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Various and William Kerr Higley**

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# BIRDS AND NATURE.

ILLUSTRATED BY COLOR PHOTOGRAPHY.

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VOL. X.

DECEMBER, 1901.

No. 5

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## SNOW-FLAKES.

Out of the bosom of the Air,  
    Out of the cloud-folds of her garments shaken,  
Over the woodlands brown and bare,  
    Over the harvest-fields forsaken,  
    Silent, and soft, and slow  
    Descends the snow.

Even as our cloudy fancies take  
    Suddenly shape in some divine expression,  
Even as the troubled heart doth make  
    In the white countenance confession,  
    The troubled sky reveals  
    The grief it feels.

This is the poem of the air,  
    Slowly in silent syllables recorded;  
This is the secret of despair,  
    Long in its cloudy bosom hoarded,  
    Now whispered and revealed  
    To wood and field.

—Henry Wadsworth Longfellow.

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O wonderful world of white!  
    When trees are hung with lace,  
    And the rough winds chide,  
    And snowflakes hide  
    Each break unsheltered place;  
When birds and brooks are dumb,—what then?  
O, round we go to the green again!

## THE WHITE-EYED VIREO. (*Vireo noveboracensis.*)

"And then the wren and vireo  
Begin with song to overflow."

—THOMAS HILL—"Sunrise."

The vireos form a peculiar and interesting family—the Vireonidæ, which includes about fifty species. All are strictly American and the larger number inhabit only the forest or shrubby regions of Central and South America. The name vireo signifies a green finch and is from the Latin word meaning "to be green." The body color of nearly all the species is more or less olive green.

About fifteen species frequent the United States. These are all members of the genus *Vireo*, and some of them have a wide range, only equaled in extent by some of the warblers.

Dr. Coues has said of these birds: "Next after the warblers the greenlets (vireos) are the most delightful of our forest birds, though their charms address the ear and not the eye. Clad in simple tints that harmonize with the verdure, these gentle songsters warble their lays unseen, while the foliage itself seems stirred to music. In the quaint and curious ditty of the white-eye, in the earnest, voluble strains of the red-eye, in the tender secret that the warbling vireo confides in whispers to the passing breeze, he is insensible who does not hear the echo of thoughts he never clothes in words."

The vireos are strikingly alike. In habit, in color, in structure, in size and in their home-building peculiarities they resemble each other. Their eggs are similar and "fashioned almost as from the same mold, and colored as if by the same brush."

The vireos build pensile nests that are ingeniously concealed under the surrounding foliage. They are in the form of a rather deep cup, which is suspended from two or more converging twigs. The materials used in the construction are similar in all cases, though they vary somewhat according to the locality and the abundance of desirable textiles. A favorite substance used by some of the birds is the tough and flexible fibers of the inner bark of trees. Thoreau, speaking of this habit, says: "What a wonderful genius it is that leads the vireo to select the tough fiber of the inner bark instead of the more brittle grasses!"

The White-eyed Vireo has an extensive range, extending over the eastern United States from the Atlantic Ocean to the great plains and from Mexico and Guatemala, where it winters, northward to the borders of British America. It nests practically throughout its range within the United States.

This pert and trim little bird is known by other suggestive names. Because of the character of its nest it is called the "little green hanging bird." Its song, as translated by boys, has given it the name "chickty-bearer," or "chickity." Except when nesting this vireo is unsuspecting and will permit a near approach. Dr. Brewer says that "when whistled to it will often stop and eye you with marked curiosity, and even approach a little nearer, as if to obtain a better view, entirely unconscious of any danger." Impertinent at all times, they are especially so when the nest is approached. At such times it exhibits great uneasiness, and even its expressive eyes seem to flash. Continually scolding the intruder, it utters "a hoarse mewling that is very peculiar."



WHITE-EYED VIREO.  
(*Vireo noveboracensis*.)  
About Life-size.  
FROM COL. F. M. WOODRUFF.

The nest of the White-eyed Vireo is a beautiful structure. It is artistic, durable and a wonderfully pretty home for its beautiful architect. It is seldom placed higher than five feet from the ground. Dr. Brewer thus describes one of these nests. It was "composed of a singular medley of various materials, among which may be noticed broken fragments of dry leaves, bits of decayed wood and bark, coarse blades of grass, various fibers, lichens, fragments of insects, mosses, straws, stems, etc. These were all wrapped round and firmly bound together with strong hempen fibers of vegetables. Within this outer envelope was an inner nest, made of the finer stems of grasses and dry needles of the white pine, firmly interwoven." There are usually either three or four eggs, which are white and speckled at the larger end, with black or some shade of brown. 197

Mr. Chapman says: "I have always regretted that the manners of this vireo have been a bar to our better acquaintance, for he is a bird of marked character and with unusual vocal talents. He is a capital mimic, and in the retirement of his home sometimes amuses himself by combining the songs of other birds in an intricate potpourri."

**TO A WHITE-EYED VIREO.**

Up there among the maple's leaves,  
One morning bright in May,  
A tiny bird I chanced to spy,  
And plainly heard him say:  
"Sweet, who-are-you?"

"Dost call to me, in words so fair,  
O little friend?" I cried;  
"Or to some feathered dame up there?"  
For answer he replied:  
"Sweet, do you hear?"

O yes, I hear you, little bird,  
All clad in leafy hue;  
And I in turn, would like to ask  
The question, "Who are *you*?"

But you might deem the question vain,  
And bid me note your size;  
The shading of your dainty coat;  
The color of your eyes.

For there I shall my answer find.  
Shall you be answered, too?  
Will your wee feathered love reply,  
When asked, "Sweet, who-are-you?"

—Annie Wakely Jackson.

## PLEA OF THE YOUNG EVERGREENS.

We hide the stony mountain side with green,  
And grow in beauty where the plain was bare;  
We cling to crannies of the walled ravine,  
And through faint valleys waft a strengthening air.

On coastings gray we stay the creeping sand;  
We lift our spears and halt the shifting dunes;  
Our bounteous youth makes glad the scanty land,  
While it transforms rank fens, and salt lagunes.

We veil the prairies from the heat, while slow  
Across their farmsteads breathes our Summer balm,  
And shield them when the winds of Winter blow,  
And all our aisles and pleasant rooms are calm.

Through charming days we spread our branches wide,  
And live through drouths, and floods, and whirling storms,  
Till comes to man his merry Christmas tide,  
That lays in myriad deaths our fairest forms.

Men drag us from our fragrant winding vales,  
They fell us on the mountain slopes, and bare  
The prairies unto heat, and freezing gales,  
And thinned, the chaparral plains fail unaware.

They tear us from the wall-chinks of the glens,  
And hew us on the marsh we helped to drain,  
And where our beauty graced, the tawny fens  
Shall lapse to weeds and sworded flags again.

Up coastings, line the lisping, creeping sands,  
While inland move the dunes we bravely stayed,  
When we are borne away by wasteful hands,  
To tower in rooms, with lights and gifts arrayed.

Spare us!—oh! spare our youth, with verdure crowned—  
Our groves return to deserts when we pass;  
The coasts which we revived, in sands are drowned;  
Bare slopes but yield their stones and bitter-grass.

Spare us! we bring you beauty, shelter, wealth,  
Oh! waste us not. Oh! keep with guiltless show  
The Holy Time; and life, and joy, and health,



RIVOLI HUMMINGBIRD.  
(*Eugenes fulgens.*)  
FROM COL. CHI. ACAD. SCIENCES  
CHICAGO COLORTYPE CO.

## THE RIVOLI HUMMINGBIRD. (*Eugenes fulgens.*)

In that wonderful and magnificent book "A Monograph of the Trochilidæ," the family of hummingbirds, Mr. John Gould, the author, writing of his experiences with these mites of bird life, says:

"How vivid is my recollection of the first hummingbird which met my admiring gaze! With what delight did I examine its tiny body and feast my eyes on its glittering plumage! These early impressions, I well remember, gradually increased into an earnest desire to attain a more intimate acquaintance with the lovely group of birds to which it pertained. During the first twenty years of my acquaintance with these wonderful works of creation my thoughts were often directed to them in the day, and my dreams have not unfrequently carried me to their native forests in the distant country of America."

These birds have ever been an inspiration to the poet. How beautiful are these lines of Maurice Thompson, addressed to the hummingbird:

Zephyr loves thy wings  
Above all lovable things,  
And brings them gifts with rapturous murmurings.  
Thine is the golden reach of blooming hours;  
Spirit of flowers!

Thou art a winged thought  
Of tropical hours,  
With all the tropics' rare bloom-splendor fraught;  
Surcharged with beauty's indefinable powers,  
Angel of flowers!

It seems cruel and strange that any person should kill these tiny creatures especially for ornamental purpose. They are the gems of nature, yet one day, in the year 1888, over twelve thousand skins of hummingbirds were sold in London. "And in one week during the same year there were sold at auction, in that city, four hundred thousand hummingbirds and other birds from North and South America, the former doubtless comprising a very considerable percentage of the whole number." When we remember that the hummingbird lays but two eggs, the rapid extermination of some of the species is evident unless this wholesale slaughter is stopped. Even the tropics, where bird life is wonderfully abundant, cannot support such wanton destruction.

The Rivoli, or the Refulgent hummingbird, as it is frequently called, has a very limited range. It is found in the

"mountains of southeastern Arizona, southwestern New Mexico and over the table lands of Mexico," southward to Nicaragua. It is one of the largest and most beautiful of the hummingbirds that frequent the United States. Its royal appearance led Lesson, in the year 1829, to name it Rivoli, in honor of M. Massena, the Duke of Rivoli. It is noted "for the beauty of its coloring and the bold style of its markings."

Mr. Salvin, writing of the pugnacious character of this species, says: "Many a time have I thought to secure a fine male, which I had, perhaps, been following from tree to tree, and had at last seen quietly perched on a leafless twig, when my deadly intention has been anticipated by one less so in fact, but to all appearances equally so in will. Another hummingbird rushes in, knocks the one I covet off his perch, and the two go fighting and screaming away at a pace hardly to be followed by the eye. Another time this flying fight was sustained in midair, the belligerents mounting higher and higher, until the one worsted in battle darts away seeking shelter, followed by the victor, who never relinquishes the pursuit till the vanquished, by doubling and hiding, succeeds in making his escape." Not only do they resent the presence of their own kind, but also of other hummingbirds.

Mr. H. W. Henshaw, who was the first scientist to discover that the Rivoli was a member of the bird fauna of the United States, thus describes its nest: "It is composed of mosses nicely woven into an almost circular cup, 202 the interior possessing a lining of the softest and downiest feathers, while the exterior is elaborately covered with lichens, which are securely bound on by a network of the finest silk from spiders' webs. It was saddled on the horizontal limb of an alder, about twenty feet above the bed of a running mountain stream, in a glen which was overarched and shadowed by several huge spruces, making it one of the most shady and retired nooks that could be imagined."

The note of this bird gem of the pine-clad mountains is a "twittering sound, louder, not so shrill and uttered more slowly than those of the small hummers."

As the Rivoli hovers over the mescal and gathers from its flowers the numerous insects that infest them; or, as it takes the sweets from the flowers of the boreal honeysuckle, one is reminded of the words of the poet:

"Art thou a bird, a bee, or butterfly?"

"Each and all three—a bird in shape am I,  
A bee collecting sweets from bloom to bloom,  
A butterfly in brilliancy of plume."

## **THE SEA-GULL.**

From the frozen Pole to the Tropic sea  
Thou wingest thy course with the drifting clouds;  
O'er ghostly bergs and vessels' shrouds  
The beat of thy wings is strong and free.  
Alone, or with thy tribe a host  
Thou spreadest the bars of the low-ebbed tide.  
On the wave-washed drift of wrecks canst ride  
Or crowd the cliffs of a rock bound coast.

No home is thine save the ocean's waste;  
Unrestrained o'er thousands of miles dost roam;  
And follow the trail of the liners' foam  
On wings that show no signs of haste.  
Thou canst rest on the height of vessels' yards,  
Or the gleaming ice of the northern floe.  
As the changing tides thou dost come and go  
And the shifting wind thy strange course guards.

The seaman well knows the signs thou canst show  
Of weather, and luck of the fishing grounds;  
And the whaler smiles when the sea abounds  
With thy thousands that come as the falling snow.  
Yet stranger those thoughts that arise in me,  
As I watch thee wheel of thy shining wings,  
Of thy life o'er the depths where the ocean flings  
From the frozen Pole to the Tropic sea.

—Julian Hinckley.

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## **THE BIRD OF CONSOLATION.**

There is a Scandinavian tradition that the swallow hovered over the cross of our Lord crying "Svala! Svala!" (Console, console). Hence comes its name, "svalow"—the bird of consolation.

The habitat of the swallow is the whole of North America and parts of South America. The chief characteristic is

usually a deeply forked tail. The swallows of this country are called Bank, Barn, Bridge, Chimney, Cliff, Tree, Land, Purple, Violet, Black, White, Crescent, Green, Blue, Republican, White-billed and White-fronted. There are some twenty common kinds, beside the Swift, which is called a swallow because of certain resemblances. But its structure is different. It has its name from the rapidity of its flight. It is almost always on the wing. Its feet are so seldom used that they are very weak. The chimney swallow has a bristly tail, which assists in its support when the bird alights. Its color is a sooty gray. Of the true swallows none is more familiar than the barn swallow, whose nest adds a picturesque interest to the eaves of the building. This swallow has a steel blue coat, a pale chestnut vest, with a bit of chocolate on chin and throat. The tail is deeply forked. It is not a noisy bird, but has a song—a little trill—aside from the note it uses when flying. Like a merry laugh, it says “Tittle-ittle-ittle-ee.” The barn swallow is sympathetic with its mates when they are in trouble and is friendly to man, who sometimes feels like questioning it—

“Is it far to heaven, O Swallow, Swallow!  
The heavy-hearted sings;  
I watch thy flight—and I long to follow.  
The while I wait for wings.”

The flight of the swallow is in the curved line, which is that of beauty, and is without effort or restraint.

The cliff swallow, petrochelidon lunifrons—gets part of its name—lunifrons (moon front)—from its white, crescent-like frontlet. It builds a bottle or gourd-shaped nest under the protection of shelving cliffs. A whole colony will sometimes build under the eaves of out-buildings, when the shape of the nest is modified. This bird may be distinguished from the barn swallow by its less forked tail and its blackish color. It is a very useful bird, as it seems tireless in its destruction of injurious insects.

The tree or white-billed swallow wears a bluish-green coat, with white vest. It will sometimes rob the woodpecker of holes in trees in which to build.

The bank swallow or sand martin is the cosmopolitan of birds, as it thrives equally well in Asia, Africa, Europe and America.

Of all the swallows none is a greater favorite than the purple martin. It was doubtless the bird to which Shakespeare alludes when he says, “Where the temple haunting martlet breeds the air is delicate.” The purple martin, in iridescent coat, with soft, musical cry of “Peuo-peuo-peuo,” is a well protected guest, provided with pretty boxes for homes on tall poles or nailed to the sides of trees. It is a courageous bird, defending its home and young against any ruthless invader.

There is an old true saying that “one swallow does not make a summer.” Yet its advent is looked for as the harbinger of warm weather.

“Birds teach us as they come and go  
When to sail and when to sow.  
Cuckoo calling from the hill,  
Swallow skimming by the mill.  
Mark the seasons, map the year,  
As they show and disappear.”

BELLE PAXSON DRURY.

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## **THE WORM-EATING WARBLER.** **(*Helmitherus vermivorus.*)**

The Worm-eating Warbler is much more retiring and less often noticed than most of the species of warblers. Unlike many of the species its range does not reach to the northern coniferous forests. Passing the winter in the countries bordering the Gulf of Mexico, it migrates in the spring throughout the Eastern United States, breeding as far north as Illinois and Connecticut. Its dull color and retiring and shy disposition eminently fit it for its chosen hunting grounds—the deep and thick woods, bordering ravines, where there is an abundant undergrowth of shrubs. Though preferring such localities, it is occasionally seen in rather open places.

Its companion in the woods is the golden-crowned thrush, for which it might easily be mistaken were it not for the absence of streaks on its breast. Its song closely resembles that of the chipping sparrow and may even mislead the trained field ornithologist. As it deliberately hunts for insects among the dry leaves on the ground or on the lower branches of shrubs, its slow motions are more like those of the vireo than of a warbler.

While walking through woods frequented by this rare little warbler the experiences of Mr. Leander Keyser is that of all who have had the pleasure of meeting it among the trees. He says: “Suddenly there was a twinkle of wings, a flash of olive-green, a sharp chirp, and then before me, a few rods away, a little bird went hopping about on the ground, picking up dainties from the brown leaves. It was a rare Worm-eating Warbler. The little charmer was quite wary, chirping nervously while I ogled him—for it was a male—and then hopped up into a sapling and finally scurried away out of sight.”

It builds its nest on the ground among the dead leaves and under the protecting shade of large leaved herbage or low shrubs. The nest is rather large for the size of the bird. Grasses, small roots, the fibrous shreds of bark and a few dried leaves are used in its construction.



Regarding the habits of this warbler Dr. Coues writes as follows: "It is a sedate, rather a demure, little bird, without the vivacity of most warblers. When startled from the dead leaves on the ground, where it spends most of its time rambling, like the golden-crowned thrush, it flies to a low limb and then often sits motionless or hops listlessly about."

## THE HUMMINGBIRD.

A wheel of emerald set to song,  
Song of a thousand murmurings;  
A rainbow held in its leashes long,  
A whirl of color, a rush of wings,  
The branches tilt and the petals quake  
("There is honey, my love, for you!")  
And the frowzled heads of the blossoms shake  
After each whispered interview.

Nelly Hart Woodworth.



WORM-EATING WARBLER.  
(*Helmitherus vermivorus*.)  
About Life-size.  
FROM COL. CHI. ACAD. SCIENCES

## NEVA'S BUTTERFLY.

"Oh! Oh! Auntie, please come here, my foot's caught in this hammock and I can't get out and there's a caterpillar going to crawl right on me!" called little Neva Birdsell in an excited tone.

Aunt Doris laid down her sewing and went over to where her little niece was lying with her eyes riveted on a caterpillar which was slowly crawling along quite ignorant that anyone was being alarmed by its presence.

Neva gave a sigh of relief when her aunt picked a leaf from the vine and the caterpillar crawled off on to it.

"Now what shall I do with him?" asked Aunt Doris as the caterpillar curled itself up in a little ball.

"Why, kill it, quick as ever you can," replied Neva promptly, "I don't want horrid old caterpillars crawling 'round me."

Just then a beautiful butterfly lighted on the vine near by and Aunt Doris questioned, "Shall I catch the butterfly and kill that, too?"

"O, auntie, how could you kill a beautiful butterfly?" exclaimed the little girl. "Catch it, though, I'd love to see it close to. But there, now!" she added in a disappointed tone as the butterfly flitted away, "It's gone; they always fly away from me."

Aunt Doris went back to her chair carrying the caterpillar in the leaf with her. She seemed to be studying it for a moment and then asked, "Do you know what I have here, Neva?"

"Why, that caterpillar," answered the little girl in a surprised tone. Then growing curious she left the hammock and went nearer her aunt's chair.

"Yes," said her aunt, "you are right, yet if I should keep it long enough it would turn into a butterfly just like the one that flew away a moment ago; but I suppose I had better kill it as you wish me to."

"O, please don't," said Neva quickly as her aunt started from her chair, "I didn't know 'bout it's ever being a butterfly. Will it really be like that other one, and could you keep it long enough; and how can you tell what kind of a butterfly it will be?"

Aunt Doris laughed as she said, "Three questions all in one breath. I know it will be that kind of a butterfly because I've studied about butterflies and caterpillars. It has another name beside caterpillar and that is larva. It is a very good name for it means a mask. You know when a thing is masked you can't tell quite what it is by its looks and so you might call this caterpillar a masked butterfly."

"I think it is a good name," said Neva, "'cause I never would guess it was going to be a butterfly; but can we keep it until it isn't masked?"

"Yes, if you will run and ask Nora for a small pasteboard box we will fix a house for it," said her aunt.

Neva ran into the kitchen and soon returned with a shoe-box asking, "Will this do? It's the littlest one there was."

"Yes, that will make a nice, roomy house," replied her aunt, laying the caterpillar gently in the box. Then taking a piece of netting from her work basket she tied it over the top in place of the cover. "Now it will have plenty of light and air," she said. "The next thing will be to get it something to eat."

"What do caterpillars like?" asked Neva.

"Mostly leaves," replied her aunt.

"Well, there is one leaf in the box; won't it eat that?" asked the little girl, watching the caterpillar crawling over it. 208

"No, dear, caterpillars are very particular about their food; they all eat leaves, but different kinds of caterpillars eat different kinds of leaves. This kind feeds on the leaves of the milk-weed. The butterfly is always very careful to lay the eggs on the plant whose leaves supply the food of the caterpillar so when the little caterpillar comes out of the tiny egg its food is all ready for it."

"Why, Aunt Doris! How can butterflies ever know so much? They don't eat leaves, do they?" asked Neva in a surprised tone.

"No, butterflies eat honey and overripe fruit and such things; it is indeed wonderful that they can select the right plant, but the One who made the butterfly gave it wonderful instinct. Who is He, Neva?"

"Our Father," answered the little girl. "I know that we sing in school:

'The little sparrow falleth not  
But Jesus taketh heed.'

but I never thought of His paying much attention to such a little thing as butterflies. I'm not afraid of this caterpillar now; I just, almost, pretty nearly love it."

Aunt Doris smiled, then setting the box upon the railing she said: "This caterpillar must have taken quite a

journey; we will go down the road a ways and see if we can find some milk-weed leaves for it.”

Neva ran ahead and her bright eyes soon discovered the leaves. When they had been placed in the box the little girl sat and watched the caterpillar make a good meal, while her aunt explained to her how it would first become a chrysalis and then a butterfly.

“How long does it have to be a caterpillar?” she asked.

“Twenty or thirty days,” answered Aunt Doris. “But I think that this one is quite old and will hang itself up before long now.”

“How can you tell, auntie?”

“I judge by the color and size. When this caterpillar is very young it is greenish, but as it grows older it casts its skin several times; each time it grows brighter and weighs more.”

“Why, how can it ever cast off its skin?” questioned Neva in astonishment.

Aunt Doris smiled as she replied: “Wait until it is ready to become a chrysalis and you will see.”

Neva kept close watch of her new pet after that, she was so afraid some change might take place that she did not see. When bedtime came her aunt let her take the box up to her room and put it on the dresser that she might look at it the first thing in the morning.

“Why can’t we have a name for this creature?” Neva asked while she was getting ready for bed. “I mean a real name spelled with a capital, like mine?”

“When it gets to be a butterfly it will have a name,” replied her aunt.

“What will it be?” asked Neva.

“Danais,” replied Aunt Doris.

“Danais,” repeated Neva, “That’s a pretty name, let’s call it that now. There isn’t any last name to it, is there?”

“Why, yes, there is another name,” said her aunt, “but it is a pretty long one. It is Archippus, Danais Archippus; can you remember that?”

“Oh, yes,” said Neva, “I’ll say it over lots of times and then I’ll never forget it,” and when Aunt Doris went past the door a little later she heard a very sleepy voice saying “Danais Archippus, Danais Archippus, Archippus.”

The next two days the caterpillar crawled around in the box and ate or slept and although Neva looked at it anxiously many times she could see no change and she was beginning to feel a little impatient. Early the third morning she was awakened by a robin which was singing in a tree near her window. Almost before she had her eyes open she jumped out of bed and ran over to look in the box. A moment later Aunt Doris heard a mournful little voice saying: “Danais Archippus, I just believe you’re a goner.”

“Good morning, little girl, you are an early bird; is there trouble in the box?” she said going over to the dresser.

“There don’t seem to be anything in the box,” answered Neva in a sorrowful tone.

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Aunt Doris gave one look and then she laughed. “Why, Neva, the sandman is still in your eyes, for you are looking at the bottom of the box and here is the caterpillar hung up on the netting by the little hooks in the tail. It is well that you wakened so early, for half an hour later our Danais Archippus would have been a chrysalis and you never could have seen it cast its skin.”

Then putting a soft shawl around the little girl she took her in her lap and let her hold the box.

Very soon the caterpillar commenced rolling off its skin, but although Neva watched every minute and almost held her breath, she could scarcely tell how a little, green case, which looked as though it might be made of wax, was hanging where the caterpillar had hung a few moments before, while the old skin lay shriveled up in the bottom of the box.

“Isn’t it beautiful, auntie?” she said. “How can God make so many beautiful things?”

“Yes, it is very beautiful,” replied her aunt, “but it will be more so after a little; we will set the box up now and look again after you are dressed.”

“You were right, auntie,” Neva called a little later. “The green case is a prettier color now and it has a row of such cute little gold knobs near the top. What do you s’pose they are there for?”

“You notice that they are placed just where the chrysalis bulges; they are put there to protect the little sleeper when the wind blows the case against anything. You know a chrysalis is usually suspended from a leaf out of doors, and so it needs some such protection,” explained Aunt Doris.

“And now how long will this be just a chrysalis and will it just hang and do nothing?” asked the little girl.

“If you are watching it closely you will see that it sometimes swings towards the light and sometimes away from the light just as its needs require. It is a sensitive little mummy. But my little Neva will have to be very patient for

it may be twelve or even sixteen days before the butterfly appears."

"It's good I'm making you a long visit," said Neva, "'cause I wouldn't like to go home before the butterfly came."

After ten days had passed the chrysalis began to look a little darker and the twelfth day Neva said, "Auntie, I b'lieve I see something that looks like a wing inside of this little case."

"Sure, enough," said Aunt Doris. "That means that Danais Archippus will soon come out of the little green house." Almost before she had finished speaking the case began to move and then the part that was over the butterfly's back burst and a crumpled little object dropped to the bottom of the box.

"Oh, what mussed up wings!" exclaimed Neva in an excited whisper, but already the butterfly had commenced distending them and soon they looked three times the size and were all smoothed out.

"Now will he fly?" asked Neva.

"No, the wings are still drooping a little because they are moist; he will move them back and forth after a little, but will not fly until they are perfectly dry."

"Isn't he just a beauty! How I wish mamma could see how he looks," said the little girl in a longing tone.

"How would you like to have auntie paint his picture before he is ready to fly away?" asked her aunt.

Neva's eyes sparkled. "Oh, will you?" she exclaimed. "I'll run and get your paints."

A few minutes later the Danais was taken from the box and placed on the tablespread and Aunt Doris' brush was doing rapid work.

Neva was fascinated as her eyes traveled from her live butterfly to the beautiful deep orange wings trimmed with black and white which her aunt was painting.

"Why Aunt Doris," she said, "It's a zact match, it's 'most a reg'lar twin. How large it is!"

"Yes, it is four and a half inches across the wings. It is the largest kind of an American butterfly."

By the time the painting was finished the butterfly commenced flitting about the room. It soon found its way to the screen door and Neva said, "It looks just as if it was coaxing to go out." 210

"Yes, butterflies don't like to be shut up in the house," said Aunt Doris, "and I think a certain little girl must want to play out too by this time, so I'll open the door and watch you both fly."

A few minutes later a happy little voice called from the lawn, "Oh, just look, auntie, Danais Archippus seems to be kissing all the flowers, he's so glad to see them."

When Neva went back to the city she took the picture of the Danais which her aunt had framed in a pretty gold frame, and also a great bunch of milkweed pods. She looked at them very proudly as her aunt put them in her trunk and said, "They will be such beautiful reminderments of my precious Danais Archippus, though of course I would remember him forever even if I didn't have them, wouldn't I, auntie?" and Aunt Doris looked into the earnest little face and smiled and felt sure that she would.

GRACE T. THOMPSON.

## **THE INDIGNANT TURKEY.**

### **A TRUE STORY.**

Near the pretty town of Madison, N. J., a turkey hen was at one time sitting on her nest of eggs. She knew that she must forego many a pleasant excursion about the poultry yard and through the meadows, where she and her mate had often picked up a sweet wormy meal. As the days grew into weeks Mr. Turkey Gobbler seemed to realize it, too, and decided to put up with widowhood no longer. So he visited a neighboring farm and enticed a good-natured lady turkey to return with him to his home. The patient, lawful wife, hatching her eggs, could do nothing about it. Her place was on the nest, and although doubtless her breast was ruffled with waves of jealousy, she had no means of avenging herself. But the day of retributive justice was surely and swiftly approaching. Hearing a great commotion in the barnyard one morning soon after the new turkey had been introduced to the fowls, the householder hurried out to investigate. There he found a strange turkey cock thrashing with all his might of claw, wing and beak the robber of his nest and affections, after which he proudly walked off with his mate, leaving the defeated and disloyal bird to make peace as best he could with her of whom he was not worthy.

FANNY SKELTON BISSELL.



CHIPPING SPARROW.  
(*Spizella socialis*.)  
About Life-size.  
FROM COL. CHI. ACAD. SCIENCES

## THE CHIPPING SPARROW. (*Spizella socialis*.)

The Chipping Sparrow visits the temperate regions of Eastern North America at that time of the year of which the poet Tennyson has said:

“Now fades the last long streak of snow,  
Now bourgeons every maze of quick  
About the flowering squares, and thick  
By ashen routes the violets blow.”

With the advancing seasons it passes still farther northward, till at last some of these birds have established their homes in Newfoundland and Southern Canada. They nest and rear their young from the Gulf States to the northern limits of their range.

Mr. Chapman has truthfully said: “The Chippy is among sparrows what the phœbe is among flycatchers—the humblest, most unassuming member of its family. Both show trustfulness, which, in spite of their unattractive appearance and far from pleasing voices, win our affection.”

Few of our feathered friends are more confiding or will show more confidence in us, especially when by quiet, kindly acts we attract them to our doorsteps. They love the habitations of man and will select the vines and bushes of the door-yard in which to build their homes. The name Social Sparrow is fully as appropriate as Chipping Sparrow. The latter name is derived from their song, which is best described as a “monotonous chippy-chippy-chippy-chippy,” ending at times in a quiet trill. Their happy dispositions and busy lives are inspiring.

“Bid the little homely sparrows,  
Chirping in the cold and rain,  
Their impatient, sweet complaining,  
Sing out from their hearts again;  
Bid them set themselves to mating,  
Cooing love in softest words,  
Crowd their nests, all cold and empty,  
Full of little callow birds.”

The song of the Chippy lasts about four seconds and is repeated at frequent intervals throughout the day. They “frequently repeat their trills in the darkness of night when restless or disturbed.” Mr. Silloway has estimated that “if their total practice through the day amounts to five hours, it is probable that they utter more than two thousand songs in a day, and perhaps even more; a wonderful record for these little musicians.” The ground, the fence, the porch or a shrub serve alike as a rostrum from which, with uplifted heads, to utter their trills.

Were it not for the English sparrow the yards of our country residences would be alive with these companionable birds. They not only enjoy the society of man, but also the presence of their own kind. The male is very attentive and will share food that he has obtained with his mate, for whom he shows the greatest fondness. In fact, the love for each other exhibited by a pair of these sparrows is remarkable. Then, too, their attachment for the home bush, in which they have passed a happy season, is frequently shown by their returning to the same bush or one near by, not only the next season, but probably for several.

The delicate little home of the Chippy is sometimes a neatly and closely woven fabrication of the hairs of horses and cows. Because of this habit of using hair in its nest the Chippy is frequently called the Hairbird. More often, however, the hair is used in the lining, which is protected by an outer wall made of grasses, fine roots and twigs. The nest is seldom placed less than five feet from the ground. In this home, with its feltlike lining, are laid the four or five bluish green eggs, the larger ends of which are speckled with brown or black. The Chippy is not contented with a single family and usually raises two in a season.

The patient devotion of the parent birds to their young is very interesting. They teach the little birds to gather their own food and carefully guard them till they have gained sufficient strength and confidence to care for themselves. Even then parents and offspring remain near each other, lovingly feeding in the same pasture, till the cold autumn drives them to their summer home in the Southern States and Mexico.

## CHRISTMAS IN BUNNYVILLE.

It was Christmas Eve in Bunnyville. Bunnyville was in a lovely great forest, and was the place where all the rabbits lived. Mr. and Mrs. Hare and six baby hares lived in a nice hollow tree, by the side of a clear stream of water, so that they never suffered for a cool drink or a bath. The little Hares were very much excited tonight, and were staying up far beyond the usual time, because they had so much to talk about, and were wondering what the morrow would bring. Now, this was to be the first time in their little lives that these dear little rabbits had ever hung up their stockings, for their papa and mamma had not known until recently that there was such a thing as Santa Claus.

Mamma Hare saw that her little soft, wooly babies were getting too much excited, so she said to them, “Now, children, you really must go to bed, or the Santa rabbit will not come to you at all, and then how will you feel? Come! Hurry, now.”

So they all scampered toward the mamma and gave her a good hug, with their little furry arms, and jumped into bed, all six of them in a row. The mamma leaned over them, and tucked them all in snugly, pulling the long gray moss up close around their necks, for the night was bitter cold, and the wind was howling fiercely around their tree home. Then she kissed each one, but her way of doing this was to rub her nose against each one of the little wrinkled noses, and that was a rabbit kiss.

They were soon sound asleep, and Mr. and Mrs. Hare were just dozing off, too, when they heard a queer, scratching sound, outside of their big tree, and they lay there peeping out from the moss with their bright eyes until suddenly, through the hole in the tree, there stepped—old Santa. He was a big—a very big—white rabbit, with long ears, and pink eyes, and long whiskers. He had such a kind face that they were almost tempted to speak to him, but they were afraid if they did he might get scared, and run away, before filling the stockings. Those were the funniest stockings you ever saw. Of course, the little rabbits did not wear stockings, only when it was very cold, they sometimes put on extra fur shoes to play in the snow. So the mamma had made each one a nice, large one, to hang up, and there they hung in a row, on some pegs driven to the inside of the tree. Old Santa looked around a minute, and soon spied these queer fur stockings; but he was used to that, for all the little bunnies he had visited that night had that same kind, so, with a low chuckle to himself, he took a big fur bag off his shoulders and reaching down into it he drew forth the loveliest things papa and mamma rabbit had ever seen. Their eyes fairly sparkled, as they thought of how delighted their babies would be when they awoke. Santa Claus did not forget anybody—not even papa and mamma, for they saw him stuffing a lot of things down at the foot of their bed, as he laughed to think of their surprise. When he left they jumped out of bed, and peeked through the tree, and saw him leap into a sleigh which was made out of a big, big pumpkin and drawn by tiny white mice. Their little silver bells tinkled as they flew over the snow—for the whole world outside was now covered with a beautiful sparkling robe of snow. The rabbits were awake long before the dawn next morning, and made such a noise, giggling and whispering, under their cover of moss, that the mamma could not sleep. Finally they said: “O,

mamma, can't we get up?"

"Yes, I guess you might as well," she replied, "as you won't go to sleep." So out they scampered, all six of them, tumbling all over each other in their eagerness to see what good old Santa had brought them. O, how delighted they were, as they ran their little paws down into each fur stocking, and brought forth the most wonderful things, surely, that rabbits ever had. 215

There were little red apples, and all kinds of nuts, and nice green things to eat, and actually, a doll, made out of cornstalks, and corn-silk for hair. They had never had a doll before, and they hugged them to their little furry breasts with ecstasy. When the children were all through looking at their gifts the papa and mamma looked at the foot of their bed and found the things Santa had brought them. There were bushels of red and yellow apples, bags of wheat, great cabbages and celery, tender lettuce and all the good things so dear to the heart of a rabbit.

Dear, dear! Their mouths fairly watered, as they looked at these things. More than enough to last them all winter, and now they would not have to go out in the cold, bitter weather, searching for something to eat. They could stay in their good warm tree, and have a jolly time together, and eat all the good things they wanted. After breakfast the children all ran out and played snowball and frolicked around at leap-frog and such outdoor sports all morning, which made them so hungry that they felt as if they could eat up the whole lot of winter supplies. After a while mamma called them in, and they joyfully sat down to their Christmas dinner. There was a long table, just filled with good things, and the children all sat on big strong toadstools. My! how hungry they were. But mamma had known they would be, and had provided everything good that a rabbit likes, and actually had some tiny cakes, and little red candies. What a jolly meal that was! Everybody laughing and chewing away at something held tightly between their two little front paws, and wrinkling up their funny brown noses, smelling at all the good things on the table. It was quite late when they finished the merry meal, and after looking for some time at the things which Santa had brought, papa and mamma said: "Children, we have another surprise for you now."

Another surprise! What could it be? It seemed to them that they already had every surprise in the world, and they could not imagine how anything else could be thought of.

Mamma made each of them put on a very heavy fur coat, and fur shoes, and they all went out, and went skipping over the cold white snow, until at last, through the darkness they caught a glimpse of something sparkling, and bright and beautiful. Bright lights hung everywhere, and in the center of it all was a tree—that was not like any tree they had ever seen before in all their little rabbit lives. It was a rabbit Christmas tree, just covered with beautiful gifts for all, and there all around the tree were dozens and dozens of rabbits many of whom were friends of theirs, and what a jolly crowd it was. Everybody good natured, and all jumping and hopping, as if their lives depended upon it. Pretty soon from out the darkness who should appear but Santa himself? O, what hurrying and scurrying of little furry feet there was, as all the little bunnies tried to get near him. He smiled upon them all as he stepped to the tree and began handing gifts to each and every one of them. And the funniest part of it was, that he knew every one of their names. After the gifts had all been distributed they all joined hands around Santa Claus, and went around in the wildest, merriest dance, that was ever danced by a party of rabbits. So light of feet and so happy were they that they fairly flew over the ground. Then the good old Santa told them good-by till next year, and jumping into his sleigh, vanished from sight. They all went home very tired, but O, so very, very happy to be tucked away again into their soft, warm nests of gray moss.

JESSIE JULIET KNOX.

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## TOPAZ.

Remarkable clearness and transparency, capacity of taking a high polish and hardness and weight greater than that of quartz. These are the qualities in which Topaz excels as a gem. Numerous other stones of inferior quality masquerade under its name, however, and this fact may account for the decline in popularity which the stone has suffered in recent years. True Topaz is a silicate of alumina, containing hydroxyl and fluorine. Its hardness is 8 in the scale in which quartz is 7. Hence it will scratch the latter mineral and may thus be distinguished from it. It is also remarkably heavy, considering its composition, it being three and one-half times as heavy as water, while quartz is only two and one-half times as heavy. Owing to this unusual specific gravity, experts accustomed to handling gems can frequently pick out the Topaz from a miscellaneous lot of precious stones without removing their wrappings.

The color typically associated with Topaz in its use as a gem is yellow. Yet the mineral species exhibits many other shades of color, which, when present in crystals of sufficient clearness and purity, answer equally well for gem purposes. These other shades, most of which are represented in the accompanying plate, are grayish, greenish, bluish and reddish. Topaz may also be quite colorless. The yellow color of the Brazilian Topaz can be changed by heating to a pale rose pink and the gem is often treated in this way. The degree of heat employed is not high, and both heating and cooling must be performed gradually. Warming in a sand bath at a low red heat is the method usually employed, or the stone may be wrapped in German tinder and the latter set on fire. Only stones of a brown yellow color yield the pink; the pale yellow stones turn white when so treated. Once the pink color is obtained it is permanent. The natural colors of Topaz are in general perfectly durable, although some of the deep wine yellow Topazes from Russia fade on exposure to daylight.

Topaz is infusible before the blowpipe. It is not affected by hydrochloric acid, but is partially decomposed by sulphuric acid and then yields hydrofluoric acid. If the latter experiment is tried in a closed glass tube the formation of the hydrofluoric acid is made evident by the etching and clouding of the walls of the tube. The powdered stone should be mixed with acid sulphate of potash for this experiment. The powdered mineral, when

heated with cobalt nitrate, assumes a fine blue color, due to the alumina which it contains. One of the most convenient means of distinguishing Topaz from other stones used to imitate it is through its property of becoming electric by heat, friction or pressure. This electrical condition is evidenced, as in the case of tourmaline, by the power the stone acquires to pick up and hold bits of tissue paper, straws, etc. Sometimes the friction from merely rubbing the stone between the fingers will be sufficient to produce this electrical condition, while many Brazilian Topazes, if simply pressed between the fingers, especially in the direction of the prismatic axis, become electric. The electrical condition often persists from twenty-four to thirty hours.

The crystals of Topaz belong to the orthorhombic system of crystallization. They are usually elongated in the direction of the prism and have sharp, bright faces. They vary much in size and often are large. One crystal weighing twenty-five pounds was found in Siberia.

A well-marked characteristic of all Topaz crystals is their tendency to cleave across the prism parallel with its base. Such a cleavage plane can be seen cutting across the crystal shown in the upper right-hand corner of the accompanying plate. This cleavage is so marked and the cleavage plane so bright and flat that in cutting Topaz for a gem a cleavage surface is used as the upper face of the gem and the other faces formed around it. Owing to this easy cleavage the owner of a cut Topaz should be careful not to let the stone drop, as it might be cracked or broken.



TOPAZ.

Left column:

Topaz with Mica and Feldspar (Russia.)

Topaz (Brazil.)

Center:

Topaz in Rhyolite (Utah.)

Right column:

Topaz (Japan.)

Waterworn Topaz (Brazil.)—Loaned by Foote Mineral Co.

The name Topaz is derived from the Greek name topazios, which is that of an island in the Red Sea. The gem known to the ancients as topaz, however, was not our Topaz, but the mineral chrysolite. Topaz usually occurs in gneiss or granite, with tourmaline, mica, beryl, etc. In Brazil it occurs in a talcose rock or in mica slate. It is sometimes in sufficient abundance to form an essential rock constituent. When so occurring, however, it has not the transparent gem quality, but is white and opaque. Much of the Brazilian Topaz occurs as rolled pebbles, one of which is shown in the accompanying plate. These occur in the beds of streams, having been left behind owing to their superior hardness after the rock in which they were formed has been washed away. When colorless they are known in the region as "pingos d'Agua" (drops of water). The Portuguese call them "slaves' diamonds." A



stone in the crown of Portugal, reputed to be a diamond of 1,680 carats weight and called the Braganza, is undoubtedly only a Topaz of exceptional clearness and beauty.

The Brazilian Topazes come mostly from the Province of Minas Geraes, the province which also yields diamonds, beryls and many other precious stones. While those of greenish and bluish shades are found mostly in the form of rolled pebbles the yellow Brazilian Topaz is found in the mother rock. This is a decomposed itacolumite of a white or yellow color. The Russian Topazes, like that shown in the plate, come from the Imperial mines in the Urals. Alabashka, near Mursinka, is one of the most productive localities. The crystals occur in cavities in granite and are accompanied by crystals of smoky quartz, feldspar and mica. Superb gems are cut from these Topazes, a fine series of which is possessed by the Field Columbian Museum. The mines are operated by the Russian Government and the finest specimens are reserved for the Imperial Cabinet.

In the southern Urals, in the gold washings of the River Sanarka, yellow Topazes are found closely resembling those of Brazil. Associated with them are amethysts, rubies, chrysoberyls and many other precious stones. Topaz crystals of good size and color are found quite abundantly in Japan, although they have not yet been cut for gems to any extent. There are many localities in the United States where Topaz occurs, and it is often of gem quality. The group shown in the plate illustrates its occurrence at Thomas Mountain, Utah, a locality forty miles north of Sevier Lake. The crystals are found in cavities in the rock. They are never very large, but are usually clear and bright. They occur in somewhat similar fashion at Nathrop, Colorado. In the Eastern States Topaz was first found at Trumbull, Conn. It is here quite opaque and not suitable for gem purposes. Good gem Topaz has been found at Huntington and Middletown, Conn., however, and especially at Stoneham, Maine. In these localities it occurs in granite.

Of other stones which are sold under the name of Topaz the most common is the so-called Spanish or Saxon topaz. This is simply smoky quartz heated until it turns a yellow color. It can easily be distinguished from true Topaz by the properties above given.

At the present time it is also quite the common practice to vend ordinary colorless quartz under the name of Topaz. These practices are harmful to the reputation of true Topaz, as these forms of quartz are common and cheap and lack many of the desirable qualities of that stone. There is also a so-called Oriental Topaz which is a yellow form of corundum. It is heavier and harder than true Topaz, but its color and luster are not generally considered as desirable as those of that mineral. About forty years ago Topaz was quite popular as a gem and commanded three or four times its present price. At the present not more than two dollars a carat is often paid for the stone.

Topaz is often referred to by ancient writers and is mentioned in the Bible as one of the stones to be put in the ephod of the high priest; also as one of the gems worn by the King of Tyre and as forming one of the gates of the Holy City. Curiously enough, the gem referred to in these instances was the modern chrysolite, while where chrysolite is spoken of our Topaz is usually meant. 220

A Topaz presented by Lady Hildegarde, wife of Theodoric, Count of Holland, to a monastery in her native town, emitted at night, according to legend, a light so brilliant that in the chapel where it was kept prayers could be read at night without the aid of a light; a statement which might well be true if the monks knew the prayers by heart.

The spiritual qualities associated with Topaz are fruitfulness and faithfulness. It is also said to confer cheerfulness upon its wearer. The ancients believed that it calmed the passions and prevented bad dreams; that it discovered poison by becoming obscured when in contact with it; that it quenched the heat of boiling water, and that its powers increased and decreased with the increase and decrease of the moon. Also a Topaz held in the hand of a woman at childbirth was believed to lessen suffering. Lastly, a Topaz is the gem of the month of November:

“Who first comes to this world below  
With drear November’s fog and snow  
Should prize the topaz’s amber hue,  
Emblem of friends and lovers true.”

OLIVER CUMMINGS FARRINGTON.

## **THE BIRTH OF THE HUMMINGBIRD.**

It was born in a valley of violets  
Where bird and flower for its favor vied,  
Its father a poppy gone stark mad,  
Its mother a reckless honey bee,  
(True child of such startling pedigree)  
Its cradle a sunbeam glorified.

It was bathed in a dewdrop morn by morn  
And when the time for the christening came,  
The font was filled with a jeweled flame;  
Glitter of gems dissolved in mist,  
White of diamond, its changing light,  
Ruby, emerald, amethyst,  
And its christening robe was encrusted quite.

**THE ROSE TANAGER.**  
(*Pyrrhuloxia aestiva*.)

“Oh, if it might be that the roses  
Be winged, and flying to thee,  
Could bear thee a thousand greetings,—  
Thou knowing they came from me!

And if song might be given the roses,  
When I sped them in token to thee,  
They should warble my song to thee softly—  
Thou thinking the while on me!”

—From the German of Abingulf Wegener.

The brilliant Rose Tanager,  
“Encircled with poetic atmosphere,  
As lark emballed by its own crystal song.”

might be the fulfillment of the poet’s roseate dream, and the message that he bears a vocal incense from the flower’s glowing heart.

But if the burden of the one-half of the tanager duet is “my love is like a red, red rose,” the other half probably completes the flowery simile, with the proud refrain, “my love is like a green, green leaf,” and when the time of the bloom of the rose is past and the rosy plumes, like petals, fall away, he stands revealed an olive calyx, attended as the season wanes by an assemblage of belated olivaceous buds, whose song and carmine tints are folded away to await the summons of the next year’s sun.

And when they return to us again in the full flower of their beauty from their southern home, gorgeous as if stained in the dyes of the tropic sun, their song is said to be suffused with color like the mellow tones of the rose-breasted grosbeak and oriole.

This song Nuttall describes as a strong and sonorous whistle like that of the Baltimore bird, “resembling the trill or musical shake on the fife, and is frequently repeated; while that of the female is chattering and is chiefly uttered in alarm when any person approaches the vicinity of the nest. From the similarity of her color to the foliage of the trees, she is rarely seen and is usually mute, while the loquacity and brilliancy of the male, as he flies timidly and wildly through the branches, render him a most distinguished and beautiful object.”

Audubon pronounced the usual note of this bird as unmusical, resembling the sounds “chicky-chucky-chuck,” which is not, indeed, suggestive of poetic inspiration on the part of this “poet-prophet of the spring,” but the same author states that during the spring he sings pleasantly for nearly half an hour in succession, and that the song resembles that of the red-eyed vireo, his notes being sweeter and more varied and nearly equal to those of the orchard oriole.

Mr. Ridgway describes the song as somewhat after the style of the robin, but in a firmer tone and more continued, and, as compared with that of the scarlet tanager, with which he is often confounded, it is more vigorous and delivered in a manner less faltering. He describes the note of anxiety as a peculiar “pa-chip-it-tut-tut-tut,” very different from the weaker cry of *Pyrrhuloxia rubra*.

Mr. Chapman says the summer tanager may be easily identified, not alone by its color, but by its unique call note, a clearly enunciated “chicky-tucky-tuck.” Its song bears a general resemblance to that of the scarlet, but to some ears is much sweeter, better sustained and more musical. According to some authorities it equals the robin’s in strength, but is uttered more hurriedly, is more “wiry” and much more continued.

Of the bird of Eastern North America Mr. Maynard says: “When the cold north winds cease to blow and the air in the piny woods is redolent with the perfume of the sundew, creeping mimosa and other delicate plants, which only bloom late in the spring, the voices of the summer tanagers are heard in the tops of the highest trees, when their songs are full of wild melody in perfect keeping with their surroundings. \* \* \* So closely do they conceal themselves in the thick foliage that were it not for the loud song notes, which are constantly repeated, it would be difficult to discover them.”

From one of its habits the Rose Tanager is known to farmers as the red bee bird, and, although a bird of day, its taste for nocturnal beetles often leads it to the pursuit of its prey until the shades of evening have darkened into night, when, with the light of its plumes extinguished, as it were, with the setting sun, it proceeds silently and invisibly upon its gustatorial mission.

But it is credible that it is only when he is in his colorless nocturnal disguise that the prosaic beetle is permitted to refresh this Avian bloom, and that when the god of day has transformed the voiceless shade of night into the winged and musical rose of ornithology for his life’s sustenance, the same moment witnesses the miracle of the “dewdrops the sunrise has reddened to wine,” and that to his inspiration is poured Aurora’s rosy libation, the enchanted

“Wine that Morning spills  
Upon the heaven-kissing hills.”

JULIETTE A. OWEN.

## THE ERMINE.

The Ermine is an aristocratic branch of the weasel family. His coat of pure or creamy white is the envy of kings, nobles and judges, whose robes of state or office etiquette prescribes shall be lined or faced with this matchless fur. A narrow band of the same is turned up around the crimson velvet cap worn beneath the British monarch's crown and the coronets of peers.

At the coronation of King Edward and Queen Alexandra, which is to succeed the period of mourning for the late queen, the royal regalia will be brought into requisition, and in all its magnificent makeup not the least feature will be the priceless ermine trimming, costing the life of many a luckless animal. In view, therefore, of his constant exposure to martyrdom the price the Ermine pays for his social distinction is dear enough and should excite in his humbler cousins, even were they disposed to be sensitive on the point of birth, more of pity than of jealousy.

He dresses in perfection, however, only in winter, and that of the coldest regions, where the exceeding whiteness of his covering serves the two-fold purpose of retaining heat and concealing his presence on the universal carpet of snow, both from the enemies seeking his life and from the prey on which he subsists.

For a summer outing suit nature provides him an unconventional dress of light reddish brown varied with a stomacher of tawny white. With the doffing of his regal attire he also lays aside the distinguished title of Ermine and becomes plain Mr. Stoat.

This species of the weasel is found throughout Great Britain and in most parts of continental Europe, but except in northern Scotland, Scandinavia, and Russia the winters are neither sufficiently long nor cold to produce a complete change of color and he is left with a funny piebald coat which no one covets. The skins that supply the markets of the world all come from the arctic countries of the three northern continents, Europe, Asia and North America. A permanent feature of the Ermine's coat is the glossy black tail tip, which in the preparation of the fur is inserted at regular intervals on the white, where the sharp contrast gives a most pleasing effect.

An utter abhorrence of uncleanness is a characteristic instinct of his lordship, and impels him to suffer capture or death rather than become soiled or bedraggled. This sentiment of purity is figuratively transferred to the fur whose use on the garments of rulers and judges symbolizes the purity of justice and law.

Determination and perseverance are qualities displayed in the pursuit of game for food, consisting of small herbivorous animals, birds, and eggs. In length the Ermine's body is about ten inches; the tail, four inches; the legs are short, bearing the slender body with a creeping snake-like motion.

M. A. HOYT.



RHESUS MONKEY.  
(*Macacus rhesus*.)

### **THE RHESUS MONKEY.** (*Macacus rhesus*.)

It was in Simla that we first encountered the Rhesus Monkey. We had gone up to Simla to escape the intense heat of Bombay, and, refreshed by the cool air of the "hill country," we were soon ready to make the expedition to the hill called Jako. This hill is indeed the hill of the monkeys. It is eight or nine thousand feet above the level of the sea, and here lives a fakir, who feeds the monkeys as they troop down the mountainside at his call.

Undoubtedly there is no more mischievous monkey than the Rhesus, but, after all, he is not altogether to blame, for the blame may belong to the Hindoos. Some tell us that the Rhesus Monkey is sacred; others think not. But, however that may be, it is a fact that the Hindoos protect the monkeys in every possible way, willingly sharing their food with the bands which are found almost everywhere, and permitting no one to kill them.

This fosters every mischievous trait in these monkeys, and they fear nothing from man. They will devastate every plantation and garden near them. They belong to that genus of the ape family called Macaque, and as this variety, with their near relations, the other macaques, are found all over Southeastern Asia, besides one branch in Western Africa, one can readily see that their mischievousness becomes a serious drawback.

The natives of Baka are said to leave one-tenth of their harvests in heaps for the monkeys, which come down in great numbers and carry away all that is left for them. And this they can readily do on account of their well-developed cheek pouches. These pockets in the cheeks are assuredly most convenient, but are never found on

American monkeys. The Old World monkeys are the narrow-nosed variety, while the American monkeys have the broad nose bone.

Our Rhesus Monkeys had, of course, the narrow nose bone. They averaged about twenty inches long, and the tail was half as long. Like all the macaque monkeys, they were of sturdy build, with legs of moderate length. In color the fur was grayish or greenish on the upper part, yellowish over the hips and white below. The tail was greenish above and gray under. The face, ears and hands were of a light copper color.

The mother monkeys were most assiduous in the care of their young, but in educating them one of the most important lessons was to teach them to steal successfully. This the pupils learned with ease, and to find a Rhesus Monkey which could not steal would be a curiosity indeed.

While in Simla we were told the oft-repeated story of Lady Barker's dinner. Lady Barker, desiring to give a dinner to a large number of guests, took unusual pains in the preparation of the feast. With her own hands she arranged the flowers, and in the most attractive manner were placed upon the table all the delicacies possible to procure, far and near. When everything was arranged to her entire satisfaction, she retired to array herself for the reception of her guests. The servants were left in charge of the rooms, but instead of watching the tables, they deserted their posts to amuse themselves in a more congenial way. Imagine the surprise and consternation when, upon descending to the dining room, she found it filled with guests, but not those whom she had invited. A large band of monkeys had entered through the windows and were enjoying themselves without restraint. Poor Lady Barker had nothing left to offer her invited guests but the spoiled remains of her sumptuous feast. Her little lap-dog "Fury" met with an untimely death by the hands of probably this same band of monkeys. The dog waged war on the creatures at every opportunity, but one day a large monkey managed to catch him and carry him along to its tree-top. There the dog was tormented by all the monkeys, being passed from hand to hand and finally thrown down a precipice. 226

While the Rhesus is an intelligent creature and easily taught while young, it is a question whether one really wishes this monkey for a pet, for when old, they become vicious and spiteful and can bite and scratch in a dangerous manner.

In addition to the fruit and seeds which they eat, they are also fond of insects and spiders, and frequently large parties may be seen searching the ground for these delicacies.

Professor Ball relates an interesting anecdote of these monkeys. He said that when at Malwa Tal, a lake where he spent a day, he was warned that when passing under a certain landslip which slopes to the lake, he would be liable to have stones thrown at him by the monkeys. As he thought this might be only a traveler's tale, he took pains to go to the spot in order to see what had given rise to the story. As he approached the base of the landslip, he saw a number of Rhesus monkeys rush to the sides and across the top, and presently pieces of loosened stone and shale came tumbling down where he stood. He soon satisfied himself that this was not accidental, for he distinctly saw one monkey, industriously with both forepaws, push the loose shingle off a shoulder of rock. He then tried the effect of throwing stones at them, but this made them quite angry and the amount of fragments which they set rolling was speedily doubled. This adventure caused Professor Ball to believe that there may be some truth in the stories related in regard to monkeys throwing fruit at people from the tree tops, and yet even about monkeys it is not always best to credit all one hears.

JOHN AINSLIE.

## **AN ANIMAL TORPEDO.**

The gymnotus, or electric eel, is a common denizen of the stagnant pools and sluggish lagoons of the Llanos of Venezuela. It is known to the natives under the more suggestive name of arimna or something that deprives of motion.

Our first experience with this curious Animal Torpedo was on the borders of the Llanos, a few days' journey to the south of Valencia. The pack mules, usually very slow, had preceded us, during the noon hour, while we had leisurely taken luncheon. In the course of an hour, we caught up with them, as they had reached a sluggish estuary of a neighboring river. Before we were in hailing distance, we could see, from the wild and frantic gesticulations of the muleteer, that something unusual had occurred. It proved to be an attack of electric eels upon the first mule, which had attempted to ford the lagoon. The animal had nearly reached the opposite shore before the attack was made, and thus, the first mule had escaped with only a few shocks from the invisible torpedoes. The other pack mules, just entering the stream, were turned upon savagely by the concealed serpents, and were wildly and frantically turning back, when we came upon the scene. Their distended nostrils and bulging, terrified eyes, with excited snorting and plunging, would have made a perfect picture of agonized terror. Their suffering, fortunately, was of short duration, as they soon gained the shore and dashed away madly over the prairie. The first mule, which had crossed, terrified by the electric shocks received, had retreated from the lagoon and, in a state of great fright, had plunged into a browsing herd of cattle, dangling its swaying pack and causing a frightened stampede among the half-wild herd. The latter, ignorant of the immediate peril, rushed toward the lagoon ford, and, if those in front hesitated, they were persistently prodded by those from behind. In a moment all were in the midst of their dreaded enemies in the water. A scene followed which is hard to describe. The poor brutes reared, bellowed and moaned; they gored each other in their agony, while their startled eyes seemed ready to jump from their sockets. 227

As the herd was numerous, the greater portion soon struggled out, and, with tails reared high in the air, they

plunged, like maddened demons, across the prairie. Three cows and a heifer remained in the pool with the eels. The former, much exhausted, finally escaped from their tormentors, but the heifer, unable to withstand the repeated attacks, made one last effort, and, with a gasp, sank below the surface.

We spent some time in collecting our terrified pack mules and scattered baggage, finally crossing the bayou at a shallow point some distance above the ford. In the meantime, one of the mozos speared one of the eels, as they had become very sluggish and were swimming aimlessly about the surface, after having spent so much of their galvanic force. The captured specimen was about two and a half feet in length and would weigh about eight pounds. It had an olive green color and the upper part of the head was mingled with red. Two rows of yellow spots are placed symmetrically along the back, each spot containing an excretary aperture, which were its galvanic batteries. It possessed an enormous swimming bladder, which accounts for its great agility and swiftness in the water. The creature looks more like a fish than an eel, and is very difficult to capture in nets, owing to its agility and a habit of burying itself in the mud when frightened. The electric action of the eel depends entirely upon its own will and a shock can be given whether it is touched by one or both hands to complete the circuit. When wounded, their power is almost destroyed and they are able to give only feeble shocks. Humboldt describes putting both feet upon a newly-captured specimen, which rendered him entirely powerless for a considerable time. The shock was so great that he suffered all day from pains in his knee and back.

Though caught easily with a harpoon, the natives have such an intense dread of them that it is difficult for naturalists to secure specimens. The peons have an idea that one can escape the shock, while going through waters infested by the eels, if he carries a chew of tobacco in his mouth. This supposed influence of tobacco upon animal electricity is not entirely without some scientific basis, but in the form of a quid in the mouth it is, of course, purely imagination.

It is not an uncommon thing for a large colony of these eels, to attack and drown a horse in mid-stream, which they will leisurely devour afterwards. It is recorded that, during the patriot wars in Venezuela, a large army marching through the Llanos was seriously disabled in crossing a bayou infested with these mischievous creatures. At Damarara, British Guiana, in the early days, these eels were employed by the medical fraternity, to cure paralytic troubles, just as the torpedo fish was employed by the ancient Greeks.

ANDREW JAMES MILLER.

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## THE CAMEL.

We were on the road to Biskra, the "Queen of the Desert." Sand, sand everywhere, as we looked across the dreary spaces as far as the eye could reach. Frequently the monotony was relieved by the long lines of caravans passing to and fro; they were picturesque and poetical; they moved with stately motion and graceful swing across the background of never-ending and often shifting sand.

Had this been our only experience with the Camels which compose the caravans, we would have returned with glowing accounts and waxed eloquent over these beasts of burden. We would have assured our friends of their patience and fortitude and with growing enthusiasm described the showy trappings and effective poses which charmed us on the desert road. But alas! We came to know the Camel well at close range and truly "familiarity breeds contempt."

The Camels about Biskra were the long-legged variety commonly called Dromedaries. They had but one hump and averaged from about six and one-half to seven and one-half feet in height; and from muzzle to tip of tail they measured ten or eleven feet. While the majority were of a light sandy color, it was not impossible to find a white, grey, brown or even black Camel, but a black Camel was held in great contempt by the Arabs. The hair was irregular in length and almost woolly in places. The callouses, large and prominent, were found on the breast and joints of the legs, making cushions for the beast to rest upon when lying down or kneeling. These callous places, scarcely showing at birth, grow with advancing age.

It is true that these animals, ungainly and uncouth at near view, are indispensable to the Arab of the desert; but all their generations of domestic life have failed to cultivate in their stupid minds any affection or care for their masters. Their obedience is passive and their apparent patience only stupidity, for they are unamiable, obstinate and disagreeable.

The Camel varies nearly as much as do the horses of our own country. There are many grades and degrees from the ordinary baggage Camel to the high-toned thoroughbred which corresponds to our high-class race horse. These racing Camels are long-legged and long-necked, the hump stands upright; is conical in shape and covers about one-fourth of the length of the body; the head is rather short, the eyes large and dull, and the ears very small but mobile. The hair is especially fine and soft.

A friend of ours who owned a fine saddle Camel was able to make from eighty to ninety miles a day if his Camel was well fed and watered and was allowed a rest at noon. This pace he was able to continue without injury for three or four consecutive days, and after a well earned rest he could repeat the journey.

A baggage Camel, carrying a load of perhaps three hundred pounds, would not make over thirty miles a day, but could often march twelve hours or longer without rest. However, a man of position would never condescend to ride on a baggage Camel.



ASIATIC OR BACTRIAN CAMEL.  
(*Camelus bactrianus*.)

Our friend told us that in buying saddle Camels for our desert ride we would be obliged to pay about sixty-five dollars each, and that we must look for those with soft backs, those which did not require the whip and would not cry when getting up or lying down. But he added that with these excellent traits we must not expect too much, for the best Camel was capable of every fault associated with a vicious disposition. And, indeed, when, some days later, our favorite Camel, when passing an Arab riding a donkey, turned his head suddenly and gave the man's arm a vicious bite, we were well satisfied that our friend's estimate of the Camel's disposition was absolutely correct. The wound inflicted by our animal was very severe, as the bite of a Camel usually is. We sought our friend's aid in adjusting the matter and he related some of his experiences with this ungrateful animal. 231

At one time he was the owner of a Camel to which he had always been especially kind. He started on a journey across the desert, and after annoying him in every possible way with a continued persistence surprising in so stupid a beast, the Camel, in a fit of rage, broke into a gallop, throwing the gentleman from his saddle to the ground, trampled upon him and then galloped away at its own sweet will. We were also told that when the natives found that their Camels had a grudge against them, they so feared the revengeful beasts that they would place their clothing before the Camel and hide themselves behind bushes. The animal would then expend its rage upon the clothing, trampling and tearing it; the injury, real or imagined, would then be forgotten.

As it is about impossible to retain one's seat on a galloping Camel, they are trained only to trot. "The steady, alternating movement of the legs on the opposite side of the animal stops the sideways jolting motion, and if the rider skillfully lies back in his saddle, he experiences no more inconvenience from the still somewhat violent shaking up than he would if he were on horseback."

After purchasing our Camels, we began to study the habits and needs of our new acquisitions. We found ourselves obliged to provide food of a kind that caused us some surprise. Our Camels were far from fastidious. In fact, the poorer the food, the better it seemed to suit the needs of these peculiar beasts for the driest of vegetation was acceptable. Shrubs and thorny branches were rapidly disposed of and one wondered that even their callous mouths could take them without injury. They were also fond of small beans, peas and vetches and were not averse to making a juicy meal on cultivated fields. But this indulgence was to be avoided, as it was liable to produce inflammation and death.

The idea that Camels when working could go very long periods without food and water, we found to be erroneous. The true ruminant has four stomachs; the Camel has three divisions only. The first two divisions are provided with cells or pouches which can be closed by strong muscles. These contain fluid only and it is on account of this peculiar construction that the animal can go several days without water, but when traveling in the heat of an African desert, at least every four days, the Camel must have water, nourishment and rest.

On account of their acute smell, they will detect water at some distance and it is really an interesting sight when thirsty, tired-out Camels draw near to a well or river. They lift their heads high in the air, inhale long breaths with half-closed eyes, lay their ears back and then start to run, so that one has to sit firmly in the saddle if he does not wish to be thrown out. When the beasts finally reach the well they crowd to the water and give themselves up to the enjoyment of drinking.

The food supply, which assists the Camel in times of fasting is stored in the hump, which is really one great lump of fat. In times of plenty this is firm and pyramid-like in form, and may weigh as much as thirty pounds, but after prolonged hunger it will nearly disappear; weighing perhaps only four to six pounds.

This provision of nature, added to its peculiar stomach, makes the Camel in many respects the most useful of domestic animals. It has been domesticated from very early times. We know that they were owned in great numbers four thousand years ago. Pharaoh gave them as a present to Abraham and the patriarch Job had at one time a herd numbering six thousand.

A baby Camel is a misshapen little thing, but like all young animals it is playful and interesting. It is about three feet high when it enters the world, but in a week's time is much larger. It is able to follow its mother soon after birth. She will defend her own to the extent of her strength if needful. 232

The Camel is a true animal of the desert and only thrives in hot, dry localities. It is of little use in a mountainous country, as it is a poor climber and cannot remain in health when fed on luxuriant vegetation.

In the water it is of still less use. Perhaps because the desert is its "native heath," it holds an antipathy for water and either cannot or will not swim, so the crossing of a stream with a caravan becomes a serious undertaking. Sir Samuel Baker recounts his experience in crossing the Atbara river (about three hundred yards wide.) "Water-skins were inflated and passed under the belly of the Camel like a girth. A man sat upon its back while one or two swam by its side as guides. As the current of the river was rapid, the animal was usually half a mile down stream before gaining the opposite bank."

Some time after we became acquainted with the one-humped Camel (the Dromedary) of Africa, our journeyings took us to the regions of Central Asia and there we met for the first time the Bactrian or two-humped Camel. This varies somewhat from the Dromedary as it has a larger body, shorter legs, longer and thicker hair and is able to live in a cooler climate and at a greater elevation. Although stupid in intellect, like the Dromedary, we must give it the credit of having a much better disposition. It is of the greatest use to its owners. Its hair, milk, skin and flesh are all put to use. It is not only used as a pack animal, but is harnessed to carts as well. Put to use when five years old, it will, with good treatment, continue to work until its twenty-fifth year. With its help, its owner is able to climb mountains thirteen thousand feet high, and to cross treeless wildernesses where horses would soon perish. It could not be replaced by any other domestic animal. "The horse is the companion of the inhabitant of the steppes," but the Bactrian Camel, the "Ship of Asia," is his faithful servant.

JOHN AINSLIE.

## THE HILL SUMMIT.

This feast-day of the sun, his altar there  
In the broad west has blazed for vesper-song;  
And I have loitered in the vale too long  
And gaze now a belated worshipper.  
Yet may I not forget that I was 'ware,  
So journeying, of his face at intervals  
Transfigured where the fringed horizon falls,—  
A fiery bush with coruscating hair.

And now that I have climbed and won this height,  
I must tread downward through the sloping shade  
And travel the bewildered tracks till night.  
Yet for this hour I still may here be stayed  
And see the gold air and the silver fade  
And the last bird fly into the last light.

Dante Gabriel Rossetti.





ZEBRA.  
(*Equus zebra.*)

## THE ZEBRA.

When passing through the zoological garden one summer afternoon, my attention was called to the antics of the fun-loving, shy and graceful Zebra which was delighting the children with his original performance. There was no ringmaster to indicate the various evolutions, but Zebra Joe was furnishing a sort of circus all by himself. He seemed to have forgotten that he was a stranger in a strange land, and could he have been transported to his own country in South Africa, I hardly imagine he would have seemed gayer or more free.

The Zebra is of all things a freedom-loving animal. He will go like the wind and, if pursued singly, cannot be caught. It is true that large herds are overtaken, as they impede each other's progress, but it is a shame that these beautiful creatures should be hunted at all. The European will try to kill them with bullets, the natives with javelins, but more frequently these dainty animals are caught in pitfalls and then captured or slain according to the will of the pursuer.

They live gregariously and are found in groups of from ten to twenty, though there are accounts of large herds. Probably these were migrating. When running, they usually go in single file, the stallions leading. They are not very fastidious in regard to their food, but if the supply fails in one place they seek another locality. The Zebra defends itself from other animals by biting and kicking, and the lion is about the only foe which can overcome it.

Of the three species, the mountain Zebra or true Zebra lives farthest south. It ranges over the mountainous country of Cape Colony. It is the smallest of the three varieties, and is distinguished from the others, not only by the peculiar markings, but by the large ears, short mane and scantily haired tail. It is the only variety where the transverse markings of the legs extend to the hoofs.

It is a very curious fact that the different species of Zebra are never found together. Perhaps they fear each other, but they do not fear other animals, for all agree that in the herds of quagga (which is grouped with the Zebra) are nearly always found spring-boks, gnus, ostriches and also buffalos. Ostriches, especially, are the companions of this species of wild horse, which takes advantage of the vigilance and sagacity of these great birds. Some species of the Zebra follow the horses of traveling parties and graze among them, seeming to have a certain friendship for the one-hoofed domestic animals.

The Burchell's Zebra is the largest and noblest appearing of the species. It is a rover of the plains and does not seek the mountainous districts where the true Zebra is found. It stands about four and one-half feet in height at the shoulders. The general ground color of the hair varies from white to yellowish brown and the stripes are

brown or black. The hoofs are more like those of a pony than the other species. It is not found south of the Orange river and it is not known how far north its range extends.

Our illustration shows an example of Chapman's Zebra. This, in reality, is a variety of Burchell's Zebra and should not be considered apart from it.

The third species is called Grévy's Zebra. More slender than the true Zebra, it is somewhat like it in its markings. "Colonel J. A. Grant, who first met these Zebras in the mountains north of Victoria Nyanza, writes that they were found in herds comprising from two to nine individuals." He says that "one of their number, probably the largest male, takes general charge of the herd; and it was noticed that a large antelope kept watch and gave the alarm on our appearance. They are rarely found outside the forest, preferring it to the open plain, which is generally bare of grass; or they frequent a country with clumps of dense brushwood, or with outcrops of granite, around 236 which they get abundant food, and they were never seen far from running water or hills."

"They showed much sympathy when a comrade was wounded, lingering with the hurt one at the risk of their lives; they lingered with our laden donkeys one day on the march." These Zebras are sometimes found at an elevation of two or three thousand feet.

There is a variety of opinion in regard to the possibility of taming the Zebra. Undoubtedly many incompetent persons have made the attempt and failed. It is claimed that others have succeeded. There is a record that a couple of beautiful animals in England could be harnessed to a light carriage and used like horses. On the other hand, there is told the story of a rich settler in Cape Colony who had reared several Zebras. He had perfect confidence in their docility and he thought one day that he would have them harnessed to his carriage. This he did, taking the reins himself. The details of the ride are lost to posterity, but in a very short time the gentleman found himself in their stable together with the remnants of his carriage. This so discouraged his friends and neighbors that they unanimously declared the Zebra to be untamable and they made no further attempt.

"All who have seen Zebras in their native haunts, speak of the beautiful appearance presented by a drove, as they stand for a moment to gaze at the hunter, and then wheel round to seek safety in flight. It has been stated that, when standing on sandy ground in full moonlight, a Zebra harmonizes so exactly with the color of its surroundings as to be quite invisible at a short distance."

JOHN AINSLIE.

## ASPIRATION.

Oh, for a soul that fulfils  
Music like that of a bird!  
Thrilling with rapture the hills,  
Heedless if any have heard.

Or, like the flower that blooms  
Lone in the midst of the trees,  
Filling the world with perfume,  
Careless if anyone sees.

Or, like the wandering wind,  
Over the meadow that swings,  
Bringing wild sweets to mankind,  
Knowing not that which it brings.

Oh, for a way to impart  
Beauty, no matter how hard!  
Like unto nature, whose art  
Never once dreams of reward.

—Madison Cawein, in Lippincott's Magazine.

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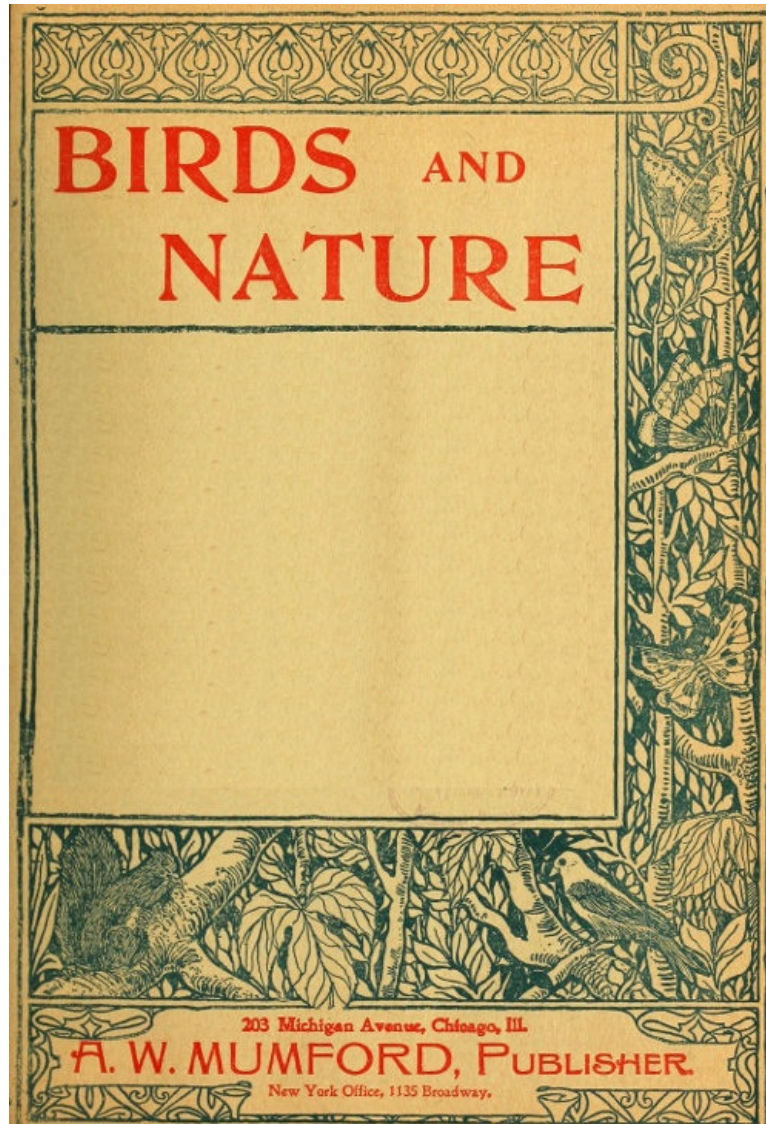
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