying to save them; but the Caranchos, when driven from one bird they were attacking, would merely rise and drop on the next one a dozen yards off; and as there were about fifteen Caranchos all engaged in the same way, the slaughter was proceeding at a great rate. My friend, who had been vainly struggling to get the better of his horse, was then forced to leave the place, and did not therefore see the end of the tragedy in which he had acted an involuntary part; but before going he saw that at least half the young birds were dead, and that these were all torn and bleeding on the small of the neck just behind

the head, while in some cases the head had been completely wrenched off.

The Gauchos when snaring Partridges (*Tinamus*) frequently bribe the Caranchos to assist them. The snarer has a long slender cane with a small noose at the extremity, and when he sights a Partridge he gallops round it in circles until the bird crouches close in the grass; then the circles are narrowed and the pace slackened, while he extends the cane and lowers it gradually over the bewildered bird until the small noose is dropped over its head and it is caught. Many Partridges are not disposed to sit still to be taken in this open, bare-faced way; but if the snarer keeps a Carancho hovering about by throwing him an occasional gizzard, the wariest Partridge is so stricken with fear that it will sit still and allow itself to be caught.

In the love season the male Caranchos are frequently seen fighting; and sometimes, when the battle is carried on at a great height in the air, the combatants are seen clasped together and falling swiftly towards the earth; but, in all contests I have witnessed, the birds have not been so blinded with passion as to fall the whole distance before separating. Besides these single combats, in which unpaired or jealous males engage in the love-season, there are at all times occasional dissensions amongst them, the cause of which it would be difficult to determine. Here again, as often in hunting, the birds combine to punish an offender, and in some cases the punishment is death.

Their cry is exceedingly loud and harsh, a short abrupt note, like *cruk*, repeated twice; after which, if the bird is violently agitated, as when wounded or fighting, it throws its head backwards until the crown rests on the back, and rocks it from side to side, accompanying the action with a prolonged piercing

cry of great power. This singular gesture of the Carancho, unique among birds, seems to express very forcibly a raging spirit.

The nest is built in a variety of situations: on trees, where there are any, but on the treeless pampas, where the Carancho is most at home, it is made on the ground, sometimes among the tall grass, while a very favourite site is a small islet or mound of earth rising well out of the water. When a suitable place has been found, the birds will continue to use the same nest for many consecutive years. It is a very large, slovenly structure of sticks, mixed with bones, pieces of skin, dry dung, and any portable object the bird may find to increase the bulk of his dwelling. The eggs are three or four, usually the last number, slightly oval, and varying greatly in colour and markings, some having irregular dark red blotches on a cream-coloured ground, while others are entirely of a deep brownish red, with a few black marks and blotches.

BLACK VULTURE

(*Cathartes atratus*)

Whole plumage black; head bare and black; length 25 inches, wing 17.5 inches.

THREE species of Vulture inhabit Argentina, all of the American family Cathartidæ; the first being the Great Condor, *Sarcorhamphus gryphus*, found in the Andean region and in Patagonia. Of this great and often-described bird I can say next to nothing from personal observation, as I met with it but once, and that was on the sea-shore south of the Rio Negro. The second

is the well-known Turkey Buzzard of southern North America, *Cathartes aura*. His range extends south to Patagonia, where I met with it and could always distinguish it from the common Black Vulture at a great distance by its bright red, bare head and neck. It is, however, far from common.

The Black Vulture, according to Dr. Burmeister, is found throughout the Argentine pampas, but is commoner in the east and north. It is known as the *Gallinazo* at Mendoza, and *Cuervo* (Crow) in Tucuman. Mr. Barrows tells us that he did not see it during his residence at Concepcion, but was told of its former abundance in times of drought, when dead sheep were numerous. It was, however, met with by him in small numbers during his excursion through the sierras of the pampas south of Buenos Ayres.

On the Rio Negro in Patagonia I found these Vultures abundant, especially near the settlement of El Carmen, where, attracted by the refuse of the cattle-slaughtering establishments, they congregated in immense numbers, and were sometimes seen crowded together in thousands on the trees, where they roosted. Darwin observed them at the same place, and has described their soaring habits at considerable length.

The following account of the nesting habits of this species is given by Mr. John J. Dalglish (*Proc. Roy. Phys. Soc. Edin.*, vi. 237):

The eggs seldom, if ever, exceed two in number, and are usually laid in a hollow tree or on the ground. Their average weight is about a pound. They are slightly larger than those of the Turkey Buzzard, although the latter is a bigger bird. The ground colour is of yellowish white, with blotches of dark reddish brown, and smaller markings of a lilac shade. These markings are generally more numerous at the larger end.

BRAZILIAN CORMORANT

(*Phalacrocorax brasilianus*)

Black, glossed with metallic green; bill and naked skin of the face yellow; length 30 inches, wing 12 inches. Female similar; young brown, cheeks whitish and breast white.

THIS appears to be the only Cormorant met with on the coasts and inland waters of South America north of Buenos Ayres; but two other species are found in southern Chili and Patagonia, which may probably likewise occur in the southern provinces of the Republic.¹

Azara tells us that this Cormorant is not uncommon in Paraguay, and Mr. Barrows found it an "abundant resident" at Concepcion in Entrerios.

In the vicinity of Buenos Ayres several well-known authorities have met with it, and Durnford found it common and resident in Chupat.

The name of Brazilian Cormorant, which naturalists have bestowed on this species, is certainly inappropriate and misleading, since the bird is very abundant in La Plata, where the native name for it is *Vigua*; and it is also very common in the Patagonian rivers. It is always seen swimming, sinking its heavy body lower and lower down in the water when approached, until only the slanting snake-like head and neck are visible; or else sitting on the bank, or on a dead projecting branch, erect and with raised beak, and never moving from its statuesque attitude until forced to fly. It rises reluctantly and with great labour, and has a straight rapid flight, the wings beating incessantly. By day it is a silent bird, but when many individuals congregate

¹ Namely, *P. imperialis* and *P. albiventris*. See *Zool. Chall. (Birds)*, p. 121. It was probably one of these two species that Durnford found nesting on Tombo Point, south of Chupat (*cf. Ibis*, 1878, p. 399).

to roost on the branches of a dead tree overhanging the river, they keep up a concert of deep, harsh, powerful notes all night long, which would cause any person not acquainted with their language to imagine that numerous pigs or peccaries were moving about with incessant gruntings in his neighbourhood.

COCOI HERON

(*Ardea cocoi*)

Above grey; head, wings, and tail slaty black; beneath white; neck and sides striped with black; length 36 inches, wing 18 inches, tail 7 inches. Sexes alike.

THIS fine Heron is found throughout South and some parts of North America. In size, form, and colour it closely resembles the Common Heron of Europe; in flight, language, and feeding-habits the two species are identical, albeit inhabiting regions so widely separated. In the southern part of South America it is not seen associating with its fellows, nor does it breed in heronries; but this may be owing to the circumstance that in the temperate countries it is very thinly distributed; and it is highly probable, I think, that in the hotter regions, where it is more abundant, its habits may not appear so unsocial. Though they are always seen fishing singly, they pair for life, and male and female are never found far apart, but haunt the same stream or marsh all the year round. Azara says that in Paraguay, where they are rare, they go in pairs and breed in trees. On the pampas it makes its solitary nest amongst the rushes, and lays three blue eggs.

The following general remarks on the Heron apply chiefly to the *Ardea cocoi*, and to some extent also to other species of the Heron family.

I have observed Herons of several species a good deal, but chiefly the Cocoi, and think there is something to be said in support of Buffon's opinion that they are wretched, indigent birds, condemned by the imperfection of their organs to a perpetual struggle with want and misery. In reality the organs, and the correlated instincts, are just as perfect as in any other creature, but the Heron is certainly more highly specialised and lives more in a groove than most species. Consequently when food fails him in the accustomed channels he suffers more than most other species.

Much as the different species vary in size, from the *Ardea cocoi* to the diminutive Variegated Heron of Azara (*Ardetta involucris*), no bigger than a Snipe, there is yet much sameness in their conformation, language, flight, nesting and other habits. They possess a snake-like head and neck, and a sharp taper beak, with which they transfix their prey as with a dart—also the serrate claw, about which so much has been said, and which has been regarded as an instance of pure adaptation.

A curious circumstance has come under my observation regarding Herons. Birds in poor condition are very much infested with vermin; whether the vermin are the cause or effect of the poor condition, I do not know; but such is the fact. Now in this region (the Argentine Republic) Herons are generally very poor, a good-conditioned bird being a very rare exception; a majority of individuals are much emaciated and infested with intestinal worms; yet I have never found a bird infested with lice, though the Heron would seem a fit subject for them, and in the course of my rambles I have picked up many individuals apparently perishing from inanition. I do not wish to insinuate a belief that this immunity from vermin is due to the pectinated

claw; for though the bird does scratch and clean itself with the claw it could never rid the entire plumage from vermin by this organ, which is as ill adapted for such a purpose as for "giving a firmer hold on its slippery prey."

The Spoonbill has also the serration, and is, unlike the Heron, an active vigorous bird and usually fat; yet it is much troubled with parasites, and I have found birds too weak to fly and literally swarming with them.

I merely wish to call the attention of ornithologists to the fact that in the region where I have observed Herons they are exempt in a remarkable degree from external parasites.

Much has also been said about certain patches of dense, clammy, yellowish down under the loose plumage of Herons. These curious appendages may be just as useless to the bird as the tuft of hair on its breast is to the Turkey-cock; but there are more probabilities the other way, and it may yet be discovered that they are very necessary to its well-being. Perhaps these clammy feathers contain a secretion fatal to the vermin by which birds of sedentary habits are so much afflicted, and from which Herons appear to be so strangely free. They may even be the seat of that mysterious phosphorescent light which someone has affirmed emanates from the Heron's breast when it fishes in the dark, and which serves to attract the fish, or to render them visible to the bird. Naturalists have, I believe, dismissed the subject of this light as a mere fable without any foundation of fact; but real facts regarding habits of animals have not infrequently been so treated. Mr. Bartlett's interesting observations on the Flamingoes in the Society's Gardens show that the ancient story of the Pelican feeding its young on its own blood is perhaps

only a slightly embellished account of a common habit of the Flamingo.

I have not observed Herons fishing by night very closely, but there is one fact which inclines me to believe it probable that some species might possess the light-emitting power in question. I am convinced that the *Ardea cocoi* sees as well by day as other diurnal species; the streams on the level pampas are so muddy that a fish two inches below the surface is invisible to the human eye, yet in these thick waters the Herons fish by night and by day. If the eye is adapted to see well with the bright sun shining, how can it see at night and in such unfavourable circumstances without some such extraneous aid to vision as the attributed luminosity?

Hérons of all birds have the slowest flight; but though incapable of progressing rapidly when flying horizontally, when pursued by a Hawk the Heron performs with marvellous ease and grace an aerial feat unequalled by any other bird, namely that of rising vertically to an amazing height in the air. The swift vertical flight with which the pursued ascends until it becomes a mere speck in the blue zenith, the hurried zig-zag flight of the pursuer, rising every minute above its prey, only to be left below again by a single flap of the Heron's wings, forms a sight of such grace, beauty, and power as to fill the mind of the spectator with delight and astonishment.

When the enemy comes to close quarters, the Heron instinctively throws itself belly up to repel the assault with its long, crooked, cutting claws. Raptorial species possess a similar habit; and the analogous correlation of habit and structure in genera so widely separated is very curious. The Falcon uses its feet to strike, lacerate, and grasp its prey; the Heron to anchor itself

firmly to its perch; but for weapons of defence they are equally well adapted, and are employed in precisely the same manner. The Heron, with its great length of neck and legs, its lean unballasted body, large wings, and superabundance of plumage, is the least suited of birds to perch high; yet the structure of the feet renders it perfectly safe for the bird to do so. Thus the Heron is enabled to sit on a smooth enamelled rush or on the summit of a tree, and doze securely in a wind that, were its feet formed like those of other Waders, would blow it away like a bundle of dead feathers.

Another characteristic of Herons is that they carry the neck, when flying, folded in the form of the letter S. At other times the bird also carries the neck this way; and it is, indeed, in all long-necked species the figure the neck assumes when the bird reposes or is in the act of watching something below it; and the Heron's life is almost a perpetual watch. Apropos of this manner of carrying the neck, so natural to the bird, is it not the cause of the extreme wariness observable in Herons? Herons are, I think, everywhere of a shy disposition; with us they are the wildest of water-fowl, yet there is no reason for their being so, since they are never persecuted.

Birds ever fly reluctantly from danger; and all species possessing the advantage of a long neck, such as the Swan, Flamingo, Stork, Spoonbill, etc., will continue with their necks stretched to their utmost capacity watching an intruder for an hour at a time rather than fly away. But in the Herons it must be only by a great effort that the neck can be wholly unbent; for even if the neck cut out from a dead bird be forcibly straightened and then released, it flies back like a piece of india-rubber to its original shape. Therefore the effort to straighten the neck, invariably the

first expression of alarm and curiosity, must be a painful one; and to keep it for any length of time in that position is probably as insupportable to the bird as to keep the arm straightened vertically would be to a man. Thus the Heron flies at the first sight of an intruder, whilst the persecuted Duck, Swan, or other fowl continues motionless, watching with outstretched neck, participating in the alarm certainly, but not enduring actual physical pain.

Doubtless in many cases habits react upon and modify the structure of parts; and in this instance the modified structure has in its turn apparently reacted on and modified the habits. In seeking for and taking food, the body is required to perform certain definite motions and assume repeatedly the same attitudes; this is most frequently the case in birds of aquatic habits. A readiness for assuming at all times, and an involuntary falling into, these peculiar attitudes and gestures appears to become hereditary; and the species in which they are the most noticeable seem incapable of throwing the habit or manner off, even when placed in situations where it is useless or even detrimental. *Tringa* rapidly peck and probe the mud as they advance; Plovers peck and run, peck and run again. Now I have noticed scores of times that these birds cannot possibly lay aside this habit of pecking as they advance; for even a wounded Plover running from his pursuer over dry barren ground goes through the form of eating by pausing for a moment every yard or so, pecking the ground, then running on again.

The Paraguay Snipe, and probably other true Snipes, possesses the singular habit of striking its beak on the ground when taking flight. In this instance has not the probing motion, performed instinctively as the bird moves, been utilised to assist it in rising?

Grebes on land walk erect like Penguins and have a slow, awkward gait; and whenever they wish to accelerate their progress they throw themselves forward on the breast and strike out the feet as in swimming.

The Glossy Ibis feeds in shallow water, thrusting its great sickle beak into the weeds at the bottom at every step. When walking on land it observes these motions, and seems incapable of progressing without plunging its beak downwards into imaginary water at every stride.

The Spoonbill wades up to its knees and advances with beak always immersed, and swaying itself from side to side, so that at each lateral movement of the body the beak describes a great semicircle in the water; a flock of these birds feeding reminds one of a line of mowers mowing grass. On dry ground the Spoonbill seems unable to walk directly forward like other birds, but stoops, keeping the body in a horizontal position, and, turning from side to side, sweeps the air with its beak, as if still feeding in the water.

In the foregoing instances (and I could greatly multiply them) in which certain gestures and movements accompany progressive motion, it is difficult to see how the structure can be in any way modified by them; but the preying attitude of the heron, the waiting motionless in perpetual readiness to strike, has doubtless given the neck its peculiar form.

Two interesting traits of the Heron (and they have a necessary connection) are its tireless watchfulness and its insatiable voracity; for these characteristics have not, I think, been exaggerated even by the most sensational of ornithologists.

In birds of other genera repletion is invariably followed by a period of listless inactivity during which no food is taken or required. But the Heron digests

his food so rapidly that, however much he devours, he is always ready to gorge again; consequently he is not benefited so much by what he eats, and appears in the same state of semi-starvation when food is abundant as in times of scarcity. An old naturalist has suggested, as a reason for this, that the Heron, from its peculiar manner of taking its prey, requires fair weather to fish—that during spells of bad weather, when it is compelled to suffer the pangs of famine inactive, it contracts a meagre consumptive habit of body, which subsequent plenty cannot remove. A pretty theory, but it will not hold water; for in this region spells of bad weather are brief and infrequent; moreover, all other species that feed at the same table with the Heron, from the little flitting Kingfisher to the towering Flamingo, become excessively fat at certain seasons, and are at all times so healthy and vigorous that, compared with them, the Heron is the mere ghost of a bird. In no extraneous circumstances, but in the organisation of the bird itself, must be sought the cause of its anomalous condition; it does not appear to possess the fat-elaborating power, for at no season is any fat found on its dry, starved flesh; consequently there is no provision for a rainy day, and the misery of the bird (if it is miserable) consists in its perpetual, never-satisfied craving for food.

WHITE EGRET AND SNOWY EGRET

(*Ardea egretta* : *A. candidissima*)

Entire plumage snow-white in both species. Length of White Egret 35 inches; length of Snowy Egret 24 inches.

THESE two species are found in South, Central, and North America; but the larger bird has a greater range, being found from Nova Scotia to Patagonia.

The small Snowy Egret abounds most in the hot and warm regions, and is quite common on the pampas but rare in Patagonia. It is more gregarious and social in its habits than the White Egret and is usually seen in flocks and associates with Ibises, Spoonbills, and other aquatic birds.

On the pampas, owing to the absence of forests, the nesting habits, like those of the Cooi and other Herons, have been modified, for there it nests among the bulrushes and sedges. I take the following account of a heronry on the pampas from a paper by Mr. Ernest Gibson. He was so fortunate as to find both species breeding together in considerable numbers.

In November 1873 I found a large breeding colony of *Ardea egretta*, *A. candidissima*, and *Nycticorax obscurus* in the heart of a lonely swamp. The rushes were thick, but had been broken down by the birds in a patch some fifty yards in diameter. There were from 300 to 400 nests, as well as I could judge; of these three-fourths were of *A. egretta*, and the remainder, with the exception of two or three dozen of *N. obscurus*, belonged to *A. candidissima*. Those of the first-mentioned species were slight platforms, placed on the tops of broken rushes, at a height of from two to three feet above the water, and barely a yard apart.

The nests of *A. candidissima* were built up from the water to the height of a foot or a foot and a half, with a hollow on the top for the eggs; they were very compactly put together, of small dry twigs of a water-plant. A good many were distributed amongst those of *A. egretta*; but the majority were close together, at one side of the colony, where the reeds were taller and less broken.

The nests of *N. obscurus* much resembled the latter in construction and material; but very few were interspersed amongst those of the other species, being retired to the side opposite *A. candidissima*, on the borders of some channels of clear water; there they were placed amongst the high reeds, and a few yards apart from each other.

The larger Egrets remained standing on their nests till I was within twenty yards of them, and alighted again when I had passed. In this position they looked much larger than when flying. The smaller Egrets first flew up on to the reeds, and then immediately took to flight, not returning; while *N. obscurus* rose and sailed away uttering a deep *squawk*, *squawk*, long before one came near the nest.

At one side of the colony a nest of *Ciconia maguari*, with two full-grown young, seemed like the reigning house of the place.

It certainly was one of the finest ornithological sights I ever saw: all around a wilderness of dark green rushes, rising above my head as I sat on horseback; the cloud of graceful snow-white birds perched everywhere, or reflected in the water as they flew to and fro overhead; and the hundreds of blue eggs exposed to the bright sunlight.

A. egretta and *A. candidissima* lay four eggs each, though the former rarely hatches out more than three. *N. obscurus* lays and hatches out three. The eggs of all three species are of the same shade of light blue.

WHISTLING HERON

(*Ardea sibilatrix*)

Above grey; cap, crest, and wings greyish black; a rufous patch behind the eye; upper wing-coverts rufous; beneath white, with yellowish tinge on breast; beak reddish. Length 22 inches. Female similar.

THIS is a beautiful bird, with plumage as soft as down to the touch. Its colours are clear blue-grey and pale yellow, the under surface being nearly white. In some specimens that I have obtained the rump and tail-coverts had a pure primrose hue. There is a chestnut mark on the side of the head; the eye is white, and legs dark green in life.

Azara named this Heron *Flauta del Sol* (Flute of the Sun), a translation of the Indian term *Curabiremimbi*, derived from the popular belief that its whistling notes, which have a melodious and melancholy sound, prophesy changes in the weather.

It comes as far south as Buenos Ayres, but is only a summer visitor there, and very scarce. Having seen but little of it myself, I can only repeat Azara's words concerning it. He says it is common in Paraguay,

going in pairs or families, and perches and roosts on trees, and when flying flaps its wings more rapidly than other Herons. It makes its nest on a tree, and lays two clear blue eggs.

I saw less of the Whistling or "Fluting" Heron than any of the seven species I was acquainted with in La Plata. About its habits I found out nothing, and on that account I should have omitted all mention of it—that being the rule in this book—if its strange beauty had not charmed and made a lasting impression on my mind. The stuffed specimens, from which the description is taken, do not show the colours of the living bird—the soft clear grey and primrose-yellow—most delicate colours and rarely seen in a bird of this size. In the museum specimens the primrose-yellow fades to white with a dull yellowish tinge.

LITTLE BLUE HERON

(*Butorides cyanurus*)

Above blue-grey; beneath ash-colour; black crest with greenish gloss; ferruginous spots on the neck; length 14 inches.

THE Little Blue Heron, though widely distributed, is not anywhere a common bird. I have always seen it singly, for it loves a hermit-life, and the feeding-ground it prefers is a spot on the borders of a marshy stream shut in and overshadowed on all sides by trees and tall rushes. There the bird sits silent and solitary on a projecting root or dead branch; or stands motionless and knee-deep in the water, intent on the small fry it feeds on. For whole months it will be found every day in the same place. When intruded on in its haunts

it erects the feathers of its head and neck, looking strangely alarmed or angry, and flies away uttering a powerful, harsh, grating cry.

LITTLE RED HERON

(*Ardetta involucris*)

Above light fulvous, a black stripe on the nape; front, stripe on back of the neck, bend of wing and outer secondaries, chestnut-red; back striped with black; wing-feathers ash-grey with red tips; beneath yellowish white striped with brown; beak yellow, feet green; length 13, wing 5 inches.

THE Little Red, or Variegated, Heron which inhabits Paraguay and Argentina, is the least of the family to which it belongs, its body being no bigger than that of the Common Snipe; but in structure it is like other Herons, except that its legs are a trifle shorter in proportion to its size and its wings very much shorter than in other species. The under plumage is dull yellow in colour, while all the other parts are variegated with marks of fuscous and various shades of brown and yellow. The body is extremely slim, and the lower portion of the neck covered with thick plumage, giving that part a deceptively massive appearance. The perching faculty, possessed in so eminent a degree by all Herons, probably attains its greatest perfection in this species, and is combined with locomotion in a unique and wonderful manner. It inhabits beds of rushes growing in rather deep water; very seldom, and probably only accidentally, does it visit the shore, and only when driven up does it rise above the rushes; for its flight, unlike that of its congeners, is extremely feeble. The rushes it lives amongst rise, smooth as polished pipe-stems, vertically from water too deep for the bird

to wade in; yet it goes up to the summit and down to the surface, moving freely and briskly about amongst them, or runs in a straight line through them almost as rapidly as a Plover can run over the bare level ground. Unless I myself had been a witness of this feat I could scarcely have credited it; for how does it manage to grasp the smooth vertical stems quickly and firmly enough to progress so rapidly without ever slipping down through them?

The Variegated Heron is a silent, solitary bird, found everywhere in the marshes along the Plata, as also in the rush- and sedge-beds scattered over the pampas. It breeds amongst the rushes, and lays from three to five spherical eggs, of a rich lively green and beautiful beyond comparison. The nest is a slight platform structure about a foot above the water, and so small that there is barely space enough on it for the eggs, which are large for the bird. When one looks down on them they cover and hide the slight nest, and being green like the surrounding rushes they are not easy to detect.

When driven up the bird flies eighty or a hundred yards away, and drops again amongst the rushes; it is difficult to flush it a second time, and a third time it is impossible. A curious circumstance is that where it finally settles it can never be found. As I could never succeed in getting specimens when I wanted them, I once employed some gaucho boys, who had dogs trained to hunt flappers, to try for this little Heron. They procured several specimens, and said that without the aid of their dogs they could never succeed in finding a bird, though they always marked the exact spot where it alighted. This I attributed to the slender figure it makes, and to the colour of the plumage so closely assimilating to that of the dead yellow and

brown-spotted rushes always found amongst the green ones; but I did not know for many years that the bird possessed a marvellous instinct that made its peculiar conformation and imitative colour far more advantageous than they could be of themselves.

One day in November when out shooting, I noticed a Variegated Heron stealing off quickly through a bed of bulrushes, thirty or forty yards from me; he was a foot or so above the ground, and went so rapidly that he appeared to glide through the rushes without touching them. I fired, but afterwards ascertained that in my hurry I had missed my aim. The bird, however, disappeared at the report; and thinking I had killed him I went to the spot.

It was a small, isolated bed of rushes I had seen him in; the mud below and for some distance round was quite bare and hard, so that it would have been impossible for the bird to escape without being perceived; and yet, dead or alive, he was not to be found. After vainly searching and re-searching through the rushes for a quarter of an hour I gave over the quest in great disgust and bewilderment, and, after reloading, was just turning to go, when behold! there stood my Heron on a rush, no more than eight inches from, and on a level with, my knees. He was perched, the body erect, and the point of the tail touching the rush grasped by its feet; the long slender tapering neck was held stiff, straight and vertically; and the head and beak, instead of being carried obliquely, were also pointing up. There was not, from his feet to the tip of his beak, a perceptible curve or inequality, but the whole was the figure (the exact counterpart) of a straight tapering rush: the loose plumage arranged to fill inequalities, and the wings pressed into the hollow sides, made it impossible to see where the body ended and the neck

began, or to distinguish head from neck or beak from head. This was, of course, a front view; and the entire under surface of the bird was thus displayed, all of a uniform dull yellow, like that of a faded rush. I regarded the bird wonderingly for some time; but not the least motion did it make. I thought it was wounded or paralysed with fear, and, placing my hand on the point of its beak, forced the head down till it touched the back; when I withdrew my hand up flew the head, like a steel spring, to its first position. I repeated the experiment many times with the same result, the very eyes of the bird appearing all the time rigid and unwinking like those of a creature in a fit. What wonder that it is so difficult, almost impossible, to discover the bird in such an attitude! But how happened it that while repeatedly walking round the bird through the rushes I had not caught sight of the striped back and the broad dark-coloured sides? I asked myself this question, and stepped round to get a side view, when, *mirabile dictu*, I could still see nothing but the rush-like front of the bird! His motions on the perch, as he turned slowly or quickly round, still keeping the edge of the blade-like body before me, corresponded so exactly with my own that I almost doubted that I had moved at all. No sooner had I seen the finishing part of this marvellous instinct of self-preservation (this last act making the whole complete) than such a degree of delight and admiration possessed me as I have never before experienced during my researches, much as I have conversed with wild animals in the wilderness, and many and perfect as are the instances of adaptation I have witnessed. I could not finish admiring, and thought that never had anything so beautiful fallen in my way before; for even the sublime cloud-seeking instinct of the White Egret and the typical Herons seemed less

admirable than this; and for some time I continued experimenting, pressing down the bird's head and trying to bend it by main force into some other position; but the strange rigidity remained unrelaxed, the fixed attitude unchanged. I also found, as I walked round him, that as soon as I got to the opposite side and he could no longer twist himself on his perch, he whirled his body with great rapidity the other way, instantly presenting the same front as before.

Finally I plucked him forcibly from the rush and perched him on my hand, upon which he flew away; but he flew only fifty or sixty yards off, and dropped into the dry grass. Here he again put in practice the same instinct so ably that I groped about for ten or twelve minutes before again finding him, and was astonished that a creature to all appearances so weak and frail should have strength and endurance sufficient to keep its body rigid and in one attitude for so long a time.

Some recent or at all events later observations appear to show that some species of Bittern possess a similar instinct to that of the bird described—the faculty of effacing themselves as it were in the presence of an enemy. Doubtless any Bittern, its colouring being what it is, would make itself invisible among partially decayed and dead vegetation by extending and stiffening its body and keeping its breast towards its intruder. The peculiar thing in the case of the small Heron is that the whole action of the bird appears to be framed and designed expressly to make it look exactly like a dead yellow tapering bulrush.

But what can one say of such an instinct—if we can call it an instinct? It is in its essence a weakness in the creature similar to that of many mammals, birds, fishes, batrachians, reptiles and insects that become

paralysed with fear, or rather hypnotised, in the presence of an enemy. A strange flaw in the animal, since it brings to naught all the admirable instincts of self-preservation it has been endowed with, and gives it, without a struggle, a prey to its enemies, even to those of a slow, sluggish disposition.

In this particular instance the weakness or fault of nature has been taken advantage of by that principle which we call natural selection and has resulted in a more perfect protection than if the bird had been incapable of losing its mind, as one may say. In other words, the creature's liability to the hypnotic or cataleptic state on certain occasions is its best protection.

This however, is not the only case in which a seemingly fatal weakness has been turned to good account, as we see in the death-like swoon, or "pretending to be dead," of many creatures when overcome by or in the presence of an enemy. I have observed it in the pampas fox and opossum, in the Tinamu, the Partridge of South America, in our Corncrake, and other Rails, and I have captured small birds by giving them a sudden fright.

By a strange chance I discovered that my Little Bittern was also subject to this weakness. A gaucho boy of my acquaintance, knowing that I was interested in this bird, one day brought me a dead specimen. He said he had flushed it from a rush-bed, and as the bird flew away over dry land, he gave chase, and soon ran it down and captured it; but though perfectly uninjured it quickly died in his hand. As it was too late in the evening for me to deal with it I put it in a cage which had once been used to keep a Cardinal Finch in and hung it up under the veranda where it would be safe from cats. Next morning to my very great astonishment it was gone! A long-dead bird in a closed cage hung high up out of the way for safety, and now

it was not there! How explain such a thing? There was no possible explanation, and it made me perfectly miserable for days thinking of it. Then at last it dawned on my weary brain that my dead bird had been alive all the time, that life had at all events come back to it, and that by squeezing its thin body edgeways through the wire it made its escape. Yet the wires were close enough to keep a Cardinal in confinement!

NIGHT-HERON

(*Nycticorax obscurus*)

Above ashy; front white; head, neck, and scapulars greenish black; long crest plumes white; beneath pale; length 26, wing 12 inches.

IN the Argentine Republic the Night-Heron lives in communities, and passes the hours of daylight perched inactive on large trees or in marshes on the rushes, and when disturbed by day they rise up with heavy flappings and a loud *qua-qua* cry. At sunset they quit their retreat, to ascend a stream or seek some distant feeding-ground, and travel with a slow flight, bird succeeding bird at long intervals, and uttering their far-sounding, hoarse, barking night-cry.

Where the flock lives amongst the rushes, in places where there are no trees, the birds, by breaking down the rushes across each other, construct false nests or platforms to perch on. These platforms are placed close together, usually where the rushes are thickest, and serve the birds for an entire winter.

The breeding habits of the Night-Heron have been described in the account of an Egrets' heronry.

MAGUARI STORK

(Euxenura maguari)

Plumage white; wings and upper tail-coverts black; naked lores and feet red; bill horn-colour; length 40, wing 20 inches.

THE Maguari Stork is a well-known bird on the pampas, breeding in the marshes, and also wading for its food in the shallow water; but it is not nearly so aquatic in its habits as the Jabirú, and after the breeding-season is over it is seen everywhere on the dry plains. Here these birds prey on mice, snakes and toads, but also frequently visit the cultivated fields in quest of food. When mice or frogs are exceptionally abundant on the pampas, the Storks often appear in large numbers, and at such times I have seen them congregating by hundreds in the evening beside the water; but in the daytime they scatter over the feeding-ground, where they are seen stalking along, intent on their prey, with majestic crane-like strides. To rise they give three long jumps before committing themselves to the air, and like all heavy fliers make a loud noise with their wings. They are never seen to alight on trees, like the Jabirú, and are absolutely dumb, unless the clattering they make with the bill when angry can be called a language.

The laying-time is about the middle of August, and the nest is built up amongst the rushes, rising about two feet above the surface of the water. The eggs are rather long, three or four in number, and of a chalky white.

Mr. Gibson, of Buenos Ayres, furnishes the following lively account of a young Maguari:

One, which I took on 5th October, was about the size of a domestic fowl, in down, and, with the exception of the white tail, entirely black. It soon became very tame, and used to wander all

over the premises, looking for food, or watching any work that was going on. Rats were swallowed whole; and the way it would gulp down a pound or two of raw meat would have horrified an English housekeeper. Snakes it seized by the nape of the neck, and passed them transversely through its bill by a succession of rapid and powerful nips, repeating the operation two or three times before being satisfied that life was totally extinct. It used often to do the same thing with dry sticks (in order not to forget the way, I suppose); while on one occasion it swallowed a piece of hard cowhide, a foot long, and consequently could not bend its neck for twenty-four hours after—till the hide softened, in fact. The story also went that "Byles the lawyer" (as he was called) mistook the tail of one of the pet lambs for a snake, and actually had it down his throat, but was "brought up" by the body of the lamb! Byles inspired a wholesome respect in all the dogs and cats, but was very peaceable as a rule. One of our men had played some trick on him, however; and the result was that Byles generally went for him on every possible occasion, his long legs covering the ground like those of an Ostrich, while he produced a demoniacal row with his bill. It was amusing to see his victim dodging him all over the place, or sometimes, in desperation, turning on him with a stick; but Byles evaded every blow by jumping eight feet into the air, coming down on the other side of his enemy, and there repeating his war dance; while he always threatened (though his threats were never fulfilled) to make personal and pointed remarks with his formidable bill.

Shortly after his capture feathers began to appear; and the following is a description of the bird at the age of about two months: Tail-feathers white, remainder of plumage glossy green-black; bill black; legs and feet grey. Spots and patches of white began to appear on head, back, and wings; these gradually extended, until, by the end of May, the adult plumage was all acquired. Then my interest in Byles ceased, and latterly he strayed away to his native swamps.

WOOD-IBIS

(*Tantalus loculator*)

White; greater wing-coverts and wing- and tail-feathers black with bronze reflections; head and upper part of neck naked, dusky; vertex covered with a horny plate; sides of head purplish; feet slatey; length 44, wing 17 inches. Female similar.

Most people in the Plata region are familiar with this bird of the marshes, its lofty stork-like figure and white plumage making it a very conspicuous object.

On the pampas it is not uncommon in summer and autumn, and goes in flocks of a dozen or twenty. The birds are usually seen standing motionless in groups or scattered about in spiritless attitudes, apparently dozing away the time. On the wing it appears to better advantage, having a singularly calm, stately flight; on a warm, still day they are often seen soaring in circles far up in the sky.

I have never heard of this bird nesting on the pampas, and am inclined to think that it only breeds in forest regions, and visits the marshes in the treeless districts after the young have flown.

Its habits in North America, where it is called the "Wood-Ibis," are tolerably well known, and in the ornithological works of that country it is described as "a hermit standing listless and alone on the topmost limb of some tall decayed cypress, its neck drawn in upon its shoulders, and its enormous bill resting like a scythe upon its breast."

It there nests on tall trees, sometimes in company with Egrets, and lays three white eggs.

There are three species of Stork in Argentina, the two described and the famous Jabirú, *Mycteria americana*.

This is a majestic bird, the largest of the American Storks; it stands five feet high, and the wings have a spread of nearly eight feet. The entire plumage is pure white, the head and six inches of the neck covered with a naked black skin; from the back part extend two scarlet bands, the skin being glossy and exceedingly loose, and runs narrowing down to the chest. When the bird is wounded or enraged this loose red skin is said to swell out like a bladder, changing to an intensely fiery scarlet hue. The name *Jabirú* is doubtless due to this circumstance, for Azara (who gives the Guarani

name of the Stork as *Aiaiai*) says that the Indian word *Yabirú* signifies "blown out with the wind."

The Jabirú is but rarely found near Buenos Ayres, but occurs more frequently in Misiones, and in other districts on the northern frontier of the Republic. It nests on high trees, as has been recorded by Brown,¹ and is said to lay "blue-green" eggs.

WHITE-FACED IBIS

(*Plegadis guarauna*)

Head, neck, and upper surface purplish chestnut, with a white band round the base of the bill; back with metallic reflections; wings and tail green with bronze reflections; band across wing-coverts chestnut; length 22, wing 9 inches.

THIS form of the well-known "Glossy Ibis" of Europe is one of the most abundant waterfowl on the pampas, and appears in spring in flocks; but as their movements are somewhat irregular and many individuals remain with us through the winter, their migrations probably do not extend very far. In summer they are found beside every marsh and watercourse, briskly wading about in the shallow water and plunging their long curved beaks downwards at every step. When taking wing they invariably utter a loud *ha, ha, ha*, resembling hearty human laughter, but somewhat nasal in sound. They frequently leave the marshy places and are seen scattered about the grassy plains, feeding like land-birds; and on the pampas they often congregate about the carcass of a dead horse or cow, to feed on the larvæ

¹ *Canoe and Camp Life in British Guiana*, p. 272.

of the flesh-fly, in company with the *Milvago* and the Hooded Gull.

Their flight is singularly graceful; and during migration the flocks are seen to follow each other in rapid succession, each flock being usually composed of from fifty to a hundred individuals, sometimes of a much larger number. It is most interesting to watch them at such times, now soaring high in the air, displaying the deep chestnut hue of their breasts, then descending with a graceful curve towards the earth, as if to exhibit the dark metallic green and purple reflections of their upper plumage. The flock is meanwhile continually changing its form or disposition, as if at the signal of a leader. One moment it spreads out in a long straight line; suddenly the birds scatter in disorder, or throw themselves together like a cloud of Starlings; as suddenly they re-form to continue their journey in the figure of a phalanx, half-moon, or triangle. The fanciful notion can scarcely fail to suggest itself to the spectator that the birds go through these unnecessary evolutions intelligently in order to attain a greater proficiency in them by practice, or, perhaps, merely to make a display of their aerial accomplishments. The Glossy Ibis has another remarkable habit when on the wing. At times the flock appears as if suddenly seized with frenzy or panic, every bird rushing wildly away from its fellows, and descending with a violent zig-zag flight; in a few moments the mad fit leaves them, they rise again, reassemble in the air, and resume their journey.

BLACK-FACED IBIS

(Theristicus caudatus)

Sides of throat and lores bare, skin black; top of head and lower part of neck in front reddish chestnut; neck white; back and wings grey with green reflections; tertiaries and outer webs of secondaries for two-thirds of their length white, remainder dark green; primaries dark green; rump light green, bronzed; tail dark bronze-green; under parts black; length 33, wing 16.25 inches.

THIS very fine Ibis, called *Mandurria ó Curucáu* by Azara and *Vandúria de invierno* (Winter Vanduria) in the vernacular, is one of the most interesting winter visitors from Patagonia to the pampas of Buenos Ayres. It is found in Chili, and has even been obtained as far north as Peru. On the east side of the continent it is most abundant (during the cold season) about latitude 37 deg. or 38 deg. Its summer home and breeding ground appears to be in the extreme south of the continent, its eggs having been obtained on the Straits of Magellan by Darwin, and later by Dr. Cunningham, who only says of it that it is a shy and wary bird, that goes in flocks of from four to eight, and has a cry resembling *qua-qua, qua-qua*. But he might just as well have spelt it *quack-quack*, since *qua-qua* fails to give the faintest idea of the series of hard, abrupt notes of extraordinary power the bird utters, usually when on the wing, which sound like blows of a powerful hammer on a metal plate. On the pampas this Ibis appears in May, frequents dry grassy situations, and goes in flocks of a dozen to forty or fifty individuals. They walk rapidly, stooping very much, and probing the ground with their long slender, curved beaks, and appear to subsist principally on the larvæ of the large horned beetle, with which their stomachs are usually found filled. So intent are they on seeking their food that the

members of a flock often scatter in all directions, and wander quite out of sight of each other; when this happens they occasionally utter loud vehement cries, as if to call their companions, or to inform each other of their whereabouts. Frequently one is seen to lift up its wings as if to fly, and, stretching them up vertically, to remain for fifteen or twenty seconds in this curious attitude. At sunset they all rise up clamouring and direct their flight to the nearest watercourse, and often on their way thither go through a strange and interesting performance. The flock suddenly precipitates itself downwards with a violence wonderful to see, each bird rushing this way and that as if striving to outvie its fellows in every wild fantastic motion of which they are capable. In this manner they rise and descend again and again, sometimes massed together, then scattering wide apart in all directions. This exercise they keep up for some time, and while it lasts they make the air resound for miles with their loud percussive screams.

In Patagonia I first discovered this Ibis roosting on tall trees; and, according to Azara, it possesses the same habit in Paraguay. He says that all the flocks within a circuit of some leagues resort to one spot to sleep, and prefer tall dead trees, bordering on the water, and if there is only one suitable tree all the birds crowd on to it, and in the morning scatter, each family or pair flying away to spend the day in its customary feeding-ground.

The egg obtained by Dr. Cunningham at Elizabeth Island is thus described by Prof. Newton (*Ibis*, 1870, p. 502):

Dull surface of a pale greenish white with engrained blotches (mostly small) of neutral tint, and some few blotches, spots, and specks of dull deep brown; towards the larger end some hair-like streaks of a lighter shade of the same, and so far having an Ibidine or Plataleine character.

BLUE IBIS

(*Harpiprion cærulescens*)

White forehead joined to white bar above and behind the eye; top of head and crest dark brown, with greenish tinge; throat and neck covered with long narrow feathers, light brown with pinkish tinge in certain lights; upper parts bluish bronzy green; wings like the back, in some lights the feathers have a silvery gloss; primaries dark blue; tail dark green; under parts brownish grey, with pink reflections in some lights; length 33, wing 15.5 inches.

THIS noble Ibis ranges from Brazil, south of the Amazons, to the pampas of Buenos Ayres. It is a bird of the marshes, nowhere abundant, and yet is exceedingly well known to most people in the Argentine country: it would be difficult indeed to overlook a species possessing so peculiar and powerful a voice. In the vernacular it is called *Vandúria*, with the addition of *aplomado*, or *barroso*, or *de las lagunas*, to distinguish it from the Winter Vanduria. The word is also frequently spelt *Mandúria* or *Bandúria*, but it does not come from *bandada* (flock), as Mr. Barrows imagines when he gives this vernacular name to the Glossy Ibis, but from the Spanish stringed instrument called *vandúria*. Possibly the instrument is obsolete now; not so the word, however, and it is sometimes used by the poets, instead of "harp" or "lyre" to symbolise poetic inspiration, especially in mock heroic compositions. Thus Iriarte:

Atención! que la vandúria he templado.

If one could get a banjo with brass strings so big that it could be heard a mile and a half away, a dozen strokes dealt in swift succession on one string would produce a sound resembling the call of this Ibis—a voice of the desolate marshes, which competes in

power with the outrageous human-like shrieks of the Ypecaha Rail, the long resounding wails of the Crazy Widow or Courlan, and the morning song of the Crested Screamer.

The Vanduria is usually seen singly or in pairs, and sometimes, but rarely, in small companies of half a dozen birds. In its habits it is like a Tantalus, wading in the shallow water of the marshes, and devouring eels, frogs, fish, etc. After examining the well-filled stomachs of a few individuals one is strongly tempted to believe that the beautiful long beak of this Ibis has "forgotten its cunning" as a probe. At intervals in the daytime it utters, standing on the ground, its resonant metallic cry. It is wary and has a strong, easy flight, and is a great wanderer, but I am not able to say whether it possesses a regular migration or not.

The celebrated naturalist Natterer procured specimens of this Ibis in the lagoons of Caicara, in the Brazilian province of Matogrosso, in September and November, 1825, but it is not mentioned by general writers on the birds of South-east Brazil.

WHISPERING IBIS

(*Phimosus infuscatus*)

Dark bronzy green, glossed with purple; fore-part and sides of head and neck naked, red; bill and feet red; length 24, wing 11.5 inches.

OF this Ibis, which ranges from Colombia to the Argentine Republic, a few individuals come as far south as the pampas of Buenos Ayres.

The unfeathered state of the forepart of the head and throat suggested to Azara the name of *Afeytado*, or "shaved," but about its habits he has nothing to say,

nor does he mention its peculiar voice, or, perhaps it would be more correct to say, its want of voice; for it seems quite silent unless one comes near to it and listens very intently, when he will be able to hear little sigh-like puffs of sound as the bird flies away. It seems strange that this member of a loquacious loud-voiced family should be reduced to speak as it were in whispers!

On two or three occasions I have seen as many as half a dozen individuals together; at other times I have seen one or two associating with the Glossy Ibis.

Azara's name, "Shaved" Ibis, seems well enough in Spanish, just as his "Throat-cut" for a Starling with a scarlet throat does not strike one as at all shocking in that language; but for an English name I fancy that "Whispering Ibis," from the whisper like sound the bird emits, would be more suitable, or at all events better sounding.

It is possible that two races of this Ibis exist on the South American continent; for in Brazil and further north it is said to have a loud cry, uttered when taking wing, as in the case of the Glossy Ibis; and one of its native names in the tropics—*curri-curri*—is said to be an imitation of its usual note.

ROSEATE SPOONBILL

(*Ajaja rosea*)

Head bare; neck, back, and breast white; tail orange-buff with the shafts deep pink; rest of plumage pale rose-pink; lesser wing-coverts and upper tail-coverts intense carmine; neck with a tuft of twisted plumes, light carmine; head greenish, space round the eye and gular sac orange; eyes crimson, feet red; length 30, wing 15 inches. Female similar. Young with head completely feathered.

THE Roseate Spoonbill is found in both Americas and ranges south to the Straits of Magellan, but in Patagonia

it is, I think, rare, for on the Rio Negro I did not meet with it. On the pampas it is abundant, and I have been told that it breeds on the marshes there, but I have never been able to find a nest. It is usually seen in small flocks of from half a dozen to twenty individuals which all feed near together, wading up to their knees and sweeping their long flat beaks from side to side as they advance. An English acquaintance of mine kept one of these birds as a pet on his estancia for seven years. It was very docile, and would spend the day roaming about the grounds, associating with the poultry, but invariably presented itself in the dining-room at meal-time, where it would take its station at one end of the table and dexterously catch in its beak any morsel thrown to it.

Formerly, when I wrote the bird biographies for *Argentine Ornithology* I believed that there were two species of Spoonbill in Argentina, but I found that I was alone among ornithologists in that belief. I can, therefore, only repeat here a part of what I wrote in that work, and leave the question for time to decide.

The general belief is that the pale-plumaged birds, with feathered heads and black eyes (the Roseate Spoonbill having crimson eyes), and without the bright wing-spots, the tuft on the breast, horny excrescences on the beak, and other marks, are only immature birds. Now, for one bird with all these characteristic marks of the true *Platalea ajaja*, which has a yellow tail, we meet on the pampas with not less than a hundred examples of the pale-plumaged bird without any traces of such marks and with a rose-coloured tail; and the disparity in number between mature and immature birds of one species could not well be so great as that. I have shot one immature specimen of the true Ajaja—so immature that it seemed not

long out of the nest; but the head was bare of feathers, and it had the knobs on the upper mandible, only they were so soft that they could be indented with the nail of the finger. Azara also mentions an immature bird which he obtained, but he does not say that the head was feathered; and even this negative evidence goes a great way, since it would have been very unlike him to see a Spoonbill with a feathered head and otherwise unlike *Ajaja rosea*, and not describe it as a distinct species.

To conclude, I may mention that the pet bird my friend kept was of the pale-plumaged species, and never lost the feathers from its head, nor did it, in seven years, acquire any of the characteristic marks of *P. ajaja*.

ARGENTINE FLAMINGO

(*Phænicopterus ignipalliatu*s)

Plumage rosy red; wing-coverts crimson; wing-feathers black; bill pale red, apical half black; length 39, wing 15 inches. Female similar but smaller.

THE Argentine Flamingo inhabits the whole of the Argentine country, down to the Rio Negro in the south, where I found it very abundant. The residents told me of a breeding-place there—a shallow salt-lake—which, however, had been abandoned by the birds before my visit. The nest there, as in other regions, was a small pillar of mud raised a foot or eighteen inches above the surface of the water, and with a slight hollow on the top; and I was assured by people who had watched them on their nests that the incubating bird invariably sits with the hind part of the body projecting from the nest, and the long legs dangling down in the water, and not tucked up under the bird.

On the Rio Negro I found the birds most abundant in winter, which surprised me, for that there is a movement of Flamingoes to the north in the autumn I am quite sure, having seen them passing overhead in a northerly direction in the migrating season. I have also found the young birds, in the grey plumage, at this season in the marshes near to Buenos Ayres city, hundreds of miles from any known breeding-place. Probably the birds in the interior of the country, where the cold is far more intense than on the sea-coast, go north before winter, while those in the district bordering on the Atlantic have become stationary.

The Flamingo has a curious way of feeding: it immerses the beak, and by means of a rapid continuous movement of the mandibles passes a current of water through the mouth, where the minutest insects and particles of floating matter are arrested by the teeth. The stomach is small, and is usually found to contain a pulpy mass of greenish-coloured stuff, mixed with minute particles of quartz. Yet on so scanty a fare this large bird not only supports itself but becomes excessively fat. I spent half a winter in Patagonia at a house built on the borders of a small lake, and regularly every night a small flock of Flamingoes came to feed in the water about 200 yards from the back of the house. I used to open the window to listen to them, and the noise made by their beaks was continuous and resembled the sound produced by wringing out a wet cloth. They feed a great deal by day, but much more, I think, by night.

Where they are never persecuted they are tame birds, and when a flock is fired into and one bird killed, the other birds, though apparently much astonished, do not fly away. They are silent birds, but not actually dumb, having a low, hoarse cry, uttered some-

times at the moment of taking flight; also another cry which I have only heard from a wounded bird, resembling the gobbling of a turkey-cock, only shriller. They are almost invariably seen standing in the water, even when not feeding, and even seem to sleep there; on land they have a very singular appearance, their immense height, in proportion to their bulk, giving them an appearance amongst birds something like that of the giraffe amongst mammals. To the lakes and water-courses in the midst of the grey scenery of Patagonia they seem to give a strange glory, while standing motionless, their tall rose-coloured forms mirrored in the dark water, but chiefly when they rise in a long crimson train or phalanx, flying low over the surface.

CRESTED SCREAMER

(*Chauna chavaria*)

Slatey grey, darker on the back; chin, neck, and cheeks whitish; a naked ring round the neck; nape crested; belly pale grey; feet red; length 32, wing 19 inches.

THIS majestic bird, called *Chaja* in the vernacular, is common throughout the Plata district, in marshes and on the open level country abounding in water and succulent grasses, and ranges south to the neighbourhood of Bahia Blanca. It is most abundant on the pampas south of Buenos Ayres city, and on that vast expanse of perfectly level green country the bird is seen at its best; it is there an important feature in the landscape; its vocal performances are doubly impressive on account of the profound silence of nature, and its singularity—the contrast between its aerial

habit and ponderous structure—strikes one more forcibly where the view is so unobstructed and the atmosphere so pure.

The Crested Screamer, like most of the larger birds and mammals in every part of the globe to which European emigration is attracted, is probably doomed to rapid extermination. My observations of the bird, in that portion of the pampas where it is most abundant, date back some years, to a time when the inhabitants were few and mainly of Spanish race, never the destroyers of bird-life. The conditions had become extremely favourable to this species. It is partially aquatic in its habits; and in desert places is usually found in marshes, wading in the shallow water, and occasionally swimming to feed on the seeds and succulent leaves of water-loving plants. After the old giant grasses of the pampas had been eaten up by the cattle, and the sweet grasses of Europe had taken their place, the Screamers took kindly to their new food, preferring the clovers, and seemed as terrestrial in their feeding-habits as Upland Geese. Their food was abundant, and they were never persecuted by the natives. Their flesh is very dark, is coarse-grained but good to eat, with a flavour resembling that of Wild Duck, and there is a great deal of meat on a bird with a body larger than that of a swan. Yet no person ever thought of killing or eating the Chaja; and the birds were permitted to increase to a marvellous extent. It was a common thing a few years ago in the dry season to see them congregated in thousands; and so little afraid of man were they that I have often ridden through large scattered flocks without making the birds take wing.

A curious thing about the Screamer is that it pairs for life, and yet is one of the most social of birds. But if a large flock is closely looked at, the birds are

invariably seen methodically ranged in pairs. Another curious thing is that, notwithstanding the formidable weapons they possess (each wing being armed with two large spurs), they are extremely pacific in temper. I have never been able to detect even the slightest approach to a quarrel among them; yet it is hard to believe that they do not fight sometimes, since weapons of offence are usually found correlated with the disposition to use them. Captive birds, however, can be made to fight; and I have known gauchos take them for the pleasure of witnessing their battles. They are very easily tamed, and in that state seem to show greater docility and intelligence than any of our domestic birds; and become so attached to their home that it is quite safe to allow them to fly about at will. They associate, but do not quarrel, with the poultry. They are quick to distinguish strangers from the people of the house, showing considerable suspicion of them, and sometimes raising a loud alarm at a stranger's approach. Towards dogs and cats they are often unfriendly; and when they are breeding it is dangerous for a strange person to approach the nest, as they will sometimes attack him with the greatest fury.

The Screamer is a very heavy bird, and rises from the ground laboriously, the wings, as in the case of the Swan, making a loud noise. Nevertheless it loves soaring, and will rise in an immense spiral until it wholly disappears from sight in the zenith, even in the brightest weather; and considering its great bulk and dark colour, the height it ultimately attains must be very great. On sunny, windless days, especially in winter and spring, they often spend hours at a time in these sublime aerial exercises, slowly floating round and round in vast circles, and singing at intervals. How so heavy and comparatively short-winged a bird

can sustain itself for such long periods in the thin upper air to which it rises has not yet been explained.

The voice is very powerful. When disturbed, or when the nest is approached, both birds utter at intervals a loud alarm-cry, resembling in sound the anger-cry of the Peacock, but twice as loud. At other times its voice is exercised in a kind of singing performance, in which male and female join, and which produces the effect of harmony. The male begins, the female takes up her part, and then with marvellous strength and spirit they pour forth a torrent of strangely-contrasted sounds—some bassoon-like in their depth and volume, some like drum-beats, and others long, clear, and ringing. It is the loudest animal-sound of the pampas, and its jubilant, martial character strongly affects the mind in that silent, melancholy wilderness.

The Screamers sing all the year round, at all hours, both on the ground and when soaring; when in pairs the two birds invariably sing together, and when in flocks they sing in concert. At night they are heard about nine o'clock in the evening, and again just before dawn. It is not unusual, however, to hear them singing at other hours.

The nest is a large fabric placed among the low rushes and water-lilies, and is sometimes seen floating on the water, away from its moorings. The eggs are five, pointed at one end, pure white, and in size like the eggs of the domestic Goose. The young are clothed in yellow down like goslings, and follow the parents about from the date of hatching.

BARRED UPLAND GOOSE

(Bernicla dispar)

White; neck behind and body beneath banded with black; primaries, greater wing-coverts, tertiaries, and scapulars cinereous; rump and tail-feathers ashy black; bill black, feet plumbeous; length 26, wing 16 inches. Female, head and neck cinnamon-brown; abdomen similar, barred with black; upper part also barred; rump and tail-feathers brownish black.

THIS bird is a northern form of the well-known "Upland Goose" of the Falkland Isles and Southern Patagonia, from which it differs in the male being completely barred across with black on the lower surface. It was first described by Philippi and Landbeck from Chilean specimens, and in 1872 was recognised by Dr. Burmeister as found near the Sierra Tandil and on the Rio Negro.

In April and May this Goose migrates northwards, along the eastern coast, as far as the pampas of Buenos Ayres, the migration ending about one hundred and fifty miles south of Buenos Ayres city. Further south they are at this season of the year excessively abundant in suitable localities. Their great camping-grounds are the valleys of the rivers Negro and Colorado, where they are often so numerous as to denude the low grounds of the tender winter clovers and grasses, and to cause serious loss to the sheep-breeders. They also visit the cultivated fields to devour the young wheat, and are intelligent enough to distinguish between a real human enemy and the ragged men of straw, miscalled scarecrows, set up by the farmers to frighten them. While committing their depredations they are exceedingly wary and difficult to shoot, but at night, when they congregate by the water-side, they give the sportsman

a better chance. I have succeeded in killing as many as five at a shot by stalking them under cover of the darkness; and a more deliciously-flavoured game-bird than this Goose I have never tasted.

They are social birds, always going in large flocks, and are very loquacious, the female having a deep *honking* note, while the male responds with a clear whistling, like the Sanderling's note etherealised.

ASHY-HEADED UPLAND GOOSE

(*Bernicla poliocephala*)

Head, neck, and scapulars leaden grey; breast and upper back chestnut, banded with black; abdomen, under wing-coverts, and bend of the wing white; primaries black; secondaries white; greater wing-coverts black, edged with green and tipped with white; lower back and tail black; bill black, feet yellow; length 24, wing 13.5 inches. Female similar.

THIS Patagonian Goose migrates northwards in winter, and appears on the Rio Negro and in the Buenos-Ayorean pampas in May, usually in small flocks, but sometimes as many as one or two hundred are seen together. The extreme limit of their winter migration appears to be about sixty miles south of Buenos Ayres city, on the plains near the river Sanborombon; probably they have before now been driven from this locality by the duck-shooters, but it was formerly their favourite rendezvous, where they collected in large numbers, though further north scarcely one was ever seen.

Durnford tells us that this Goose is resident on Lake Colguape in the territory of Chupat, and breeds there abundantly.

BLACK-NECKED SWAN

(Cygnus nigricollis)

White; head and neck black; postocular stripe and chin white; lores naked; bill plumbeous, cere red. Length 48, wing 17 inches. Female similar.

To my perhaps partial mind this species is pre-eminent for beauty among the Swans, although it is considerably smaller than the bird of the Old World, and does not, it must be admitted, comport itself so majestically. In questions of this kind it is natural for everyone to be somewhat biassed in favour of the things of his own country; but it will be readily admitted by all, I think, that the black-necked bird is one of three species greatly surpassing all others of this genus in beauty—the other two being, of course, the domesticated Swan of Europe and the Australian Black Swan (the most graceful of Swans).

This Swan is very abundant on the pampas of Buenos Ayres and in Patagonia, and ranges south to the Magellan Straits and the Falklands. As a rule they are seen in small flocks, but sometimes as many as two or three hundred congregate together. They are heavy birds and rise with difficulty, and fly rapidly and with great violence, like all heavy-bodied short-winged species; but in no other very large bird with which I am acquainted do the wings produce so loud a rushing sound. In quiet places the beating of their wings can be heard distinctly when the birds are no longer in sight, although, owing to their large size, the eye can follow them very far. Gauchos sometimes capture them by suddenly charging down the wind upon them, uttering loud shouts which greatly terrify the birds, and when they attempt to rise with the wind they only flap along

the ground and are easily knocked over. A gaucho of my acquaintance one day caught three out of a flock of six in this way; but a very strong wind favoured him, and the birds were at some distance from the water, and allowed him to come near before making the sudden charge.

According to Mr. Gibson, who has observed their breeding-habits, they began to nest in July—just after the winter solstice. The nest is always placed among thick rushes growing in deep water, and the Swan invariably swims to and from her nest. It is built up from the bottom of the swamp, in some instances four or five feet deep, and rises a foot and a half above the surface. The top of the nest measures about two feet across, with a slight hollow for the eggs, which are cream-coloured and have a smooth glossy shell. The number varies from three to five, and on one occasion six were found. Mr. Gibson has seen the parent bird swimming from the nest with the young on her back.

COSCOROBA SWAN

(*Coscoroba candida*)

White; tips of primaries black; bill coral red, feet red; length 40, wing 17·5 inches.

THIS Swan is considerably smaller than the black-necked species, and also inferior in beauty on account of its shorter neck. It is, nevertheless, a very handsome bird, being entirely of a pure white colour except the tips of the primaries, which are black. The beak and legs are bright rosy red. In its habits, language, and flight it also differs much from *Cygnus nigricollis*, and the country people call it *Ganso* (Goose), probably on account of its Goose-like habit of sometimes feeding

away from the water, or because its flesh has the flavour of Wild Goose. Oddly enough, the scientific ornithologists are just beginning to find out that the common people were right in describing it as a Goose; at all events they are finding out that it has more Goose than Swan in its composition. As a rule they go in small parties of five or six individuals, but sometimes flocks numbering two or three hundred are seen in the cold season. Their migrations are very irregular, and sometimes they are excessively abundant in a district one year and absent from it the next. When disturbed they utter a loud musical trumpeting cry, in three notes, the last with a falling inflection; and their wings being much longer proportionately than in the black-necked species, they rise with greater ease and have a much freer and an almost soundless flight.

Concerning their breeding-habits Mr. Gibson observes that the nest is usually placed on the ground at some distance from the water. It is about a foot and a half high, made of mud and rushes; the hollow, which is rather deep, is lined with dry grass.

The eggs are eight or nine in number; smooth, white, and rounder than those of *Cygnus nigricollis*.

FULVOUS TREE-DUCK

(*Dendrocygna fulva*)

Chestnut-red, top of head darker, with black line down the nape; back black on the upper portion, banded with chestnut; wings and tail black; lesser wing-coverts dark chestnut; upper tail-coverts white; flanks chestnut, banded with black and white; bill and feet black; length 18, wing 8.5 inches.

THIS Duck, the well-known *Pato silvon* (Whistling Duck) of the eastern Argentine country, is found abundantly along the Plata and the great streams

flowing into it, and northwards to Paraguay. Along this great water-way it is to some extent a migratory species, appearing in spring in Buenos Ayres in very large numbers, to breed in the littoral marshes and also on the pampas. They migrate principally by night, and do not fly in long trains and phalanxes like other Ducks, but in a cloud; and when they migrate in spring and autumn the shrill confused clangour of their many voices is heard from the darkness overhead by dwellers in the Argentine capital; for the Ducks, following the eastern shore of the sea-like river, pass over that city on their journey. Northwards this Duck extends to Central Brazil; from the northern half of the southern continent and from Central America it is absent; but it re-appears in Mexico. Commenting on these facts Messrs. Sclater and Salvin write:

Singular as this distribution is, it is still more remarkable when we consider that there appear to exist no tangible grounds for separating the American bird from that called *D. major* by Jerdon, which ranges throughout the peninsula of India and is also found in Madagascar!

The Whistling Duck, in its chestnut and fulvous plumage, is a handsome bird and somewhat singular in appearance, especially when seen in a large body on the ground. When out of the water they crowd close together, and when disturbed stand up craning their necks, looking strangely tall on their long blue legs. While thus watching an intruder they are silent, and the sudden ringing chorus of whistling voices into which they burst at the moment of rising has a curious effect.

So extremely social are these Ducks that even when breeding they keep together in large flocks. The nest is made of stems and leaves, on the water among the reeds and aquatic plants; and sometimes large

numbers of nests are found close together, as in a gullery. The eggs are pure white, and each bird lays, I believe, ten or twelve, but I am not sure about the exact number; and I have so frequently found from twenty to thirty eggs in a nest that I am convinced it is a not an uncommon thing for two or three females to occupy one nest.

WHITE-FACED TREE-DUCK

(*Dendrocygna viduata*)

Face and spot on throat white; nape, neck in front, middle of abdomen, tail, rump, and wings black; hind neck chestnut; middle of back and scapulars brown, feathers with fulvous margins; wing-coverts olive-black; flanks banded with black and white; bill and feet black; length 17, wing 9 inches. Female similar.

THIS Tree-Duck resembles that last described in size, form, and maroon-red plumage, but is of a darker tint, and may also be easily distinguished, even at a long distance, by its white face contrasted with the velvety black of the head and neck. One of its vernacular names is *Pato viuda* (Widow Duck) from its dark plumage relieved by white in front. Compared with *Dendrocygna fulva* it is a rare species, and goes always with its mate, but I have seen as many as half a dozen together. When taking wing it also whistles, but differently from the allied species, having three long clear whistling notes, not unlike the three-syllabled cry of the Sandpiper, only the notes are more prolonged. Of its breeding habits I know nothing.

BLUE-WINGED TEAL

(Querquedula cyanoptera)

Plumage red; crown black; lesser wing-coverts blue; wing-speculum green, margined above with white; wing-feathers black; bill black, eyes golden, feet orange; length 18; wing 7.6 inches. Female: blackish above, feathers margined with whitish; beneath dull white variegated with brown; throat white with black freckles.

THIS Teal has an exceedingly wide distribution in America, being found from California in the northern continent down to the Straits of Magellan and the Falkland Islands in the south. Its fine, strongly contrasted colours give it a very handsome appearance—the wings being clear grey-blue, the body deep maroon-red, the feet vivid yellow, beak black, and iris gold-colour. On the pampas it is common, and almost invariably seen in pairs at all seasons. Many of the Teals are quarrelsome in disposition; but this species, I think, exceeds them all in pugnacity, and when two pairs come together the males almost invariably begin fighting.

YELLOW-BILLED TEAL

(Querquedula flavirostris)

Above slaty brown; head barred with narrow blackish bands; middle of back rufescent, with centres of the feathers black and narrowly margined with ochraceous; a broad wing-speculum, black, margined with ochraceous above and below and a bronzy green blotch in the centre; wing-feathers slaty; margins of secondaries pale rufous; beneath whitish, spotted with black; bill yellow, feet dark; length 15, wing 7.5 inches. Female similar.

IN the southern part of the Argentine Republic this is one of the commonest species, and is almost invariably found in every marsh, stream, and pool of water

on the pampas. It is resident, and usually goes in flocks of from a dozen to thirty individuals. It has a rapid flight, and is restless, lively, and extremely pugnacious in its habits. When a flock is on the water the birds are perpetually quarrelling. They are also highly inquisitive, and I have often shot them by first showing myself to the flock, and then standing or sitting still, when they would soon come wheeling about, flying in very close order. They quack and chatter in a variety of tones, and the male has also a clear whistling note in the love-season.

The nest of this Duck is always made at a distance from the water, sometimes as far as one or two miles. It consists of a slight hollow in the ground under a thistle-bush or tussock of long grass, and is lined with dry grass and a great deal of down, which is increased in quantity during incubation. The eggs are reddish cream-colour, and five is the usual number laid; but I have also found nests with six and seven.

GREY TEAL

(*Querquedula versicolor*)

Above grey with narrow black cross-bands; top of head blackish brown, sides of head and throat white; beneath whitish, tinged with ochraceous and spotted with black on the breast; wings greyish brown, speculum purplish green, margined with white above and below and a subterminal black band; flanks barred with black and white; bill black with an orange patch on each side at the base of the mandible; feet dark; length 16.5, wing 7.6 inches. Female similar but colours less bright.

THIS prettily variegated blue-grey Teal with its strongly marked black and orange bill is perhaps the most abundant of the genus in the Argentine Republic, especially

in the southern portion. It is resident, and unites in much larger flocks than any other bird of this group in the country. Its note when disturbed or flying is very peculiar, resembling in sound the muffled stridulating of the mole-cricket.

RING-NECKED TEAL

(*Querquedula torquata*)

Above dull brown; head above and neck, expanding to a half collar, also lesser wing-coverts, lower back, and tail, black; scapulars pure chestnut; wings brownish black, with a large white patch on coverts of the bronze-green secondaries; beneath, sides of head and throat dull white, streaked with brown; breast tinged with rosy red, sparingly spotted with black; belly and flanks white, narrowly barred with grey; length 14, wing 7.2 inches. Female brown; superciliaries, stripe on each side of head, throat, and sides of neck, white; beneath white, banded with brown; wings and tail black; secondaries bronze-green; a white patch as in the male.

THIS beautiful Duck, for our first knowledge of which we are indebted to Azara, is rather scarce in collections. Azara described the two somewhat dissimilar sexes under different names, the male being his *Pato collar negro*, and the female his *Pato ceja blanca*.

In the neighbourhood of Buenos Ayres the Ring-necked Teal is strictly migratory, and in the month of October appears in small flocks in the marshes along the river; but in the interior of the country it is seldom met with. They are extremely active birds, constantly flying about from place to place both by day and night; and in the love-season, when they alight in a pool of water, the males immediately engage in a spirited combat. While flying they utter a peculiar jarring sound, and occasionally a quacking note, rapidly repeated

and sounding like a strange laugh; but on the water, especially in the evening, the male emits a long inflected note, plaintive and exquisitely pure in sound—a more melodious note it would be difficult to find even among the songsters.

BRAZILIAN TEAL

(*Querquedula brasiliensis*)

Above brown; head more rufous; lower back, tail, and lesser wing-coverts black; wings brownish black; outer webs of inner primaries and the secondaries shining bronze-green; broad tips of outer secondaries white, divided from the green area by a black band; beneath paler, breast washed with rusty red; bill and feet orange; length 15.5, wing 7 inches.

THIS richly coloured Teal, which is widely extended in South America from Guiana down to the Straits of Magellan, is usually met with in pairs near Buenos Ayres, although as many as five or six are sometimes seen together. In habits it is a tree-Duck, preferring water-courses in the neighbourhood of woods, and is frequently seen perched on horizontal branches. The flight is slow and with the wings very much depressed, as in a Duck about to alight on the water; and the beautiful blue, green, and white speculum is thus rendered very conspicuous. The note of the male in the love-season is a long, plaintive whistle, singularly pure and sweet in sound, and heard usually in the evening.

It is a rather curious coincidence that the vernacular name of this Teal in La Plata should be *Pato Portugués*, which means, as things are understood in that region, Brazilian Duck.

BROWN PINTAIL

(Dafila spinicauda)

Above brown; feathers black in the centre and margined with brown; head above bright rufous spotted with black; wings brown, with a large speculum of bronzy black, distinctly margined above and below with buff; beneath, throat dirty white, sparingly spotted with black; breast, flanks, and crissum tinged with rufous, the feathers with black centres; belly white, in the lower portion slightly varied with brown; bill black, at the base yellow; feet plumbeous; length 19, wing 9.7 inches.

THE Brown Pintail is the commonest Duck in the Argentine Republic, and unites in the largest flocks. It is also, according to Philippi and Landbeck, the commonest species in Chili. It ranges from South Brazil and Peru to the Magellan Straits and the Falklands; but is probably most abundant in the Plata district and in North Patagonia. In the autumn it sometimes visits the pampas in immense numbers, to feed on the seed of the giant thistle (*Carduus mariana*); and on these occasions I have known as many as sixty killed at one shot. The birds, however, soon become wary when feeding on the open plains in large flocks, and it then becomes impossible to approach them without a trained horse. The Ducks pay no attention to horses and cattle browsing near them; and the trained animal, with the gunner concealing his gun and person behind it, feeds quietly along, and gradually approaches the flock until within range. In the valley of the Rio Negro, in Patagonia, the Pintails sometimes cause serious damage to the farmers, coming up in clouds from the river by night to devour the ripe grain.

In favourable seasons the Pintail is a resident; but like the Marsh-Gulls, Pigeons, the American Golden

Plover, and all birds that live and move in immense bodies, it travels often and far in search of food or water. A season of scarcity will quickly cause them to disappear from the pampas; and sometimes, after an absence of several months, a day's rain will end with the familiar sound of their cry and the sight of their long trains winging their way across the darkening heavens.

Their nest is made on the ground, under the grass or thistles, at a distance from the water, and is plentifully lined with down plucked from the bosom of the sitting bird. The eggs are seven or eight in number and of a deep cream-colour.

WHITE-FACED PINTAIL

(*Dafila bahamensis*)

Above reddish brown; feather centres blackish; tail and upper tail-coverts fawn; wings slatey black; broad speculum bronze-green, with fawn margin above and below; edging of external secondaries fawn; beneath brownish fawn, covered with concealed black spots; throat, cheeks, and front white; bill dark with a crimson patch at the base in each side; feet dark; length 18, wing 8.4 inches. Female similar.

SOMEONE in the eighteenth century picked up a dead Duck of an unknown species on the seashore in the Bahama Islands; it was then sent to a naturalist in Europe who had the naming of all the creatures, and quite naturally he gave it the name of *Bahamensis*. And although we know that the Duck does not inhabit the Bahamas, but is found throughout South America from British Guiana to Patagonia, and that it is one of the commonest Ducks in Brazil, there is a wise ornithological rule which forbids us, while the world endures, to call it anything but the Bahama Duck or

Pintail. I was obliged to give it that name in *Argentine Ornithology*, but I think readers of this book in South America will henceforth prefer to call it by the name I have given it here. Doubtless there are other Pintail Ducks with white faces, but this has not given a name to any other species. The Brown Pintail is our most abundant species in Argentina, and I have noticed in flocks of great size, sometimes of many thousands, of that duck, that a single White-faced Duck in the flock could be detected at a long distance by means of that same snowy whiteness of the face.

On the Pampas and Patagonia it is not a common Duck and is almost invariably seen in pairs. I have, however, sometimes seen three or four together.

CHILOE WIGEON

(*Mareca sibilatrix*)

Above black, on the neck barred across with white; feathers of the back and scapularies margined with white; head above and cheeks pure white; nape and back of the neck shining greenish purple; wings brown, lesser wing-coverts white; secondaries velvety black, white at the base; beneath white; throat and fore-neck blackish; upper breast black, with narrow white cross-bands; flanks stained with rusty rufous; bill and feet black; length 20, wing 10·3 inches. Female similar, but not so bright in colour.

THE Chiloe Wigeon, as this duck has been usually called since its introduction and acclimatisation in England as an ornamental water-fowl, is the only species of the genus found in South America, and is most abundant on the pampas, where it is called by the country people *Pato picaso* or *Pato overo* (Piebald Duck) or *Chirivi* from its cry. It is a very handsome bird; the upper plumage variegated with black, white, and grey; forehead, speculum, and under surface

white; head and neck dark glossy green. It is resident, and is usually seen in small flocks of from a dozen to twenty birds, but sometimes as many as one or two hundred congregate together. They are wary and loquacious, strong on the wing, and frequently engage in a peculiar kind of aerial pastime. A small flock will rise to a vast height, often until they seem mere specks in the sky, or disappear from sight altogether; and at that great altitude they continue hovering or flying, sometimes keeping very nearly in the same place for an hour or more, alternately separating and closing, and every time they close they slap each other on the wing so smartly that the sound may be heard distinctly even when the birds are no longer visible. While flying or swimming about they constantly utter their far-sounding cry—three or four long, clear, whistling notes, followed by another uttered with great emphasis and concluding with a kind of flourish.

The nest is made amongst the rushes in the marshes, and the eggs are pure white and eight or nine in number.

RED SHOVELLER

(*Spatula platalea*)

Above and beneath reddish, with round black spots; head and neck lighter and spots smaller, lower back blackish, barred with rufous, rump black; lesser coverts blue; middle coverts white; secondaries bronzy black; outer secondaries and scapulars with white shaft-stripes; crissum black; tail brown, lateral rectrices edged with white; bill dark, feet yellow; length 20 inches, wing 8 inches. Female, above blackish brown, edged with rufous; lesser wing-coverts bluish; beneath buffy rufous, varied and spotted with blackish except on the throat.

THERE is but one Shoveller Duck in South America, the present species, which is confined to the southern

part of the continent, from Paraguay to Patagonia, and is familiar to sportsmen in the Plata as the Red Duck, or *Espátula*. It is seldom met with in flocks of more than twenty or thirty individuals, and a large number of birds appear to pair for life, as they are usually seen in pairs at all seasons of the year. In the autumn and winter months I have sometimes observed small flocks composed of males only, but these were perhaps young birds not yet paired. They feed in shallow water, where by plunging the head down they can reach the mud at the bottom; and when several are seen thus engaged, all with their heads and necks immersed, they look curiously like headless ducks floating on the water. When disturbed or flying the male emits a low sputtering sound, and this is its only language. They are resident, and the least wary of ducks; never engage, like other species, in real or mock combats; and their flight is rapid and violent, the wings beating quickly.

ROSY-BILLED DUCK

(*Metopiana peposaca*)

Above black, back of head and neck glossed with purple, back finely striated with white; speculum white; primaries greyish white; belly minutely vermiculated with white and grey; bill rosy red, enlarged at the base, feet yellow; length 19, wing 9.4 inches. Female: above brown, bend of wing, speculum, and belly white; bill and feet dull blue.

THE Rosy-billed Duck, usually called "Black Duck" in the Plata, inhabits the Argentine country from Paraguay to Patagonia, and also occurs in Uruguay and Chili, but does not extend to Brazil.

A peculiar interest attaches to this species owing

to the fact that it is the only freshwater Duck in the sub-family Fuligininæ, in which it is classed. With the exception of the Loggerhead Duck (*Tachyeres cinereus*), found in the Falklands and the Magellan Straits, all the other sea-Ducks of this division inhabit North and Central America; so that the Rosy-bill appears to have separated itself widely from its nearest relations geographically as well as in habits. In appearance it is a fine bird, the black plumage being frosted on the upper parts with white in a very delicate manner, while the rosy bill and large carmine caruncle and golden-red iris contrast beautifully with the glossy purple head and neck. The speculum is white, the legs bright yellow. The plumage of the female is brown.

In marshy places on the pampas the Rosy-billed Duck is very abundant, and they sometimes congregate in very large flocks. They obtain their food from floating weeds in the water, and are never seen, like the Pintails and other kinds, feeding on the dry land. They rise heavily, the wings being comparatively small, and have a rapid, straight, violent flight; they are nevertheless able to perform long journeys, and travel in long lines and at a considerable elevation. Their only language is a deep, hoarse, prolonged, raven-like note, uttered by the male in the love-season. The nest is made on swampy ground near the water, of dry rushes, and is, for a duck, a deep well-made structure; the eggs are oval in form, cream-coloured, and twelve in number.

Besides the twelve species described there are five more Ducks in Argentina, namely:—the Crested Duck, *Sarcidiornis carunculata*; Muscovy Duck, *Cairina moschata*; Black-headed Duck, *Heteronetta melanocephala*; Rusty Lake-Duck, *Erismatura ferruginea*; and White-winged Lake-Duck, *Nomonyx dominicus*.

All these species I knew, with the exception of

the Crested Duck; but they were rare in my district and I could learn nothing of their habits from my own observation.

ARGENTINE WOOD-PIGEON

(*Columba picazuro*)

Above pale brown; head and neck vinous; back of neck with white cross-bands which are edged with black; lower back and tail plumbeous; wings plumbeous, larger coverts broadly edged with white; beneath pale vinaceous; flanks and crissum plumbeous; length 14 inches, wing 8 inches. Female similar.

THIS bird so closely resembles the European Wood-Pigeon in its appearance, habits, and language that I prefer in this book to drop the name of Picazuro Pigeon used in the former work (*Argentine Ornithology*) and call it the Argentine Wood-Pigeon. The chief differences are the absence of the white collar and the strangely human-like sound of its notes.

In summer they inhabit woods, and are seen in pairs or small parties, but in winter unite in flocks of from twenty to one hundred or two hundred individuals, and roam, much over the open country. It is a wary bird, and when feeding walks on the ground in a slow, somewhat stately manner. In spring its song resounds in the woods, and, when heard for the first time, fills the listener with wonder, so human-like in tone are its long, mournful notes. The notes are five, the last one prolonged, with a falling inflection, and profoundly sorrowful. The nest is a platform structure, frequently placed on a broad horizontal branch; the eggs are two, and closely resemble those of the common Rock-Dove of Europe.

SPOTTED WOOD-PIGEON

(Columba maculosa)

Above pale vinaceous brown, profusely spotted on the back and wings with white apical spots; lower back and tail plumbeous; wings and tail slaty black, the former with narrow whitish margins; beneath plumbeous, with a strong vinaceous tinge; bill black, feet yellow; length 13, wing 8.5 inches. Female similar.

THIS Pigeon has a general resemblance to the Picazuro, but may at be once distinguished by its spotted back and wings. It ranges from South Peru through Bolivia and Western Argentina into Patagonia, where it appears to be a resident. In winter the valley of the Rio Negro is visited by it in immense flocks, which are a great plague to the farmers, as they descend in clouds on the fields and devour the wheat before it has time to sprout. While watching crowds of these birds feeding on the ground, I noticed that their manner was in striking contrast to that of the *C. picazuro*, which has slow and dignified motions; for it hurried about, and snatched up its food with such rapidity that the most animated motions of other birds that feed in flocks on the ground seemed languid in comparison. This excessively lively habit is, no doubt, directly caused by the conditions of life; the sterile soil and scanty vegetation of the region it inhabits require in a species going in large bodies, and subsisting exclusively on fallen seed, a greater activity than is necessary in the rich fertile region further north.

Its song is composed of notes equal in length and number to that of the Picazuro, but its voice is always hoarse, like that of the European Wood-Pigeon, when his early spring song has a low, throaty sound, as if the bird was still suffering from the effects of a winter cold.

The great body of these birds retire on the approach of summer from the Rio Negro valley, a few only remaining to breed. Their nesting-habits and eggs are like those of the Picazuro.

SPOTTED DOVE

(*Zenaida maculata*)

Above pale brown; nape plumbeous; outer wing-coverts and scapularies with a few black spots; wings dark grey, with fine white margins; tail plumbeous, broadly ended with white, and crossed by a sub-apical black band; middle rectrices like the back; beneath pale vinaceous, brighter on the breast, and whiter on the throat; bill black, feet yellow; length 9, wing 5.5 inches. Female similar.

THIS is the commonest species of the Pigeon tribe in the Argentine country, and is known to everyone as the *Torcasa*, probably a corruption of *Tórtola* (Turtle-Dove). In autumn they often congregate in very large flocks, and are sometimes observed migrating, flock succeeding flock, all travelling in a northerly direction, and continuing to pass for several consecutive days. But these autumnal migrations are not witnessed every year, nor have I seen any return migration in spring; while the usual autumn and winter movements are very irregular, and apparently depend altogether on the supply of food. When the giant thistle has covered the plains in summer incredible numbers of *Torcasas* appear later in the season, and usually spend the winter on the plains, congregating every evening in countless myriads wherever there are trees enough to afford a suitable roosting-place.

On bright warm days in August, the sweet and sorrowful sob-like song of this Dove, composed of five

notes, is heard from every grove—a pleasing, soft, murmuring sound, which causes one to experience by anticipation the languid summer feeling in his veins.

The nest, as in other Pigeons, is a simple platform of slender sticks; the eggs are oval, white, and two in number. The birds appear to breed by preference near a human habitation, and do so probably for the sake of the protection afforded them; for the Chimango and other birds of prey destroy their eggs and young to a large extent.

One summer a Torcasa laid an egg in the nest of one of my Pigeons, built on the large horizontal branch of a tree at some distance from the dovecote. The egg was hatched, and the young bird reared by its foster-parents; and when able to fly it took up its abode along with the other Pigeons. The following spring it began to separate itself from its companions, and would fly to the porch, and sit there cooing by the hour every day. At length it went away to the plantation, having, I believe, found a mate, and we saw no more of it.

PIGMY DOVE

(*Columbula picui*)

Above brownish ash-colour; head and neck dove-grey; wing-feathers black; coverts and secondaries like the back, white on their outer edges, a band of bright blue across the tips of the lesser coverts; tail white, except the two central feathers, which are like the back; beneath pale vinaceous; throat white; under wing-coverts black; bill dark, feet yellow; length 6.5, wing 3.5 inches. Female similar but duller.

THIS species, the smallest of our Doves, is common everywhere in the Plata district, where it is called

Tortolita (Little Turtle-Dove), Azara's name *Picui* not being known to our countrymen.

It is usually seen with its mate, for many individuals seem to pair for life; but sometimes a dozen or twenty individuals unite in one flock. It is resident, comes a great deal about houses, and is familiar with man, and lively in its habits. It sings a great deal in summer and even on warm days in winter; but its tones are wanting in the wild pathos which gives a charm to the melody of some of our larger species, the song consisting of a succession of long, rather loud, and somewhat monotonous notes, pleasant to hear, like most bird-music, but nothing more.

The nest is the usual slight structure of sticks; the eggs two, oval, and white. They breed twice, and sometimes three times, in one season, the last brood being hatched as late as April or even May.

SOLITARY PIGEON

(*Egyptila chalcauchenia*)

Above greyish brown, head and nape plumbeous; back of neck with the feathers edged with iridescent bronzy green; tail blackish, broadly tipped with white; central rectrices like the back; beneath pale vinaceous; middle of throat, belly, and crissum white; under surface of wings bright chestnut; bill black, feet yellowish; length 10, wing 5.7 inches. Female similar.

THIS Dove, which is a southern form of a widely distributed group of species of the genus *Egyptila*, formerly called *Leptoptila*, inhabits the woods of the Plata district, and never, like other Pigeons, seeks the open country to feed. It is solitary, although, where many birds live in close proximity, three or four may be sometimes seen in company. It spends

a great deal of time on the ground, where it walks about under the trees rather briskly, searching for seeds and berries. Their song is a single uninflected and rather musical note, which the bird repeats at short intervals, especially in the evening during the warm season. Where the birds are abundant the wood, just before sunset, becomes vocal with their curious far-sounding notes; and as this evening song is heard as long as the genial weather lasts, it is probably not related to the sexual instinct. The nest is a simple platform; the eggs are two, and white, but more spherical in shape than those of most other Pigeons.

Besides the five Pigeons I have described there are three more species in Argentina, confined to the northern part of the country. South America is rich in Pigeons, the species numbering sixty or seventy.

BLACK RAIL

(*Rallus rhythyrrhynchus*)

Above greenish brown; beneath plumbeous; bill incurved, greenish, with a blood-red basal spot; feet red; length 12, wing 5.4 inches. Female similar.

THIS Rail differs from the other species in its beak, which is very long and curved, as in the Painted Snipe (*Rhynchæa*), and has three strongly contrasted colours—dark green, bright blue, and scarlet at the base. The blue and red tints become very vivid in the love-season. Without being anywhere abundant, the Black Rail is found throughout the Plata region in every place where reeds and rushes grow. In the marshes along the Plata they are met with quite as frequently in winter as in summer; this fact surprised me greatly, since I know this species to be migratory, their unmistakable

cries being heard overhead every night in spring and autumn, when they are performing their distant journeys. Probably all the birds frequenting the inland marshes on the south-western pampas migrate north in winter, and all those inhabiting the Plata marshes and the Atlantic sea-board, where there is abundant shelter and a higher temperature, remain all the year. On the Rio Negro of Patagonia I found the Black Rail a resident, but the winter of that district is singularly mild; moreover, the wide expanse of waterless country lying between the Rio Negro and the moist pampas region would make an annual migration from the former places difficult to such a feeble flier. Of this instinct we know at least that it is hereditary; and it becomes hard to believe that from every one of the reed-beds distributed over the vast country inhabited by this species a little contingent of migrants is drawn away annually to winter elsewhere, leaving a larger number behind. Such a difference of habit cannot exist among individuals of a species in one locality; but differences in the migratory as in other instincts, great as this, are found in *races* inhabiting isolated or widely separated districts.

It is difficult to flush the Black Rail; it rises in a weak fluttering manner, the legs dangling down, and after flying thirty or forty yards drops again into the reeds. Its language is curious: when alarmed the bird repeats, at short intervals, a note almost painful from its excessive sharpness, and utters it standing on a low branch or other elevation, but well masked by reeds and bushes, and incessantly bobbing its head, jerking its tail, and briskly turning from side to side. It has at such times a very interesting appearance, while the long beak, brilliant with the nuptial colouring, the bright red eye and vermilion legs, admirably

contrasting with the fine deep slate plumage, give it considerable claims to beauty. At other times it has a hollow call-note with a puzzling ventriloquism in the sound, which is sometimes repeated at short intervals for an hour. While uttering it the bird stands as usual on a slight eminence, but drawn up in a listless attitude and without any of its nods and jerks and other frisky gestures. It has also a kind of song, which sounds not unlike the braying of a donkey; hence the vernacular name *Burrito* (Little Ass) by which the bird is known in the Plata. This song is heard both day and night, and is a confused performance, uttered without pause, and composed of several long shrill notes, modulated and mingled with others hollow and booming. These notes can be heard a thousand yards away; but, far or near, they always sound remote.

YPECAHA RAIL

(*Aramides ypecaha*)

Above olive-green; neck red; front cinereous; rump and tail black; beneath, throat white, breast and neck cinereous; abdomen rosy red, lower belly and thighs grey; flanks and crissum black; under wing-coverts rufous, with black cross-bars; bill yellow, feet red; length 19, wing 8·5 inches. Female similar.

YPECAHA is the Guarani name, preserved by Azara, of this highly interesting species; by the Spanish it is called *Gallineta*, from its supposed resemblance to a fowl. Without any brilliant tints, there is yet something so pleasing to the eye in the various hues of its plumage—light brown and drab colour, grey, buff, and black—all these colours so harmoniously disposed, the effect heightened by the long, straight yellow beak,

golden-red eye, and vermilion legs, that I do not know a handsomer water-fowl.

These Rails are found as far south as the thirty-fifth parallel of latitude, and are abundant along the marshy borders of the Plata, frequenting the vast reed-beds and forests of water-loving *Erythrina cristagalli*. Where they are never persecuted they are bold, pugnacious birds, coming out of the reeds by day and attacking the domestic poultry about the houses and even in the streets of the villages situated on the borders of their marshy haunts. But when they are compelled to place man on the list of their enemies, it is a difficult matter to get a sight of one; for, like all birds that rise laboriously, they are vigilant to excess, and keep themselves so well concealed that the sportsman may pass through their haunts every day of the year and the Ypecaha still be to him no more than a "wandering voice." But even persecution does not obliterate a certain inquisitive boldness which characterises them. Usually they roam singly in quest of food, but have reunions in the evening and occasionally during the day, especially in gloomy weather. On misty days they often wander to a distance from the covert, walking with an easy, somewhat stately grace, jerking the tail at every stride and running with a velocity no man can equal. Where there are woods they usually fly when disturbed into a tree; and it is in connection with this habit that the Ypecaha sometimes makes a curious mistake in places where it has not been much shot at. One day, while pushing my way through a dense growth of rushes, I saw two Ypecahas not fifteen yards from me, on the horizontal branch of a tree, to which they had evidently flown for safety. I was anxious to secure them, but surprised at their temerity; and wishing to find out its cause, I approached them still nearer, and then

stood for some time observing them. It was easy to see that they fancied themselves quite safe from me while off the ground. In the most unconcerned manner they continued strutting up and down along the branch, jerking their tails, and turning about this way and that, as if to tantalise their baffled enemy by ostentatiously displaying their graces.

When surprised on the open ground the Ypecaha lies close, like a Tinamu, refusing to rise until almost trodden upon. It springs up with a loud-sounding whirr, rushes violently through the air till, gaining the reeds, it glides a few yards and then drops; its flight is thus precisely like that of the Tinamu, and is more sounding and violent than that of the Grouse or Partridge. On spying an intruder it immediately utters a powerful cry, in strength and intonation not unlike that of the Pea-fowl. This note of alarm is answered by other birds at a distance as they hastily advance to the spot where the warning was sounded. The cry is repeated at irregular intervals, first on one side, then on the other, as the birds change their position to dog the intruder's steps and inspect him from the reeds. I have surprised parties of them in an open space, and shot one or more; but no sooner had the survivors gained their refuge than they turned about to watch and follow me, sounding their powerful alarm the whole time. I have frequently been followed half a mile through the rushes by them, and by lying close and mimicking their cries have always succeeded in drawing them about me.

But the Ypecaha's loudest notes of alarm are weak compared with the cries he utters at other times, when, untroubled with a strange presence, he pours out his soul in screams and shrieks that amaze the listener with their unparalleled power. These screams in all their changes and modulations have a resemblance to

the human voice, but to the human voice exerted to its utmost pitch, and expressive of agony, frenzy, and despair. A long, piercing shriek, astonishing for its strength and vehemence, is succeeded by a lower note, as if in the first one the creature had wellnigh exhausted itself. The double scream is repeated several times; then follow other sounds, resembling, as they rise and fall, half-suppressed cries of pain and moans of anguish. Suddenly the unearthly shrieks are renewed in all their power. This is kept up for some time, several birds screaming in concert; it is renewed at intervals throughout the day, and again at set of sun, when the woods and marshes resound with the extravagant uproar. I have said that several birds unite in screaming; this is invariably the case. I have enjoyed the rare pleasure of witnessing the birds at such times; and the screams then seem a fit accompaniment to their disordered gestures and motions.

A dozen or twenty birds have their place of reunion on a small area of smooth, clean ground surrounded by rushes or sedges; and by lying well concealed and exercising some patience, one is enabled to watch their proceedings. First one bird is heard to utter a loud metallic-sounding note, three times repeated, and somewhat like the call of the Guinea-fowl. It issues from the reeds or rushes, and is a note of invitation quickly responded to by other birds on every hand as they all hurriedly repair to the customary spot. In a few moments, and almost simultaneously, the birds appear, emerging from the reeds and running into the open space, where they all immediately wheel about and begin the exhibition.

While screaming they rush from side to side as if possessed with frenzy, the wings spread and agitated, the beak wide open and raised vertically. I never

observed them fight or manifest anger towards each other during these performances; and knowing the pugnacious spirit of the Ypecahas, and how ready they are to seek a quarrel with birds of other species, this at first surprised me, for I was then under the mistaken impression that these gatherings were in some way related to the sexual instinct.

Whilst watching them I also remarked another circumstance. When concealing myself amongst the rushes I have been compelled to place myself so disadvantageously, owing to the wet ground, that any single bird straying accidentally into the open space would have discovered my presence immediately; yet the birds have entered and finished their performance without seeing me, so carried away are they by the emotion that possesses them during these moments. But no sooner has the wild chorus ended, than, aware of my presence, they have fled precipitately into the reeds.

We frequently speak of our familiarity with the habits of the species we have long and carefully observed in a state of nature; yet the knowledge so gained must necessarily be exceedingly imperfect, for with many shy vigilant birds it is next to impossible to see them without being seen; and no bird, conscious of being watched, will act unconstrainedly any more than a human being with clouded reputation will comport himself naturally with the eyes of a detective on him. While we are observing the bird, the bird watches us: of all its curious doings when we are out of sight and mind we see nothing. The only way to learn the habits of a species like the Ypecaha—wary, intelligent, and passing its life behind a screen of rushes—is to domesticate it; for although in this state some instincts are blunted and others remain in abeyance, they are not obliterated.

It might surprise some that I speak of the Ypecaha as an intelligent bird, since it is a member of the "stupid family," as Professor Parker has called the Rails; but in spite of the very profound admiration I feel for that illustrious anatomist, I believe he is wrong about these birds: there is, to my mind, very much more stupidity in the Anserine and Limicoline families, while the Ypecaha has always seemed to me a singularly intelligent bird.

Fortunately Azara was able to give an account of one of these birds in a domestic state, which shows that it makes a very sprightly and entertaining although a mischievous pet. It was taken young and allowed to run about at liberty with the poultry at the house of a village doctor in Paraguay. When full-grown it was very domineering, and became the tyrant of the poultry-yard. Occasionally a cock had the courage to face it, and then a singular combat would ensue: the Ypecaha, moving with astonishing rapidity, putting its head low, would charge, and, thrusting its head between the cock's legs, fling him instantly on his back, then rain a shower of blows on his breast before he could rise. It was fond of eggs, and always knew when a hen went off to lay, cautiously following her to the nest and then concealing itself at some distance to wait. As soon as the egg was dropped it would run, pick it up with its beak, and carry it away to a safe distance, and then, breaking a hole in the shell at one end, suck out the contents without spilling a drop. Sometimes, when the hen remained too long on the nest, it would lose its temper, and, driving her off, pursue her with the greatest animosity about the grounds, administering correction with its sharp beak. Not satisfied with devouring all the eggs laid by the doctor's fowls, it visited all the neighbours' houses, doing so much damage that at length the poor

doctor, afraid perhaps that his practice would suffer, had the troublesome bird put to death.

This Ypecaha would never allow anyone to touch it, but it would come into the house and search through all the rooms for thimbles, scissors, and other small metal objects, and these it would carry away to conceal them among the weeds or else bury them in the mud. It was also a good mouser, and after killing a mouse with a blow from its beak would swallow it entire.

LITTLE WATERHEN

(*Porphyriops melanops*)

Above olivaceous; head darker; wings brown; wing-coverts tinged with chestnut; outer secondaries more or less distinctly margined with white; beneath cinereous; middle of belly and crissum white; flanks olivaceous, spotted with white; bill dark olive, with the tip yellowish; feet hazel; length 9, wing 5 inches. Female similar.

IN the southern part of the Argentine country the Little Waterhen is a summer visitant, and very abundant in the marshes along the Plata. In language and habits it is like the Coot: it is not often seen on land, and feeds principally as it swims about in a jerky manner among the floating reeds. It appears in October, migrating exclusively, I think, by night; and after the autumnal departure an individual is rarely seen. By day they are shy and retiring, but scatter abroad in the evening, frequently uttering their hollow mysterious cry, called "the witch laugh" by superstitious people, and resembling a sudden burst of hysterical laughter, the notes beginning loud and long, becoming brief and hurried as they die away.

YELLOW-BILLED COOT

(*Fulica leucoptera*)

Dark slatey; head and neck black; crissum white, with a black median patch; bend of wing and outer margin of external primary, also the tips of some of the secondaries, white; bill yellow; head-shield rounded behind; feet olivaceous; length 15, wing 7.5 inches. Female similar.

THIS is perhaps the most abundant species of *Fulica* in the Plata region, and certainly congregates in the largest numbers. The colour of the beak and shield is of a very delicate yellow; the legs and feet dull green; the head, neck, and part of the back velvet-black; all the rest of the plumage dark slate-colour, except the under-coverts of the tail, which are white and render the bird very conspicuous when it is swimming away with the tail raised vertically.

On the pampas, in large marshy lagoons, this Coot is sometimes seen in immense numbers; thousands of birds uniting in one flock, and spreading over the low shores to feed, they look like a great concourse of Rooks. But they are exceedingly timid, and at the sight of a bird of prey or other enemy they all scuttle back to the water, tumbling over each other in their haste to reach it. They rise in a peculiar manner, rapidly striking the surface of the water with their great lobed feet, often for a distance of twenty or thirty yards before they are fully launched in the air. They are loquacious birds, and when swimming about concealed among the thick rushes are heard answering each other in a variety of curious tones, some of their loud, hollow-sounding, reiterated cries resembling peals of laughter.

The nest is a slovenly structure of rushes lying on the water, with a very slight depression for the eggs,

which are ten or twelve in number. These are long, pointed at one end, dull cream-colour, marked over the whole surface with small blackish and purple spots.

There are two other species of Coots in Argentina: the Red-gartered Coot, *F. armillata*, the largest species, which like the last has a yellow shield, but bordered with red and the bare portions of the tibiæ crimson; hence the name: and the Red-fronted Coot, *F. leucopyga*, with beak and shield scarlet.

Altogether the Family Rallidæ counts thirteen species in Argentina: eight Rails and Crakes, two Waterhens, and three Coots.

ARGENTINE COURLAN

(*Aramus scolopaceus*)

Above brown; forehead, lores, and chin greyish white; neck striped with white; beneath similar; bill brown; legs greenish grey; length 24, wing 13 inches. Female similar.

THIS curious bird has a blackish-brown plumage, glossed with bronze on the upper parts; its total length is about two feet and a half, and the wings, when spread, measure nearly four feet from tip to tip. It has been called "an abnormal relative of the Rails at most," and in its peculiar flight and many of its habits certainly differs very widely from the Rails. It has but one known relative, the Giant Courlan of northern South America, a rare species about whose habits little is known.

The beak of this bird is nearly five inches long, straight, and of an iron hardness; the tip is slightly bent to one side, the lower mandible somewhat more than the upper. The tongue extends to the extremity of the beak; at the end it is of a horny toughness, and frayed or split into filaments. This beak is a most

effective instrument in opening shells; for where molluscs abound the Courlan subsists exclusively on them, so that the margins of the streams which this bird frequents are strewn with innumerable shells lying open and emptied of their contents.

Every shell has an angular piece, half an inch long, broken from the edge of one valve. Mussels and clams close their shells so tightly that it would perhaps be impossible for a bird to insert his beak, however knife-like in shape and hardness, between the valves in order to force them open; therefore I believe the Courlan first feels the shell with his foot whilst wading, then with quick dexterity strikes his beak into it before it closes, and so conveys it to the shore. Otherwise it would be most difficult for the bird to lift the closed shell from the water and to carry it to land; but supposing it could do this, and afterwards succeed in drilling a hole through it with its beak, the hole thus made would have jagged edges and be irregular in shape. But the hole is, as I have said, angular and with a clean edge, showing that the bird had just thrust his beak half an inch or an inch between the valves, then forced them open, breaking the piece out during the process, and probably keeping the shell steady by pressing on it with its feet.

By day the Courlan is a dull bird, concealing itself in dense reed-beds in streams and marshes. When driven up he rises laboriously, the legs dangling down, and mounts vertically to a considerable height. He flies high, the wings curved upward and violently flapped at irregular intervals; descending he drops suddenly to the earth, the wings motionless, pointing up, and the body swaying from side to side, so that the bird presents the appearance of a falling parachute. On smooth ground he walks faster than a man, striking

out his feet in a stately manner and jerking the tail, and runs rapidly ten or twelve yards before rising. At the approach of night he becomes active, uttering long, clear, piercing cries many times repeated, and heard distinctly two miles away. These cries are most melancholy, and together with its mourning plumage and recluse habits have won for the Courlan some pretty vernacular names. He is called the "Lamenting Bird" and the "Crazy Widow," but is more familiarly known as the *Carau*.

Near the sunset the *Caraus* leave the reed-beds and begin to ascend the streams to visit their favourite fishing-grounds. They are very active at night, retiring again at the approach of morning, and sometimes pass the day perched on trees, but more frequently concealed in dense rush-beds.

As the breeding-season draws near they become exceedingly clamorous, making the marshes resound day and night with their long, wailing cries. The nest is built among the rushes, and contains ten or twelve eggs big as a Turkey's eggs, and very large for the size of the bird, slightly elliptical, sparsely marked with blotches of pale brown and purple on a dull white ground, the whole egg having a powdered or floury appearance. When the nest is approached the parent birds utter sharp, angry notes as they walk about at a distance. The young and old birds live in one flock until the following spring.

The *Carau* is more nocturnal than the true Rails, and, having a far more powerful flight, takes to wing more readily; in its gestures and motions on the ground it resembles them, but differs strikingly from all Ralline birds in the habit it possesses of flying when disturbed to some open place, where it walks about conspicuously, watching the intruder.

JACANA

(Parra jacana)

Head and neck purplish black; back and wings bright chestnut; primaries and secondaries pale greenish yellow tipped with brown; flanks dark chestnut; breast dark black; abdomen purplish; the tail chestnut tipped with black; wattles on head and base of bill red, rest of bill yellow; feet olive; length 10·5, wing 5·8 inches. Female similar.

THE beautiful Jacana—pronounced something like *Yasaná*—also called in the vernacular *Alas amarillas* (Yellow-wings), differs very widely from all the other members of the Limicoline Order in which it is placed, in the enormously elongated toes which enable it to run about on the floating leaves of water plants. It is supposed to come nearest to the Plovers, but is more like a Rail in its appearance, which is most singular.

The colouring of the plumage heightens the singularity of its appearance: the head, neck, and underparts being black; the shoulders, back, and wing-coverts chestnut; while the quills, which have a bright satiny lustre, are apple-green in colour, and in some lights appear golden-yellow.

In the southern part of the Plata district the Jacana is migratory, arriving from the north in Buenos Ayres early in October, either singly or in small parties. In their migration they appear to follow the course of the Plata; and though some individuals are found breeding inland, they are for the most part confined to the littoral marshes.

The Jacanas journey by very easy stages, frequently alighting to rest by the way; for they are so incapable of sustained flight that boys on the pampas occasionally take them, pursuing them on horseback till the birds drop down exhausted. I believe the migratory

Rails travel in the same way—a matter not easily determined, as they migrate by night; but they are feeble-winged creatures, and when driven to rise flutter away as if wounded. I have observed the Jacanas migrating by day, but would not for this reason affirm that they do not journey by night, since the Bartram's Sandpiper and other species journey both day and night.

The Jacana flies swiftly, in a straight line and close to the surface; the wings flutter rapidly, and there are frequent intervals of gliding. When rising it presents a most novel appearance, as the lovely golden-green of the wings is quite concealed when the bird is at rest; the beauty of its flight is thus greatly enhanced by the sudden display of a hue so rare and delicate. At a distance from the beholder, and in a strong sunshine, the wings appear of a shining golden yellow. Not only when flying does the Jacana make a display of its beautiful wings; without rising it has a way of exhibiting them, appearing to delight as much in them as the Cockatoo does in its crest or the Peacock in its train. When several of these birds live in company, occasionally they all in one moment leave their feeding, and with quick excited notes, and clustering together in a close group, go through a singular and pretty performance, all together holding their wings outstretched and agitated, some with a rapid fluttering, others with a slow-moving leisurely motion like that of a butterfly sunning itself. The performance over, the birds peaceably scatter again. I have never observed Jacanas fighting.

Shortly after arriving they pair, and build a simple nest with few materials, usually on the floating weeds. The eggs are four, in shape like a Snipe's egg, spotted with chestnut on a pale yellowish-brown ground. During incubation the male keeps guard at some distance from the nest, and utters a warning cry at the

approach of an intruder; the female instantly flies from the nest, but in rising renders herself very conspicuous. When the nest is approached the parent birds hover about, occasionally fluttering as if wounded, all the time keeping up a clamour of hurried, angry notes somewhat resembling the yelping cries of the Stilt.

SPUR-WING LAPWING

(*Vanellus cayennensis*)

Above grey; broad front and vertical crest black; patch on the scapulars purplish bronze; upper tail-coverts white; primaries purplish black; greater coverts white; lesser wing-coverts bronze-green; tail, basal half white, the other half purple-black tipped with white; beneath, chin, line down the middle of the throat and breast shining black; sides of neck grey, passing into white on the face; abdomen and under wing-coverts white; bill, spur on wing, and feet red; eyes crimson; length 13, wing 8.2 inches. Female similar.

THE Lapwing of La Plata is considerably larger than the well-known Lapwing of the Old World, but closely resembles that bird in the general colour of the plumage, in the long, slender, black crest, and in general appearance. Throughout the Argentine country it is called *Téru-téru*, from its ever-repeated disyllabic cry; west of the Andes the vernacular name is *Queltrégua*, also in imitation of its notes. It has red legs, crimson irides, a rosy beak tipped with black, and coral-red wing-spurs; and these spots of bright colour add to its bold, striking appearance. In size, beauty, and spirit it is a king among the Plovers, while its jealous, aggressive disposition gives it the character of a tyrant amongst birds in general. On the pastoral pampas (the district from which the giant grasses have disappeared) it is (or was) excessively abundant; and it is there resident,

although, as with most strong-winged resident species, some individuals do certainly migrate, small parties being occasionally seen in spring and autumn flying steadily at a great height, apparently performing a long journey. As a rule the birds pair for life, and remain always on the spot where they breed. They may be persecuted with guns, their eggs taken year after year, even the ground turned up with the plough, but they still refuse to be driven out. In regions having a broken surface—hills, woods, and sheltered hollows—birds naturally get attached to one spot, for each locality possesses its own features, and individuals frequenting it acquire a knowledge of its advantages. The vast pampas have a uniform level surface, and produce the same kinds of food in the same quantities. They are parched with droughts and flooded by rains alternately, and swept by dust storms in summer and cold gales in winter—violent enough, one would imagine, to drive every winged creature away and obliterate all marks of home. Again, the powerful flight of this species would enable it to take long journeys, and if unaffected by atmospheric changes, scarcity of food and water might be a temptation to seek new regions. But through all vicissitudes the T^éru-t^éru clings to its chosen spot of ground.

In defence of its territory it wages perpetual war against most living creatures, the objects of its special abhorrence being men, dogs, Rheas, and birds of prey generally. Its noisy cry and irascible temper are spoken of by most travellers and naturalists; for no person riding across the pampas could possibly overlook the bird, with its screaming protests against all trespassers perpetually ringing in his ears; but they have all omitted to mention the singular habit which this bird has of associating in sets of three for

the purpose of amusement or play. Each couple, as I have said, live always together on their own pretty well-defined plot of ground, which they jealously guard from intrusion. Yet if you watch a pair of them for a while you will presently see another bird—one of a neighbouring couple—rise up and fly to them, leaving his own mate to take care of home; and instead of resenting this visit as an intrusion, they welcome it with notes and signs of manifest pleasure. Advancing to the visitor, they place themselves behind it, and then all three, keeping step, begin a rapid march, uttering loud drumming and rhythmical notes in time with their movements, the notes of the birds behind coming in a rapid stream, while the leading bird utters loud single notes at regular intervals. The march ceases, the leader stretches out his wings, still emitting loud notes, while the other two, with puffed-out plumage, standing exactly abreast, stoop forward until the tips of their beaks touch the ground, and, sinking their voices to a murmur, remain for some time in this singular posture. The performance is then over; the birds all resume their natural attitudes, and the visitor takes his leave. It is quite certain that this display has no connection with the sexual feeling, for it is indulged in all the year round, at all hours of the day, and also during moonlight nights. It is simply the bird's manner of expressing its joyous spirits; for most living creatures—birds especially—have more or less well-defined methods of playing; and play-day with the T^éru is every day, and at brief intervals. And yet the grave, pompous air of the birds, and the military precision of their movements, might easily lead an observer to attribute these displays to some more important motive. Play is not only indulged in with neighbours; there are many solitary T^érus continually

wandering about from place to place—probably young birds not yet settled in life—and when one of these vagrants passes near a pair he is immediately invited to join them, and when he alights all go through the performance together with great zest. In this case, however, as soon as it is over, the strange bird is attacked with great spirit and chased away; and if by chance he comes down again near them, they hasten to drive him up with increased fury. He is wanted only for five or six minutes and must not outstay his welcome.

While watching their antics, which the gauchos call the Téro's quadrilles, a curious subject of inquiry suggested itself to my mind. It appeared to me that its manner of playing has had a reflex effect strong enough to mark the bird's whole character—language, bearing, and habits being coloured by it, and even the domestic relations interfered with. And with regard to the latter point, though it is the rule that each cock bird has only one hen, I have known several instances of a cock with two hens, the two females laying their eggs in one nest and taking turns in sitting on them. I have also found instances of two males to one female; and in one case where I watched the birds I noticed that when the female was on the nest the males stood over her, one on each side.

I once had my attention drawn to a large concourse of Téros by the strange behaviour of two individuals amongst them, and I stayed to watch their proceedings. It was in the dry, hot weather, and a great many birds had congregated to drink at a lagoon. Some hundreds of them were standing about, quietly preening their feathers, and in the middle of the flock two birds were conspicuously marching about, stiff and upright as a couple of soldiers engaged in some military exercise, and uttering loud notes full of authority.

Every few minutes a fresh bird would arrive and alight at some distance from the water, on which the two noisy birds would bustle up, and, ranging themselves behind it, run it with loud drumming notes to the margin; then, standing close together, they would wait till its thirst was quenched, after which they would run it away to some distance from the water, of which they seem to have made themselves dispensers. For over an hour I continued watching them, and every bird that arrived was conducted to and from the water in this ceremonious manner.

Occasionally several couples unite and soar about in a compact flock; they divide into sets of three birds each, then hover for some time, all waving their wings exactly in time and screaming their notes in unison, and these movements seem like an imitation in the air of the usual marching and drumming performance on the ground.

The breeding-season of the Térus begins as early as the month of June in favourable seasons; severe cold, drought, or other causes sometimes delay it to August. The nest is a shallow circular hollow made by the bird on the level plain, and lined with broken grass-stems, and small fragments of thistle-stalks; the eggs are four, rather sharply pointed at one end, and have an olive-green ground-colour spotted with black. The eggs in different nests vary greatly in size, ground-colour, and in the amount of black they are marked with, no two birds laying eggs exactly alike.

While the female is on the nest the male keeps watch at a distance of twenty or thirty yards, and utters a low warning cry in case of danger. The female leaves the nest sometimes by running, but oftener flies from it, and by marking the spot she rises from, it is easy to find the nest on the open level pampas. In the

course of a morning's ride I have picked up as many as sixty-four eggs. During incubation the birds are excessively watchful and jealous, their irritability increasing with the growth of the chick in the shell; and at that time they will attack any bird of prey approaching the nest with great fury. When approached by a human being they fly to meet him when he is still far from them, and hovering, with loud screams, over him, dash down at intervals, threatening to strike with their wing-spurs, coming very close to his head. Unable to intimidate the enemy with this show of violence the bird changes its tactics, and, alighting at some distance, counterfeits the action of a bird seeking its nest. With well-acted caution and secrecy in its manner, it runs silently along, stooping low, and having found a slight nest-like depression on the surface, sits on it, half opens its wings, and begins gathering all the small sticks or straws within its reach and carefully arranges them about it, as most ground-breeding birds do when incubating. Sometimes also, like many other species, it tries to lead one away from the nest by feigning lameness; but the former instinct of seeking and sitting on an imaginary nest, which I have not observed in any other bird, seems far more complex and admirable.

When sheep in a flock pass over the nest, the bird stands on it to defend its eggs; and then its loud cries and outspread wings often serve to bring the sheep, from motives of curiosity, about it. Even with a dozen sheep clustered round it the bird stands undaunted, beating their faces with its wings; but, unhappily for it, if the shepherd is following, the loud cries of the bird bring him to the spot, and the eggs so bravely defended are taken.

AMERICAN GOLDEN PLOVER

(Charadrius dominicus)

Above brownish black, with numerous irregular spots of yellow; forehead, superciliary stripe, and sides of neck white; beneath black; crissum whitish; axillaries smoky grey; bill black; feet dark grey; length 10.5, wing 7 inches. Female similar. Young, beneath dirty white, with greyish freckles.

THIS closely allied representative of the Golden Plover of Europe, from which it is distinguishable mainly by its rather larger size and smoke-grey axillaries, visits South America after its breeding season in the north.

The American Golden Plover is abundant and well known to every one by its native name *Chorlo* throughout Southern Argentina. Its wild, clear notes are first heard about the last week in August; and among the first comers many individuals are seen still wearing the nuptial dress. After their long journey from the Arctic regions they are lean and not worth shooting; two months later they become excessively fat, and are then much appreciated by gourmets. But although so regular in their arrival they do not regularly visit the same localities every season; the birds may be abundant in a place one year and scarce or absent altogether the next. During the spring, from September to December, they prefer open plains with short grass and in the neighbourhood of wet or marshy ground; at the end of December, when the giant thistle (*Carduus mariana*) which often covers large areas of country, has been burnt up by the sun and blown to the ground, they scatter about a great deal in flocks of from one to four or five hundred. At noon, however, they all resort to a lagoon or marshy place containing water, congre-

gating day after day in such numbers that they blacken the ground over an area of several acres in extent; and at a distance of a quarter of a mile the din of their united voices resembles the roar of a cataract. As population increases on the pampas these stupendous gatherings are becoming more and more rare. Twenty-five years ago it was an exceptional thing for a man to possess a gun, or to use one when he had it; and if Chorlos were wanted, a gaucho boy, with a string a yard long with a ball of lead attached to each end, could knock down as many as he liked. I have killed them in this way myself, also with the *bola perdida*—a ball at the end of a long string thrown at random into a cloud of birds.

The habits, flight, and language of the Golden Plover need not be spoken of here, as this bird has been so often and exhaustively described by North American ornithologists. The only peculiarity it possesses which I have not seen mentioned, is its faculty of producing a loud sound, as of a horn, when a few passing birds, catching sight of others of their kind on the ground below, descend violently and almost vertically to the earth with unmoving wings. This feat is, however, rarely witnessed; and on the first occasion when I heard the sound high above me, and looked up to see half a dozen Chorlos rushing down from the sky, the sight almost took my breath away with astonishment.

The Golden Plover appears to be most abundant on the pampas between the thirty-fourth and thirty-sixth parallels of latitude, but how far south its range extends has not yet been ascertained. The return migration begins early in March, and yet Mr. Barrows met with it in the neighbourhood of Bahia Blanca and on the Sierra de la Ventana from 8th February to 19th March. During most of this time, he says, it

was abundant in flocks of from twenty to two hundred birds, which appeared to be moving uniformly *south* or *south-west*.

WINTER PLOVER

(*Eudromias modesta*)

Above brownish cinereous; frontal band and superciliary stripe white; wings and central tail-feathers blackish; lateral tail-feathers white, the inner ones with an imperfect black subterminal band; beneath, throat cinereous, breast bright chestnut with a black band below; belly white; bill black, base of lower mandible yellowish; feet brown; length 7.5, wing 5.3 inches. Female similar. Young without the rufous chest.

THIS species in its gait, flight, and general appearance closely resembles the American Golden Plover, but is smaller than that bird, and its sober upper plumage is unrelieved with flecks of golden colour. It breeds in South Patagonia and the Falklands, and migrates north in autumn, appearing on the pampas in April, and being met with there throughout the winter; hence the vernacular name *Chorlito de invierno* (Little Winter Plover). In its winter dress the upper plumage is greyish drab colour; the breast dark brown; the belly white. It is shy and active in disposition, has a very rapid flight, and is seen in flocks varying greatly in number, from a dozen to two or three hundred individuals. When feeding the birds scatter very widely, running swiftly over the ground in all directions. When on the wing it frequently utters its cry, which has not the mellow tone of the Golden Plover's note, but it is wonderfully clear and far-reaching, and impresses the listener with its wildness and melancholy. Their return migration takes place in August.

PATAGONIAN RINGED PLOVER

(Ægialitis falklandicus)

Above brown; front white; band across forehead and sides of head black, bordered with rufous; wings black, with bright shafts and white edges to the base of some of the inner primaries; central tail-feathers black, lateral white, with a more or less distinct sub-terminal blackish band, except on the outer pair; beneath white, crossed by two broad blackish bands on the breast; bill and feet black; length 7, wing 5 inches. Female similar.

THE pretty little Belted Plover inhabits the Falklands and South Patagonia, and migrates north in winter as far as Paraguay; but it is not anywhere common, and is seldom seen in parties exceeding half a dozen in number. It is extremely active, always preferring wet grounds to dry, and runs rapidly over the mud in search of food like a *Tringa*. Its only language is a low clicking note uttered when taking wing.

Some individuals remain to breed as far north as the pampas of Buenos Ayres. Mr. Gibson says the nest is always placed near the water, and is a slight scrape in the ground lined with dry grass. The eggs are three in number, have black spots on an olive ground, and in shape resemble Lapwings' eggs.

Durnford also found it breeding in the Chupat Valley in September 1877.

There is a second species of Ringed Plover (Azara's Ringed Plover, *Æ. collaris*) which ranges over the whole of South America and was occasionally seen by me on migration, on the pampas.

SLENDER-BILLED PLOVER

(Oreophilus ruficollis)

Above grey, varied with yellowish brown and striped with black on the back and wing-coverts; front and superciliaries yellowish brown; stripe through the eye blackish; wings blackish with white shafts, their under surface white; tail grey, with a black subterminal bar on the lateral feathers; beneath grey; throat rusty reddish; below the breast a black band or patch; bill dark, feet red; length 10, wing 6.5 inches.

THIS pretty and singular Plover, with a bill like a Sandpiper, inhabits South Patagonia and the Falklands. In the autumn it migrates north, and during the cold season is found sparsely distributed throughout the Argentine States, and passes into Bolivia and Peru. On the pampas it is most abundant in April, but most of the birds seen during that month are travellers to warmer latitudes.

It is a shy and exceedingly active bird, somewhat larger than the Golden Plover in size, and in the Plata district is usually called *Chorlo canela*, from the prevailing cinnamon-red of the plumage. It is distinguished in the family it belongs to by the great length of its straight, slender, probe-like bill, unlike that of any other Plover; and it also has other structural peculiarities, the toes being exceptionally short and thick, the frontal bone curiously modified, and the eyes enormously large, like those of a nocturnal species. I do not think, however, that it migrates by night, as I have never heard its peculiar passage-cry after dark. A flock is usually composed of from a dozen to thirty individuals, and when on the ground they scatter widely, running more rapidly than any other Plover I am acquainted with. When they travel the flight is swift and high, the birds much scattered. They possess no

mellow or ringing notes like other members of the Plover family; on the ground they are silent, but when taking wing invariably utter a long, tremulous, reedy note, with a falling inflection, and usually repeated three or four times. The sound may be imitated by striking on the slackened strings of a guitar. This cry is frequently uttered while the birds are migrating.

On the Rio Negro in Patagonia I observed this Plover only in the winter season; but Durnford found it nesting in the valley of the Sengel in Chupat in the month of December.

SEED-SNIPE

(*Thinocorus rumicivorus*)

Above buffy brown, marbled and irregularly banded with black; wing-feathers black, edged with white, external secondaries like the back; tail black, broadly tipped with white, central rectrices like the back; beneath white; a broad line on each side of the throat uniting in the centre of the neck and expanding into a collar on the breast, black; sides of neck greyish; bill dark brown, feet yellow; length 6.5, wing 3.9 inches. Female similar but with only slight traces of black bar.

THIS curious bird has the grey upper plumage and narrow, long, sharply-pointed wings of a Snipe, with the plump body and short, strong, curved beak of a Partridge. But the gallinaceous beak is not in this species correlated, as in the Partridges, with stout rasorial feet; on the contrary, the legs and feet are extremely small and feeble, and scarcely able to sustain the weight of the body. When alighting the Seed-Snipe drops its body directly upon the ground and sits close like a Goatsucker; when rising it rushes suddenly away with the wild, hurried flight and sharp, scraping alarm-cry

of a Snipe. It is exclusively a vegetable feeder. I have opened the gizzards of many scores to satisfy myself that they never eat insects, and have found nothing in them but seed (usually clover-seed) and tender buds and leaves mixed with minute particles of gravel.

These birds inhabit Patagonia, migrating north to the pampas in winter, where they arrive in April. They usually go in flocks of about forty or fifty individuals, and fly rapidly, keeping very close together. On the ground however, they are always much scattered, and are so reluctant to rise that they will allow a person to walk or ride through the flock without taking wing, each bird creeping into a little hollow in the surface or behind a tuft of grass to escape observation. During its winter sojourn on the pampas the flock always selects as a feeding-ground a patch of whitish argillaceous earth with a scanty, withered vegetation; and here, when the birds crouch motionless on the ground, to which their grey plumage so closely assimilates in colour, it is most difficult to detect them. If a person stands still, close to or in the midst of the flock, the birds will presently betray their presence by answering each other with a variety of strange notes, resembling the cooing of Pigeons, loud taps on a hollow ground, and other mysterious sounds, which seem to come from beneath the earth.

In the valley of Rio Negro I met with a few of these birds in summer, but could not find their nests.

Durnford, however, who found them breeding in Chupat at the end of October, tells us that the nest is a slight depression in the ground, sometimes lined with a few blades of grass.

The eggs have a pale stone ground-colour, very thickly but finely speckled with light and dark chocolate markings; they have a polished appearance, and measure 1·3 by ·8 inch. (*Ibis*, 1878, p. 403.)

BRAZILIAN STILT

(Himantopus brasiliensis)

White; line behind each eye, nape, back of neck, interscapulum, and wings black; a narrow white band divides the black neck from the black upper back; bill black, feet orange; length 14, wing 8.5 inches. Female similar.

THIS bird is resident and common in the Plata district, and is called in the vernacular *Téru-real*, also *Zancudo* (Stilt). It frequents marshes and lagoons, and wades in search of food in the shallow water near the margin. It is lively in its movements, and notwithstanding the great length of its legs has a pretty, graceful appearance on the ground. On the wing, however, it is seen at its best, the flight being remarkably swift and free, while the sharply-pointed glossy-black wings contrast finely with the snow-white plumage of the body, and the red legs stretched out straight behind have the appearance of a long, slender tail. Stilts are fond of aerial exercises, pursuing each other with marvellous velocity through the air, so that a few moments after the spectator has almost lost sight of them in the sky above they are down again within a few yards of the surface. While pursuing each other they constantly utter their excited yelping cries, which in tone remind one of the musical barking of some hounds.

The nest is made on the low ground close to the water, and consists merely of a slight lining of dry grass and leaves gathered in a small depression on the surface; the eggs are four in number, pyriform, dark olive colour spotted with brownish black, the spots being very thickly crowded at the large end. During incubation the male keeps guard and utters a warning note on the appearance of an enemy, whereupon the female quits the nest. They also counterfeit

lameness to draw a person from the neighbourhood of the eggs or young, but in a manner peculiar to this species; for owing to the great length of their legs they cannot drag themselves along the ground, as Ducks, Plover, Partridges, and other birds do. Placing themselves at a distance of forty or fifty yards from the intruder, but with breast towards him, they flutter about a foot above the ground, their long legs dangling under them, and appear as if struggling to rise and repeatedly falling back. If approached they slowly retire, still fluttering just above the grass and without making any sound. After the young birds are able to fly they remain with the parents until the following spring; and sometimes two or three families associate together, raising the number of the flock to fifteen or twenty birds. The young have a sharp, querulous cry of two notes; the plumage is brown and pale grey; the eyes black. After nine or ten months the adult plumage is acquired, not by moulting, but by a gradual change in the colour of the feathers. By the same gradual process the eye changes from black to crimson, the outer edge of the iris first assuming a dull reddish colour, which brightens and widens until the whole iris becomes of a vivid red.

PARAGUAY SNIPE

(*Gallinago paraguaiæ*)

Above brown, striped and barred with black and pale fulvous; wings dark cinereous edged with white; tail of sixteen rectrices, of which the outer pair are pin-shaped; beneath white; breast marbled with blackish and brown; length 10·5, wing 9·1 inches.

THIS familiar bird, called *Agachona* in the vernacular, from its habit of crouching close to the ground to escape observation when approached, is abundant in

the Plata district and resident, although its sudden and total disappearance from all the open wet places where it is common in the winter gives one the impression that it is migratory. The bird, however, only retires to breed in the extensive lonely marshes. The nest is a slight depression on the moist ground close to the water, and lined with a little withered grass. The eggs are four, pear-shaped, and spotted with black on an olive-coloured ground.

After the summer heats are over Snipes suddenly appear again all over the country, and at this season they are frequently met with on the high and dry grounds among the withered grass and thistles. In favourable wet seasons they sometimes collect in large flocks, numbering not less than five or six hundred birds, and a flock of this kind will occasionally remain in one spot for several months without breaking up. They usually frequent an open spot of level ground where the water just covers the roots of the short grass; here the birds keep close together while feeding and are visible from a long distance; but they become extremely wary, all raising their heads in a very un-Snipe-like manner at the slightest alarm, and taking flight with the readiness of Wild Ducks. These flocks are, however, not often met with. Usually the Snipe is a solitary bird, crouches close when approached, and springs up suddenly when almost trodden on, loudly uttering its sharp scraping alarm-cry; after rising to a considerable height, flying in a wild erratic manner, it returns suddenly to the earth, often dropping into the grass within twenty yards of the spot it rose from.

It is indeed curious to see how these habits, characteristic of the Snipes all over the world, are so completely laid aside when the birds associate in large flocks.

Early and late in the day many individuals are usually

on the wing engaged in their aerial pastimes, the singular grinding or scythe-whetting sounds caused by their feathers in their violent descent from a great height being distinctly audible at a distance of nearly a mile. It is heard throughout the winter at all hours of the day in mild, damp weather, and on moonlight nights often until after midnight.

ARGENTINE PAINTED SNIPE

(*Rhynchæa semicollaris*)

Above dark brown; head black, with a central and two lateral longitudinal bands of buffy white; wings ashy blackish, spotted with buffy white and barred with black; coverts with large oval spots of clear white; beneath, throat and breast dark brownish, with a conspicuous white neck-collar on each side; belly white, flanks tinged with buffy; bill greenish, reddish at tip; feet flesh-colour; length 8, wing 4.1 inches. Female similar, but slightly larger and more brightly coloured.

In the Argentine provinces this bird is called *Dormilón* (Sleepy-head), in allusion to its dull habits, which are like those of a nocturnal species. It passes the daylight hours concealed in dense reed-beds, rising only when almost trodden on; the flight is feeble and erratic, the rapid wing-flutterings alternating with intervals of gliding, and after going a short distance the bird drops again like a Rail into the rushes. From its behaviour on the ground, also in flying, when it appears dazed with the light, I have no doubt that it is altogether nocturnal or crepuscular in its habits. It is solitary and resident, and may be met with in small numbers in every marsh or stream in the Plata district, where its favourite reed-beds afford it cover. It appears to have no cry or note of any kind, for even when frightened

from its nest and when the eggs are on the point of hatching it utters no sound. The eggs never exceed two in number, and are placed on the wet ground, often without any lining, among the close grass and herbage near the water. They are oblong and bluntly pointed at the smaller end, and have a white ground-colour, but so densely marked and blotched with black that in some cases they appear to be almost wholly of that colour, or like black eggs flecked with white.

PECTORAL SANDPIPER

(*Tringa maculata*)

Above brown, varied with black; superciliaries whitish; rump and middle upper tail-coverts white; beneath white; neck and breast greyish streaked with blackish; length 8.5, wing 5.1 inches. Female similar.

THE Pectoral Sandpiper is a well-known North-American species that visits the south during migration. It breeds abundantly in Alaska, and descends in winter through Central and South America to Chili and Patagonia. Durnford found it abundant about the salt-lagoons of Chupat. Near the end of August it begins to arrive in La Plata, usually in very small flocks or singly; and among these first comers there are some young birds so immature, with threads of yellow down still adhering to the feathers of the head and altogether weak in appearance, that one can scarcely credit the fact that so soon after being hatched they have actually performed the stupendous journey from the northern extremity of the North American continent to the Buenos-Ayrean pampas.

This species differs from other Sandpipers in being

much more solitary and sedentary in its ways, feeding for hours in one spot, and in its Snipe-like habit of sitting close when approached and remaining motionless watching the intruder; also in its language, its low, soft, tremulous cry when flying being utterly unlike the sharp and clicking sounds emitted by other species. During the hot months, when water begins to fail, they occasionally congregate in flocks, sometimes as many as two or three hundred individuals being seen together; but at all times it is more usual to see them in small parties of half a dozen or singly.

Two other well-known Arctic-American species of *Tringa* are annual visitants to Argentina: Baird's Sandpiper, *T. bairdi*, and Bonaparte's Sandpiper, *T. fuscicollis*.

GREATER YELLOWSHANKS

(*Totanus melanoleucus*)

Above brownish grey spotted with white; rump nearly white; beneath white; throat and neck with black streaks; bill black, feet yellow; length 14, wing 7.5 inches. Female similar.

THE Greater Yellowshanks is best known as an Arctic-American species, descending south during migration, and arriving in La Plata at the end of September or early in October, singly or in pairs, and sometimes in small flocks. Without ever being abundant the bird is quite common, and one can seldom approach a pool or marsh on the pampas without seeing one or more individuals wading near the margin, and hearing their powerful alarm-cry — a long, clear note repeated three times.

These summer visitors leave us in March, and then,

oddly enough, others arrive, presumably from the south to winter on the pampas, and remain from April to August. Thus, notwithstanding that the Yellowshanks does not breed on the pampas, we have it with us all the year round. Durnford's observations agree with mine, for he says that the bird is found throughout the year near Buenos Ayres; and Mr. Barrows writes that this species "occurs every month in the year (at Concepcion in Entrerios), but in increased numbers during August, September, October, and November."

The Lesser Yellowshanks, *Totanus flavipes*, is also a common species, a visitor from Arctic America, in Argentina from September to April. Many non-breeding individuals are also found during the other months of the year. In habits, language, colour, and—except in size—in its entire appearance it closely resembles the Greater Yellowshanks; and the two species, attracted or deceived by this likeness, are constantly seen associating together.

SOLITARY SANDPIPER

(*Rhyacophilus solitarius*)

Middle toe nearly as long as tarsus. Above dark olivaceous grey, with blacker markings and slightly speckled with white; upper tail-coverts blackish, barred with white; tail white with blackish bars, beneath white; sides of neck and breast streaked and barred with dusky grey; under wing-coverts blackish, barred with white; length 8.5, wing 5 inches. Female similar.

THE well-known and well-named Solitary Sandpiper arrives later than the other birds of its family in La Plata, and differs greatly from them in its habits, avoiding the wet plains and muddy margins of lagoons

and marshes where they mostly congregate, and making its home at the side of a small pool well sheltered by its banks, or by trees and herbage, and with a clear margin on which it can run freely. As long as there is any water in its chosen pool, though it may be only a small puddle at the bottom of a ditch, the bird will remain by it in solitary contentment. When approached it runs rapidly along the margin, pausing at intervals to bob its head, in which habit it resembles the *Totanus* or Yellow-shanks, and emitting sharp little clicks of alarm. Finally, taking flight, it utters its peculiar and delightful cry, a long note thrice repeated, of so clear and penetrating a character that it seems almost too fine and bright a sound even for so wild and aerial a creature as a bird.

The flight is exceedingly rapid and wild, the bird rising high and darting this way and that, uttering its piercing trisyllabic cry the whole time, and finally, dashing downwards, it suddenly drops again on to the very spot from which it rose.

I was once pleased and much amused to discover in a small sequestered pool in a wood, well sheltered from sight by trees and aquatic palms, a Solitary Sandpiper living in company with a Blue Bittern. The Bittern patiently watched for small fishes, and when not fishing dozed on a low branch overhanging the water; while its companion ran briskly along the margin snatching up minute insects from the water. When disturbed they rose together, the Bittern with its harsh, grating scream, the Sandpiper daintily piping its fine bright notes—a wonderful contrast! Every time I visited the pool afterwards I found these two hermits, one so sedate in manner, the other so lively, living peaceably together.

BARTRAM'S SANDPIPER

(Actitura bartramius)

Above blackish, feathers edged with yellowish brown; rump black; wing-coverts yellowish brown, barred with black; primaries blackish; beneath white; breast and flanks ochraceous, spotted and barred with black; under surface of wings barred with white and black; bill yellowish, tip black; feet yellow; length 10, wing 6.3 inches. Female similar.

BARTRAM'S SANDPIPER, a Sandpiper with the habits of a Plover, is a widely-distributed North American species, its breeding area extending over a large portion of the United States, where it is known as the Upland Plover. The people of that country have been paying it a good deal of attention of late; they have discovered that it is a charming bird, and at the same time that during the last three or four decades their gunners have almost extirpated it. They fear that it is going the way of the Passenger Pigeon, the Pinnated Grouse, the Carolina Parakeet, the Ivory-billed Woodpecker, and, I believe we must now add, the Esquimo Whimbrel.

This species differs from its fellow-migrants of the same family from the north to Argentina in its wide and even distribution over all that portion of the pampas where the native coarse grasses which once covered the country have disappeared, an area comprising not less than 50,000 square miles. It begins to arrive as early as September, coming singly or in small parties of three or four; and, extraordinary as the fact may seem when we consider the long distance the bird travels, and the monotonous nature of the level country it uses as a "feeding area," it is probable that every bird returns to the same spot year after year; for in no other way could such a distribution be maintained, and the birds appear every summer evenly sprinkled over so immense a surface.

On the pampas the bird is called *Chorlo solo*, on account of its solitary habit, but more commonly *Batitú*, an abbreviation of the Indian name *Mbatuitui*. In disposition it is shy, and prefers concealment to flight when approached, running rapidly away through the long grass or thistles, or concealing itself behind a tussock until the danger is past, or often, where the herbage is short, crouching on the ground like a Snipe. It runs swiftly and pauses frequently; and while standing still with head raised it jerks its long tail up and down in a slow measured manner. When driven up it springs aloft with a sudden wild flight, uttering its loud mellow-toned cry, composed of three notes, strongly accented on the first and last; and sometimes, when the bird is much alarmed, the first note is rapidly reiterated and becomes a bubbling sound like that of the European Cuckoo, but much more musical. After flying a very short distance it drops to the ground again, agitating its wings in a tremulous manner as it comes down. And sometimes after alighting it continues standing motionless for several seconds with the wings stretched up vertically. These wing motions and other pretty gestures give it a very attractive appearance. In its skulking habits, and reluctance to fly, it is more like a Rail than a Snipe. It also, Rail-like, frequently alights on trees and fences, a habit I have not remarked in any other Limicoline species.

It inhabits the pampas from September until March; but early in February the great return migration begins, and then for two months the mellow cry of the *Batitú* is heard far up in the sky, at all hours, day and night, as the birds wing their way north. In some seasons stragglers are found throughout the month of April, but before the winter arrives not one is left.

BUFF-BREASTED SANDPIPER

(*Tryngites rufescens*)

Above dark brownish black, each feather widely edged with buff; wings blackish, narrowly tipped with white, the inner half of the inner web whitish reticulated with black; tail blackish, the outer rectrices lighter, each with subterminal black crescent and white terminal edge; beneath buff, darker on the throat and breast, and edged with whitish, lighter on flanks and belly; under primary-coverts barred and reticulated with black, like the inner web of the primaries, and forming a marked contrast with the rest of the under-surface of the wing, which is pure white; length 7·7, wing 5·3 inches. Female similar.

THIS species is also an annual visitor to the pampas from the Arctic regions where it breeds. It begins to arrive, usually in small bodies, early in the month of October; and during the summer is seldom met with in flocks of any size on the pampas, but is usually seen on the dry, open ground associating in small numbers with the Golden Plover, the Whimbrel, and other northern species. I however think it probable that it travels farther south than its fellow-migrants from North America, and has its principal feeding-grounds somewhere in the interior of Patagonia; also that its northern journey takes place later than that of other species. In some seasons I have observed these birds in April and May, in flocks of two to five hundred, travelling north, flock succeeding flock at intervals of about fifteen minutes, and continuing to pass for several days.

HUDSONIAN GODWIT

(Limosa hæmastica)

In summer: Above dark brownish black, mixed on the head with longitudinal streaks of whitish, on the neck with pale chestnut, and with many of the feathers of the back spotted or edged with pale chestnut; wings and tail blackish, the upper half of the inner webs of the primaries and secondaries, the basal part of the outer rectrices, and a broad band across the upper tail-coverts pure white; beneath, cheeks and throat whitish, becoming pale chestnut on the neck, longitudinally striped with blackish; rest of under surface deeper chestnut, transversely barred with blackish. *In winter:* Above uniform dull brownish; head, neck, and under surface dirty white or pale buff; length 14·3, wing 8·5 inches.

THE Hudsonian Godwit, Mr. Seebohm tells us, "breeds on the tundras of North America north of the forest-growth, from Alaska to Baffin's Bay, but is rare at the western extremity of its range." In winter it goes far south, like most of the other Grallæ.

Durnford found it "common from April to September about the lagoons and arroyos to the south of Buenos Ayres"; and states that in habits it much resembles the Bar-tailed Godwit of Europe (*Limosa lapponica*). He also met with it in Chupat, and obtained two specimens there on 13th November, 1876.

I have met with it in flocks during the summer of the Southern Hemisphere, and these birds, as well as those obtained by Durnford, were undoubtedly visitors from the north; but invariably small flocks of half a dozen to thirty birds begin to appear on the pampas in April, and remain there, as Durnford says, until September, when the northern migrants are nearly due. These individuals must therefore breed near the extremity, or beyond the extremity, of South America. It is very curious, to say the least of it, that the Arctic and Antarctic regions of America should possess the

same species, and that, at opposite seasons of the year, it should winter in the same district, so far from the breeding-place of one set of individuals, and so near to that of the other! Captain Abbott observed the Hudsonian Godwit in the Falkland Islands in flocks in the month of May (see *Ibis*, 1861, p. 156). These could not have been Alaska birds, but were no doubt southern breeders on their way north, for that they could winter so far south seems incredible.

ESQUIMO WHIMBREL

(*Numenius borealis*)

Above dark brown, each feather edged or spotted with pale buff or dirty white, becoming most strongly marked on the rump and upper tail-coverts; wings uniform dusky brownish, narrowly edged with white; tail buffy brown, transversely barred with dusky; beneath throat white; rest of under surface pale buff, with more or less V-shaped dusky markings on the breast, flanks, and under tail-coverts; axillaries and under wing-coverts pale chestnut, transversely barred with dusky; length 11.6, tail 8.14 inches. Female similar.

THE Esquimo Whimbrel, which as Mr. Seebohm tells us, may be distinguished from all its congeners by having scarcely any traces of bars on its primaries and by the back of the tarsus being covered with hexagonal reticulations, migrates from the tundras of North America, where it breeds, to the southern extremity of South America.

Mr. Barrows noted its first arrival at Concepcion in Entrerios on 9th September, 1880, "in large flocks." After the middle of October not one was seen.

The same excellent observer saw it almost daily on the pampas between Azul and Bahia Blanca, "in

company with the Golden Plover and Bartram's Sandpiper, until late in February."

From the 8th to the 10th of October, 1877, Durnford saw large flocks of this Whimbrel in the Chupat valley flying south, and obtained two specimens. Capt. Packe and Capt. Abbott both procured examples in the Falkland Islands.

The Esquimo Whimbrel was common enough in its season on the pampas in my day, appearing in September to October in small flocks of thirty or forty to a hundred or more, and often associating with the Golden Plover; but, as I now hear from the authorities of the Smithsonian Institution at Washington, it is practically extinct.

BLACK-TAILED SKIMMER

(*Rhynchops melanura*)

Above brownish black; forehead and wing-band white; tail black; beneath white; bill, apical half black, basal half orange; feet red; length 19, wing 15 inches. Female similar.

THE Black-tailed Skimmer, which is common on the coasts of Brazil, migrates south in spring, following the course of the Plata river in its journey, and appearing in pairs or small flocks in the neighbourhood of Buenos Ayres during the month of October. Its chief breeding-ground is on the extensive mud-banks and islets at Bahia Blanca on the Atlantic coast. The return migration occurs in March.

Darwin met with the Scissor-bill during his excursion up the Paraná in October, 1833, and speaks of it as follows (*Nat. Journ.*, p. 161):

I here saw a very extraordinary bird, called the Scissor-beak (*Rhynchops nigra*). It has short legs, web feet, extremely long-pointed wings, and is of about the size of a Tern. The beak is

flattened laterally, that is in a plane at right angles to that of a Spoonbill or Duck. It is as flat and elastic as an ivory paper-cutter, and the lower mandible, different from every other bird, is an inch and a half longer than the upper. I will here detail all I know of the habits of the Scissor-beak. It is found both on the east and west coasts, between latitudes 30 and 45, and frequents either salt or fresh water. The specimen now at the Zoological Society was shot at a lake near Maldonado, from which the water had been nearly drained, and which in consequence swarmed with small fry. I there saw several of these birds, generally in small flocks, flying backwards and forwards, close to the surface of the lake. They kept their bills wide open, and with the lower mandible half buried in the water. Thus skimming the surface, they ploughed it in their course; the water was quite smooth, and it formed a most curious spectacle to behold a flock, each bird leaving its narrow wake on the mirror-like surface. In their flight they frequently twist about with extreme rapidity, and so dexterously manage, that with their projecting lower mandible they plough up small fish, which are secured by the upper half of their scissor-like bill. This fact I repeatedly saw as, like Swallows, they continued to fly backwards and forwards close before me. Occasionally, when leaving the surface of the water, their flight was wild, irregular, and rapid; they then also uttered loud, harsh cries. When these birds are fishing, the length of the primary feathers of the wings is seen to be quite necessary, in order to keep the latter dry. When thus employed, their forms resemble the symbol by which many artists represent marine birds. The tail is much used in steering their irregular course.

These birds are common far inland along the course of the Rio Paraná; it is said they remain during the whole year and breed in the marshes. During the day they rest in flocks on the grassy plains, at some distance from the water. Being at anchor, as I have said, in one of the deep creeks between the islands of the Paraná, as the evening drew to a close one of these Scissor-beaks suddenly appeared. The water was quite still, and many little fish were rising. The bird continued for a long time to skim the surface, flying in its wild and irregular manner up and down the narrow canal, now dark with the growing night and the shadows of the overhanging trees. At Monte Video I observed that some large flocks during the day remained on the mud-banks at the head of the harbour, in the same manner as on the grassy plains near the Paraná; and every evening they took flight direct to seaward. From these facts I suspect that the *Rhynchops* generally fishes by night, at which time many of the lower animals come most abundantly to the surface. M. Lesson states that he has seen these birds open the shells of the *Maclura*, buried in the sand-banks on the coast of Chili; from their weak bills, with the lower mandible so much produced, their short legs and long wings, it is very improbable that this can be a general habit.

DOMINICAN GULL

(Larus dominicanus)

Mantle brownish-black; primaries black, with white tips, and a subapical patch in old birds; rest of plumage white; bill yellow, orange at angle of lower mandible; legs and feet olive; length 22, wing 18 inches.

THE Dominican Gull, which belongs to the same section of the group as the well-known Black-backed Gulls of Europe and closely resembles our Great Black-backed Gull, is common throughout the Plata district in winter, from April to August. During the summer months it confines itself to the Atlantic coast, and breeds in large numbers in the neighbourhood of Bahia Blanca, on the extensive sand-banks and mud-flats there; and in other suitable localities further south. Durnford found it nesting at Tombo Point, sixty miles south of the Chupat river.

At the approach of cold weather the Dominican Gulls leave the sea-shore and wander inland and northward. At this season they are almost exclusively flesh-eaters, with a preference for fresh meat; and when the hide has been stripped from a dead cow or horse they begin to appear, vulture-like, announcing their approach with their usual long, hoarse sea-cries, and occasionally, as they circle about in the air, joining their voices in a laughter-like chorus of rapidly repeated notes. Their winter movements are very irregular; in some seasons they are rare, and in others so abundant that they crowd out the Hooded Gulls and Carrion-Hawks from the carcass; I have seen as many as five hundred to six hundred Dominicans massed round a dead cow.

ARGENTINE BLACK-HEADED GULL

(Larus maculipennis)

Head and nape brownish-black (in breeding dress); tail and underparts white; mantle pale grey; primaries black or dark grey, tipped with white, and with large elongated white patches on the outer portions of first to fifth, followed by a subapical *black bar* (in *L. glaucodes* the lower portion is *white*); underwing *pale grey*; bill, legs and feet blood-red; length 17, wing 11.5 inches.

THIS common Black-headed Gull is found throughout the Argentine country, down to Chupat in Patagonia, and is exceedingly abundant on the pampas of Buenos Ayres, where it is simply called *Gaviota* (Gull). In the month of October they congregate in their breeding-places—extensive inland marshes, partially overgrown with rushes. The nests are formed of weeds and rushes, placed just above the water and near together, several hundreds being sometimes found within an area of less than a quarter of an acre. The eggs are four in number, large for the bird, obtusely pointed, of a pale clay-colour, thickly spotted at the big end and sparsely on the other parts with black.

Every morning at break of day the Gulls rise up from their nests and hover in a cloud over the marsh, producing so great a noise with their mingled cries that it can be heard distinctly at a distance of two miles. The eggs are considered a great delicacy, resembling those of the Plover in taste and appearance, and are consequently much sought after, so that when the locality near which a gullery is situated becomes inhabited the birds have no chance of rearing their young, as the boys in the neighbourhood ride into the marsh every morning to gather the eggs. The gulls are, however, very tenacious of their old breeding-

places, and continue even after years of persecution to resort to them.

The young birds are of a pale grey colour, mottled with dull brown, and have a whining, querulous cry. The plumage becomes lighter, through the autumn and winter, but it is not until the ensuing summer, when the dark brown nuptial hood is assumed, that the young birds acquire the perfect plumage—soft grey-blue above, and the white bosom with its lovely pink blush.

As soon as the young are able to fly the breeding-place is forsaken, the whole concourse leaving in a body, or scattering in all directions over the surrounding country; and until the following summer their movements depend entirely on food and water. If the weather is dry the Gulls disappear altogether; and if grasshoppers become abundant the country people wish for rain to bring the Gulls. When it rains then the birds quickly appear, literally from the clouds, and often in such numbers as to free the earth from the plague of devastating insects. It is a fine and welcome sight to see a white cloud of birds settle on the afflicted district; and at such times their mode of proceeding is so regular that the flock well deserves the appellation of an army. They sweep down with a swift, graceful flight and settle on the earth with loud, joyful cries, but do not abandon the order of attack when the work of devouring has begun. The flock often presents a front of over a thousand feet, with a depth of sixty or seventy feet; all along this line of battle the excited cries of the birds produce a loud, continuous noise; all the birds are incessantly on the move, some skimming along the surface with expanded wings, others pursuing the fugitives through the air, while all the time the hindmost birds are flying over the flock to alight in

the front ranks, so that the whole body is steadily advancing, devouring the grasshoppers as it proceeds. When they first arrive they seem ravenously hungry, and after gorging themselves they fly to the water, where after drinking they cast up their food and then go back to renew the battle.

In spring these Gulls come about the farms to follow the plough, filling the new-made furrows from end to end, hovering in a cloud over the ploughman's head and following at his heels, a screaming, fighting multitude. Wilson's expression in describing a northern species, that its cry "is like the excessive laugh of a negro," is also descriptive of the language of our bird. Its peculiar cry is lengthened at will and inflected a hundred ways, and interspersed with numerous short notes like excited exclamations. After feeding they always fly to the nearest water to drink and bathe their feathers, after which they retire to some open spot in the neighbourhood where there is a carpet of short grass. They invariably sit close together with their bills toward the wind, and the observer will watch the flock in vain to see one bird out of this beautiful order. They do not stand up to fly, but rise directly from a sitting posture. Usually the wings are flapped twice or thrice before the body is raised from the ground.

In some seasons in August and September, after a period of warm, wet weather, the larvæ of the large horned beetle rise to the surface, throwing up little mounds of earth as moles do; often they are so numerous as to give the plains, where the grass has been very closely cropped, the appearance of being covered with mud. These insects afford a rich harvest to the Spur-winged Lapwing (*Vanellus cayennensis*), which in such seasons of plenty are to be seen all day diligently running about, probing and dislodging them from beneath

the fresh hillocks. The Gulls, unprovided with a probing beak, avail themselves of their superior cunning and violence to rob the Lapwings; and I have often watched their proceedings for hours with the greatest interest. Hundreds of Lapwings are perhaps visible running busily about on all sides; near each one a Gull is quietly stationed, watching the movements of its intended dupe with the closest attention. The instant a great snow-white grub is extracted the Gull makes a rush to seize it, the Lapwing flies, and a violent chase ensues. After a hundred vain doublings the Plover drops the prize, and slopes toward the earth with a disappointed cry; the pursuer checks his flight, hovers a moment watching the grub fall, then drops down upon it, gobbles it up, and hastens after the Lapwing to resume his watch.

Many of these Gulls haunt the estancias to feed on the garbage usually found in abundance about cattle-breeding establishments. When a cow is slaughtered they collect in large numbers and quarrel with the domestic poultry over the offal. They are also faithful attendants at the shepherd's hut; and if a dead lamb remains in the fold when the flock goes to pasture they regale on it in company with the Chimango. The great *saladeros*, or slaughter-grounds, which were formerly close to Buenos Ayres, were also frequented by hosts of these neat and beautiful scavengers. Here numbers were seen hovering overhead, mingling their excited screams with the bellowing of half-wild cattle and the shouts of the slaughterers at their rough work; and at intervals, wherever a little space is allowed them, dropping down to the ground, which reeked with blood and offal, greedily snatching up whatever morsels they could seize on, yet getting no stain or speck on their delicate dress of lily-white and ethereal blue.

On the open pampas their curiosity and anger seem

greatly excited at the appearance of a person on foot; no sooner has the Gull spied him than it sweeps toward him with a rapid flight, uttering loud, indignant screams that never fail to attract all of its fellows within hearing distance. These all pass and re-pass, hovering over the pedestrian's head, screaming all the time as if highly incensed, and finally retire, joining their voices in a kind of chorus and waving their wings upwards in a slow, curious manner; but often enough, when they are almost out of sight, they suddenly wheel about and hurry back screaming, with fresh zeal, to go through the whole pretty but annoying performance again.

GREAT GREBE

(*Æchmophorus major*)

Above blackish; occipital crest divided, bronzy black; wide bar across the wing white; beneath white; chin dark ashy; neck, breast, and sides of belly (in adult) more or less red; bill yellowish. feet dark; length 21, wing 8 inches.

THIS Grebe is called in the vernacular *Macas cornudo*—the first word being the Indian generic name for the Grebes, while *cornudo* signifies horned, from the bird's habit of erecting, when excited, the feathers of the nape in the form of a horn. The species is found throughout Eastern Argentina, from its northern limits to Central Patagonia, where Durnford found it common and resident. On the Rio Negro I found it abundant, and it was formerly just as common along the Plata river, but owing to its large size and the great beauty of its lustrous under-plumage it is very much sought after and is becoming rare.

It is impossible to make this Grebe leave the water, and when discovered in a small pool it may be pursued

until exhausted and caught with the hand; yet it must occasionally perform long journeys on the wing when passing from one isolated lake to another. Probably its journeys are performed by night.

There is little diversity in the habits of Grebes, and only once have I seen one of these birds acting in a manner which seemed very unusual. This Grebe was swimming about and disported itself in a deep, narrow pool, and showed no alarm at my presence, though I sat on the margin within twenty-five yards of it. I saw it dive and come up with a small fish about three inches long in its beak; after sitting motionless for a little while, it tossed the fish away to a considerable distance with a sudden jerk of its beak, and then at the instant the fish touched the water it dived again. Presently it emerged with the same fish, but only to fling it away and dive as before; and in this way it released and recaptured it about fifteen times, and then, tired of play, dropped it and let it escape.

Mr. Gibson has the following note on the breeding habits of the Great Grebe, as observed at Ajó, near the mouth of Rio do La Plata:

P. major breeds about the end of August, placing its nest in the thickest rushes of the swamp. The nest, built of wet water-weeds, is raised just above the level of the water; and I have twice seen the sitting bird hastily draw some weeds over the eggs before leaving them, on my approach. The clutch consist of three; and these are of the usual Grebe colour, generally much soiled and stained.

There are four more species of Grebe in Argentina: the Bright-cheeked Grebe, *Podiceps caliparæus*, confined to southern South America; Rolland's Grebe, *Podiceps rollandi*, also confined to the south of the continent; the American Dabchick, *Tachybaptus dominicus*, inhabiting Central and South America; and the Thick-billed Grebe, *Podilymbus podiceps*, found in both North and South America.

TATAUPA TINAMU

(*Crypturus tataupa*)

Above chestnut-brown; head and neck dark cinereous; beneath cinereous; throat white; middle of belly white; flanks and crissum varied with undulating bars of black and white; bill yellowish, feet dark ashy; length 10, wing 5.2 inches. Female similar.

THE Tataupa Tinamu was first described by Azara as an inhabitant of Paraguay, whence it extends into the northern provinces of the Argentine Republic. White obtained specimens among the undergrowth in dense forests of Campo Colorado, near Oran, and Durnford also met with it near Salta.

To Azara's interesting account of the Tataupa's habits nothing has been recently added. He says that this species inhabits woods and thickets, and also approaches houses where it finds cover—hence the Guarani name, which means a domestic bird, or of the house. It lays four eggs of a fine purple colour; and when driven from the nest flutters along the ground, feigning lameness. It sings all the year round, and for power and brilliance of voice is pre-eminent among this class of bird. After the first note of its curious song there is an interval of eight seconds of silence; then the note is repeated with shorter and shorter intervals, until, becoming hurried, it runs into a trill, followed by a sound which may be written *chororó*, repeated three or four times. When sitting close it tips forward, pressing its breast on its legs, so that the rump is raised higher than the back, and opening the terminal feathers of the body, it spreads them in a semi-circle over the back as if to conceal itself beneath them, and when looked at from behind nothing is visible except this

fan of feathers. The feathers are concave with points inclining upward, and when thus disposed have a singular and beautiful appearance.

RUFOUS TINAMU

(*Rhynchotus rufescens*)

Above cinereous; head, wings, and back crossed by black bars with pale ochraceous edgings; neck reddish; primaries chestnut; beneath pale cinereous, strongly tinged with rufous on the neck and breast; chin white; bill ashy, beneath at base yellowish; feet dark flesh-colour; length 14, wing 9.5 inches. Female similar, but larger.

THIS large Tinamu, known to the Argentines as the *Perdiz grande*, or Great Partridge, is found on the pampas wherever long grasses abound, and extends as far south as the Colorado river, its place being taken in Patagonia by *Calodromas elegans*. It is never met with in woods or thickets, and requires no shelter but the giant grasses, through which it pushes like a Rail. Wherever the country becomes settled and the coarse indigenous grasses are replaced by those of Europe, it quickly disappears, so that it is already extinct over a great portion of the Buenos-Ayorean pampas.

This species is solitary in its habits, conceals itself very closely in the grass, and flies with the greatest reluctance. I doubt if there is anywhere a bird with such a sounding flight as the Tinamu; the whirr of its wings can only be compared to the rattling of a vehicle driven at great speed over a stony road. From the moment it rises until it alights again there is no cessation in the rapid vibration of the wings; but, like a ball thrown by hand, the bird flies straight away with extraordinary violence until the impelling force is spent, when it slopes gradually towards the earth, the distance

it is able to accomplish at a flight being from 800 to 1500 yards. This flight it can repeat when driven up again as many as three times, after which the bird can rise no more.

The call of the Great Partridge is heard, in fine weather, at all seasons of the year, especially near sunset, and is uttered while the bird sits concealed in the grass, many individuals answering each other; for although I call it a solitary bird, many birds are usually found living near each other. The song or call is composed of five or six notes of various length, with a mellow flute-like sound, and so expressive that it is, perhaps, the sweetest bird-music heard on the pampas.

The eggs are usually five in number, nearly round, highly polished, and of a dark reddish-purple or wine colour; but this beautiful tint in a short time changes to a dull leaden hue. The nest is a mere scrape, insufficiently lined with a few grass-leaves. The young birds appear to leave the mother (or father, for it is probable that the male hatches the eggs) at a very early period. When still very small they are found living, like the adults, a solitary life, with their faculties, including those of flight and the musical voice, in a high state of perfection.

SPOTTED TINAMU

(*Nothura maculosa*)

Above pale yellowish brown, barred with black and brown and streaked with fulvous white; wing-feathers ashy black, crossed on both webs by fulvous bands; beneath rich yellowish brown; throat white; breast and flanks spotted and banded with brownish black; bill and feet yellowish brown; length 11, wing 5.5 inches. Female similar, but larger.

THE *Perdix común* or Common Partridge of the pampas, as it is always called—the naturalist's name of Tinamu

being utterly unknown in the southern part of South America—is much smaller than the *Perdiz grande*, but in its form, slender curved beak, bare legs, and in the yellowish mottled plumage, generally resembles it. It also inhabits the same kind of open grassy country, and is abundant everywhere on the pampas and as far south as the valley of the Rio Negro in Patagonia. It is solitary; but a number of individuals are usually found in proximity; and in lonely places on the pampas, where they are excessively abundant, I have seen three or four meet together and play in the manner of kittens, darting out from a place of concealment at each other, the pursued bird always escaping by turning off at right angles or by suddenly crouching down and allowing the pursuer to spring over it.

It is very tame in disposition, and flies so reluctantly that it is not necessary to shoot them where they are very abundant, as any number can be killed with a long whip or stick. It moves on the ground in a leisurely manner, uttering as it walks or runs a succession of low whistling notes. It has two distinct songs or calls, pleasing to the ear and heard all the year round; but with greater frequency in spring, and, where the birds are scarce and much persecuted, in spring only. One is a succession of twenty or thirty short impressive whistling notes of great compass, followed by half a dozen rapidly uttered notes, beginning loud and sinking lower till they cease; the other call is a soft continuous trill, which appears to swell mysteriously on the air, for the listener cannot tell whence it proceeds; it lasts several seconds, and then seems to die away in the distance.

It is an exceedingly rare thing to see this bird rise except when compelled. I believe the power of flight is used chiefly, if not exclusively, as a means of escape from danger. The bird rises up when almost trodden

upon, rushing through the air with a surprising noise and violence. It continues to rise at a decreasing angle for fifty or sixty yards, then gradually nears the earth, till, when it has got to a distance of two or three hundred yards, the violent action of the wing ceases and the bird glides along close to the earth for some distance, and either drops down or renews its flight. I suppose many birds fly in much the same way; only this Tinamu starts forward with such amazing energy that until this is expended and the moment of gliding comes, the flight is just as ungovernable to the bird as the motion of a brakeless engine, rushing along at full speed, would be to the driver. The bird knows the danger to which this peculiar character of its flight exposes it so well that it is careful to fly only to that side where it sees a clear course. It is sometimes, however, compelled to take wing suddenly, without considering the obstacles in its path; it also often miscalculates the height of an obstacle, so that for Tinamus to meet with accidents when flying is very common. In the course of a short ride of two miles, during which several birds sprang up before me, I have seen three of these Tinamus dash themselves to death against a fence close to the path, the height of which they had evidently misjudged. I have also seen a bird fly blindly against the wall of a house, killing itself instantly. A brother of mine told me of a very curious thing he once witnessed. He was galloping over the pampas, with a very violent wind blowing in his face, when a Tinamu started up before his horse. The bird flew up into the air vertically, and, beating its wings violently, and with a swiftness far exceeding that of its ordinary flight, continued to ascend until it reached a vast height, then came down again, whirling round and round, striking the earth a very few yards from the

spot where it rose, and crushing itself to a pulp with the tremendous force of the fall. It is very easy to guess the cause of such an accident: while the Tinamu struggled blindly to go forward, the violent wind, catching the under surface of the wings, forced it upwards, until the poor bird, becoming hopelessly confused, fell back to earth. I have often seen a Swallow, Gull, or Hawk, soaring about in a high wind, suddenly turn the under surface of its wings to the wind and instantly shoot straight up, apparently without an effort, to a vast height, then recover itself, and start off in a fresh direction. The Tinamu, when once launched on the atmosphere, is at the mercy of chance; nevertheless had this incident been related to me by a stranger I should not have recorded it.

This Tinamu is frequently run down and caught by well-mounted gaucho boys; the bird frequently escapes into a kennel in the earth, but when it sees no refuge before it and is hotly pursued, it sometimes drops dead. When caught in the hand they "feign death," or swoon, but on being released quickly recover their faculties.

The nest is a slight hollow scratched in the ground under a thistle or in the grass, and lined with a few dry leaves. The number of eggs laid varies from five to eight. These are elliptical, with polished shells, and as a rule are of a wine-purple colour; but the hue varies somewhat, some eggs having a reddish tinge and others a deep liver-colour.

In Patagonia the Spotted Tinamu is replaced by the very closely allied Darwin's Tinamu, *Nothura darwini*.

This species, called *Perdiz chico*, or Little Partridge, by the natives, is somewhat smaller and paler in colouring than the common Tinamu of the pampas, but very closely resemble the young of that species. It inhabits Patagonia, and is nowhere very numerous, but appears

to be thinly and equally distributed on the dry, sterile plains of that region, preferring places abounding in thin scrub. In disposition it is extremely shy, and when approached springs up at a distance ahead and runs away with the greatest speed and apparently much terrified. Sometimes when thus running it utters short whistled notes like the allied species. It rises more readily and with less noise than the pampas bird, and has a much higher flight. It has one call-note, heard only in the love-season—a succession of short whistling notes, like those of the *N. maculosa*, but without the rapidly uttered conclusion.

The nest is made under a small scrubby bush, and contains from five to seven eggs, in form and colour like those of *N. maculosa*, except that the reddish-purple tint is paler.

MARTINETA

(*Calodromas elegans*)

Above densely banded and spotted with black and pale fulvous; head cinereous, with black striations; a long recurved vertical crest of black feathers, partly edged with cinereous; two lateral stripes of the head above and beneath the eye and throat cinnamon white; beneath pale cinnamon, breast with numerous black cross-bars and black shaft-spots; belly, flanks, and under tail-coverts with broad black cross-bands; wings ashy black, with numerous cross-bands of pale cinnamon; bill blackish, feet bluish-grey; length 14.5, wing 8.3 inches. Female similar.

THIS fine game-bird in its size and mottled plumage resembles the *Rhynchotus rufescens* of the pampas, which it represents in the Patagonian region south of the Rio Colorado. It differs externally in the more earthy hue of its plumage, which is protective and harmonises admirably with the colour of its sterile surroundings; also in having a shorter beak, and in being

adorned with a long, slender, black crest, which the bird when excited carries directed forward like a horn. There is, however, an anatomical difference which seems to show that the two species are not very near relations. The structure of the intestinal canal in the Martineta is most peculiar, and unlike that of any other bird I have ever dissected: the canal divides near the stomach into a pair of great ducts which widen towards the middle and extend almost the entire length of the abdominal cavity, and are set with rows of large membranous claw-shaped protuberances.

The Martineta inhabits the elevated table-lands, and is found chiefly where patches of scattered dwarf scrub occur among the thorny thickets. Apparently they do not require water, as they are met with in the driest situations where water never collects. They are extremely fond of dusting themselves, and form circular nest-like hollows in the ground for that purpose; these hollows are deep and neatly made, and are visited every day by the same birds throughout the year. They live in coveys of from half a dozen to twenty or thirty birds, and when disturbed do not as a rule take to flight at once, but jump up one after another and run away with amazing swiftness, uttering as they run shrill, squealing cries, as if in the greatest terror. Their flight, although violent, is not so sounding as that of the Rufous Tinamu, and differs remarkably in other respects. Every twenty or thirty yards the wings cease beating and remain motionless for a second, when the bird renews the effort; thus the flight is a series of rushes rather than a continuous rush like that of the other species. It is also accompanied with a soft wailing note, which appears to die away and swell again as the flapping of the wings is renewed.

The call-note of the Martineta is never heard in

winter; but in the month of September they begin to utter in the evening a long, plaintive, slightly modulated whistle, the birds sitting concealed and answering each other from bush to bush. As the season advances the coveys break up, and their call is then heard on every side, and often all day long, from dawn until after dark. The call varies greatly in different birds, from a single whistle to a performance of five or six notes, resembling that of the Great Partridge, but inferior in compass and sweetness. They begin to breed in October, making the nest at the roots of a small isolated bush. The eggs vary in number from twelve to sixteen; they are elliptical in form, of a beautiful deep green in colour, and have highly polished shells.

It is probable, I think, that this species possesses some curious procreant habits, and that more than one female lays in each nest; but owing to the excessive wariness of the bird in a state of nature it is next to impossible to find out anything about it. No doubt the day will come when naturalists will find the advantage of domesticating the birds the life-histories of which they wish to learn: may it come before all the most interesting species on the globe are extinct!

COMMON RHEA

(*Rhea americana*)

Above, head blackish; neck whitish, becoming black at the base of the neck and between the shoulders; rest slaty grey; beneath, throat and upper neck whitish, becoming black at the base of the neck, whence arise two black lateral crescents, one on either side of the upper breast; rest of under surface whitish; front of tarsus throughout covered with broad transverse scutes; length about 52 inches.

THE Common Rhea (called *Nandú* in the Guarani language, *Chueké* by the pampas Indians, and Ostrich

by Europeans) is found throughout the Argentine Republic down to the Rio Negro in Patagonia, and, in decreasing numbers, to a considerable distance south of that river. Until within very recent times it was very abundant on the pampas, and I can remember the time when it was common within forty miles of Buenos Ayres city. But it is now becoming rare, and those who wish to have a hand in its extermination must go to a distance of three or four hundred miles from the Argentine capital before they can get a sight of it.

The Rhea is peculiarly well adapted, in its size, colour, faculties, and habits, to the conditions of the level woodless country it inhabits; its lofty stature, which exceeded that of any of its enemies before the appearance of the European mounted hunter, enables it to see far; its dim grey plumage, the colour of the haze, made it almost invisible to the eye at a distance, the long neck being so slender and the bulky body so nearly on a level with the tall grasses; while its speed exceeded that of all other animals inhabiting the same country. When watching the chase of Ostriches in the desert pampas, abounding in giant grasses, it struck me forcibly that this manner of hunting the bird on horseback had brought to light a weakness in the Rhea—a point in which the correspondence between the animal and its environment is not perfect. The Rhea runs smoothly on the surface, and where the tall grass-tussocks are bound together, as is often the case, with slender twining plants, its legs occasionally get entangled, and the bird falls prostrate, and before it can struggle up again the hunter is close at hand and able to throw the *bolos*—the thong and balls, which, striking the bird with great force, wind about its neck, wings, and legs, and prevent its escape. When I questioned

Ostrich hunters as to this point they said that it was true that the Rhea often falls when running hotly pursued through long grass, and that the deer (*Cervus campestris*) never falls because it leaps over the large tussocks and all such obstructions. This small infirmity of the Rhea would not, however, have told very much against it if some moderation had been observed in hunting it, or if the Argentine Government had thought fit to protect it; but in La Plata, as in North America and South Africa, the licence to kill, which everyone possesses, has been exercised with such zeal and fury that in a very few more years the noblest Avian type of the great bird-continent will be as unknown on the earth as the *Moa* and the *Æpyornis*.

The Rhea lives in bands of from three or four to twenty or thirty individuals. Where they are not persecuted they show no fear of man, and come about the houses, and are as familiar and tame as domestic animals. Sometimes they become too familiar. At one estancia I remember an old cock-bird that constantly came alone to feed near the gate, which had so great an animosity against the human figure in petticoats that the women of the house could not go out on foot or horseback without a man to defend them from its attacks. When the young are taken from the parent bird they become, as Azara truly says, "domestic from the first day," and will follow their owner about like a dog. It is this natural tameness, together with the majesty and quaint grace of its antique form, which makes the destruction of the Rhea so painful to think of.

When persecuted, Rheas soon acquire a wary habit, and escape by running almost before the enemy has caught sight of them; or else crouch down to conceal themselves in the long grass; and it then becomes

difficult to find them, as they lie close, and will not rise until almost trodden on. Their speed and endurance are so great, that, with a fair start, it is almost impossible for the hunter to overtake them, however well mounted. When the bird is running, the wings hang down as if injured, but usually one wing is raised and held up like a great sail, for what reason it is impossible to say. When hard pressed, the Rhea doubles frequently and rapidly at right angles to its course; and if the pursuer's horse is not well trained to follow the bird in all its sudden turns without losing ground he is quickly left far behind.

In the month of July the love-season begins, and it is then that the curious ventriloquial bellowing, booming, and wind-like sounds are emitted by the male. The young males in the flock are attacked and driven off by the old cock-bird; and when there are two old males they fight for the hens. Their battles are conducted in a rather curious manner, the combatants twisting their long necks together like a couple of serpents, and then viciously biting at each other's heads with their beaks; meanwhile they turn round and round in a circle, pounding the earth with their feet, so that where the soil is wet or soft they make a circular trench where they tread. The females of a flock all lay together in a natural depression in the ground, with nothing to shelter it from sight, each hen laying a dozen or more eggs. It is common to find thirty to sixty eggs in a nest, but sometimes a larger number, and I have heard of a nest being found containing one hundred and twenty eggs. If the females are many the cock usually becomes broody before they finish laying, and he then drives them with great fury away and begins to incubate. The hens then drop their eggs about on the plains; and from a large number of wasted eggs found it seems

probable that more are dropped out of than in the nest. The egg when fresh is of a fine golden yellow, but this colour grows paler from day to day, and finally fades to a parchment-white.

After hatching the young are assiduously tended and watched over by the cock, and it is then dangerous to approach the Rhea on horseback, as the bird with neck outstretched horizontally and outspread wings charges suddenly, making so huge and grotesque a figure that the tamest horse becomes ungovernable with terror.

Eagles and the large Carrion Hawk are the enemies the Rhea most fears when the young are still small, and at the sight of one flying overhead he crouches down and utters a loud snorting cry, whereupon the scattered young birds run in the greatest terror to shelter themselves under his wings.

Darwin's Rhea, *Rhea darwini*, differs little in colouring from the Common Rhea, which it replaces south of the Rio Negro. From this river it ranges south to the Straits of Magellan. The Indians call it *Molú Chueké*—short or dwarf Chueké; its Spanish name is *Avestruz petizo*. They were formerly very abundant along the Rio Negro; unhappily some years ago their feathers commanded a very high price; Gauchos and Indians found that hunting the Ostrich was their most lucrative employment; consequently these noble birds were slaughtered in such numbers that they have been almost exterminated wherever the nature of the country admits of their being chased. When on the Rio Negro I was so anxious to obtain specimens of this Rhea that I engaged several Indians by the offer of a liberal reward to hunt for me, but they failed to capture a single adult bird. I can only set down here the most interesting facts I was able to collect concerning its habits, which are very imperfectly known.

When pursued it frequently attempts to elude the sight by suddenly squatting down amongst the bushes which have a grey foliage to which the colour of its plumage closely assimilates. When hard pressed it possesses the same habit as the Common Rhea of raising the wings alternately and holding them up vertically: and also doubles suddenly like that species. Its speed is greater than that of the Common Rhea, but it is sooner exhausted. In running it carries its head stretched forward almost horizontally, which makes it seem lower in stature than the allied species—hence the vernacular name of “Short Ostrich.” It is found in flocks of from three or four to thirty or more individuals. It begins to lay at the end of July, that is, a month before the *Rhea americana*. Several females lay in one nest, which is merely a slight depression lined with a little dry rubbish; as many as fifty eggs are sometimes found in one nest. A great many wasted or *huacho* eggs, as they are called, are also found at a distance from the nest. I examined a number of eggs brought in by the hunters, and found them vary greatly in shape, size, and colour. The average size of the eggs was the same as those of the Common Rhea; in shape they were more or less elliptical, scarcely any two being precisely alike. The shell has a fine polish, and when newly laid the colour is deep, rich green. They soon fade, however, and the side exposed to the sun first assumes a dull mottled green; then this colour fades to yellowish, and again to pale stone-blue, becoming at last almost white. The comparative age of each egg in the nest may be known by the colour of the shell. The male incubates and rears the young; and the procreant habits seem altogether like those of *Rhea americana*.

The young are hatched with the legs feathered to the toes; these leg-feathers are not shed, but are

gradually worn off, as the bird grows old, by continual friction against the stiff, scrubby vegetation. In adults usually a few scattered feathers remain, often worn down to mere stumps; but the hunters told me that old birds are sometimes taken with the legs entirely feathered, and that these birds frequent plains where there is very little scrub. The plumage of the young is dusky grey, without white and black feathers. When a year old they acquire by moulting the mottled plumage of the adults, but do not attain their full size until the third year.

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