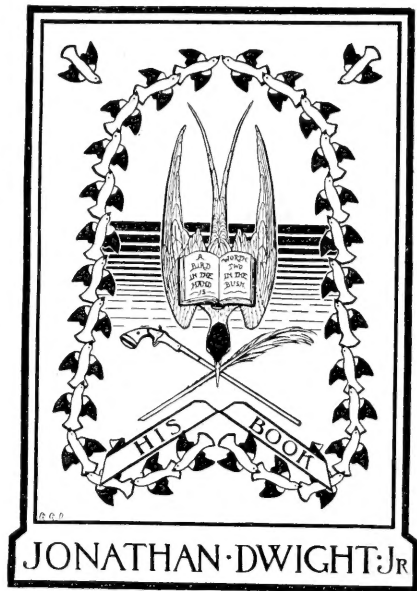
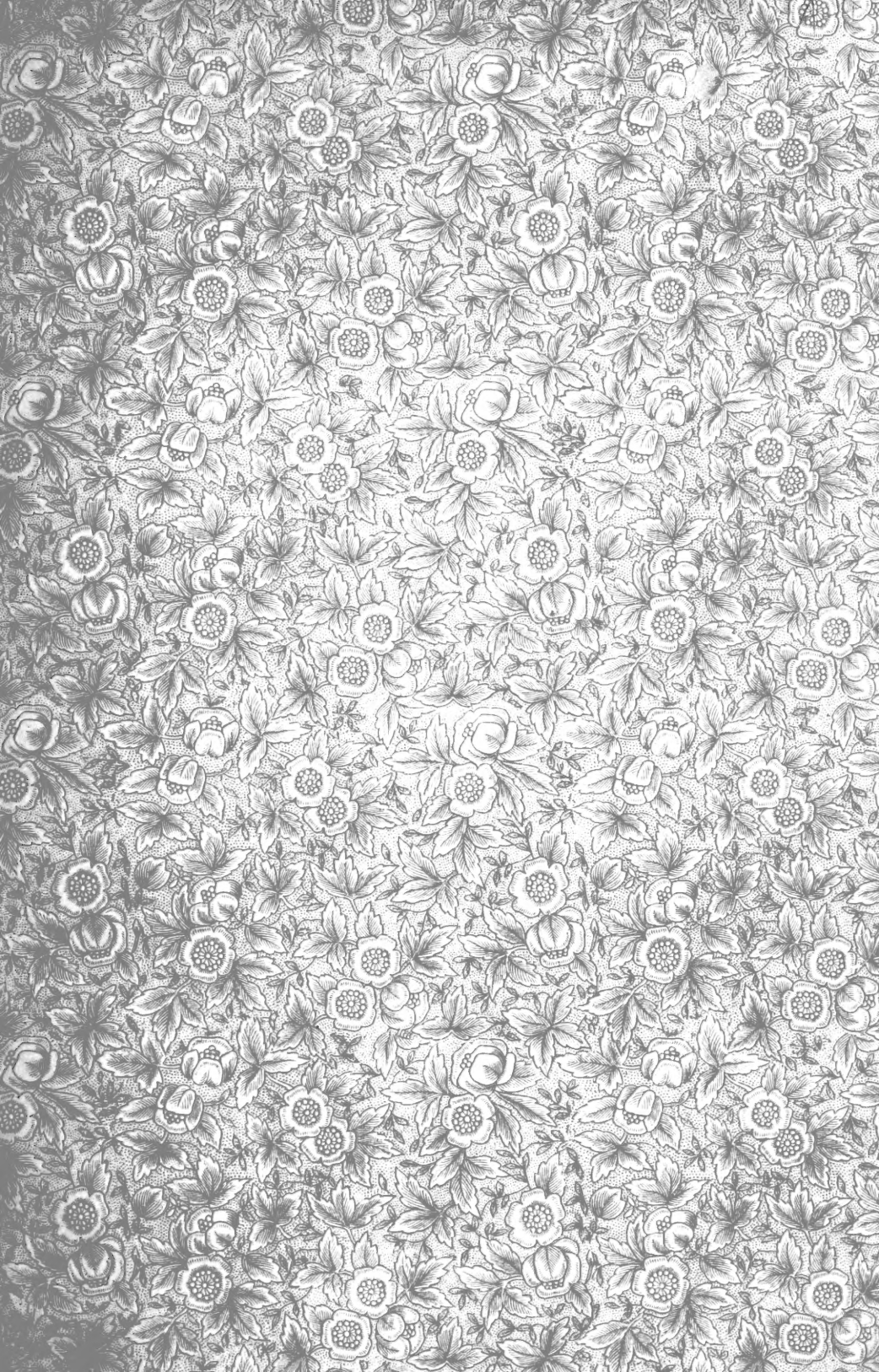


RAPACIOUS
BIRDS OF OHIO.







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BIRDS OF OHIO

John KIRKPATRICK.

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DESCRIPTIONS OF THE RAPACIOUS BIRDS OF OHIO.

BY JOHN KIRKPATRICK.

The greater part of this paper was originally written for and published in the columns of the "*Ohio Farmer*" for 1858 and 1859, as the first portion of a "Natural History of the Birds of Ohio;" the intention being to continue these articles until all our known species were described. The idea of doing this occurred to me in consequence of a conversation with my friend—Ohio's veteran naturalist—Prof. J. P. Kirtland, in which he expressed a wish that some one ere long would write a description of our birds, as in consequence of the changes produced by man, many species were becoming scarce, while a few that in the first days of the settlement of our State were comparatively numerous had ceased to visit us, and could not strictly be included in our fauna; and as such changes were still going on in an accelerated degree, in twenty years hence no person could write a history of the feathered inhabitants of our woods, prairies and waters, with a positive knowledge of all the species being indigenous.

Nearly all the species mentioned are described from specimens in the Museum of the Academy of Natural Sciences of Cleveland, and for descriptions of such as I had no specimens to refer to, I am indebted to the works of Wilson, Audubon, and the "*Synopsis of the Birds of America*" in Cassin's "*Birds of California and Texas*." I am also much indebted to Prof. J. P. Kirtland, and Rufus K. Winslow, Esq., of Cleveland, for much valuable information.

The value of a knowledge of natural history does not alone consist in the accumulation of a mass of facts in relation to this subject by the mere scientist, but in the application of this knowledge to practical purposes. The *savant* may know that a certain animal feeds on some plant, or other animal injurious to the produce of the farm or garden; but unless this information is disseminated among farmers and gardeners it is of little use, as it too often occurs that the popular idea of a thing is far from being cor-

rect. Men draw inferences in general from very superficial examination, and then often distorted by ancient and deep-rooted prejudice. He who makes a particular science a speciality, masters the facts and the phenomena existing in and exhibited by it, and his conclusions are more likely to be correct than those of the man who looks at the subject with blinded eyes, and "who seeing, sees not, and hearing, hears not." Human nature recognizes this fact in every-day life. We do not hire a mason to draw our teeth, or a dentist to build us a house. This rule should also apply to the student of science.

The hints on the habits of our rapacious birds will, it is hoped, be of some use in enabling the farmer to distinguish his friends from his foes, for the appearance of a hawk is almost sure to bring out the gun, although none of the individuals of that particular species were ever guilty of an onslaught on the denizens of the farm-yard—restricting their flesh-eating desires to the "game" that farmers would be glad to get rid of—rats and mice—with a small bird occasionally; while others have a French appetite for frogs. Owls also suffer from this want of information, but not much more so than those who kill them, and save the rats, mice and beetles. The indiscriminate shooting of birds is a serious evil that can be stopped by a change in the sentiments of the community only, coupled with a correct knowledge of the distinction between species; and it is hoped that the present contribution will assist somewhat in producing this much to be desired result.

The order of *Raptores* is divided by most authors into diurnal or day-flying species, and nocturnal or night-flyers. The former including the vultures, eagles and hawks; the latter the owls. But this division is more apparent than real, as some of the hawks fly in the twilight, and several species of owls are day-flyers. All the rapacious birds, however, have a strong muscular system—their bills and claws are more or less curved, strong, and adapted for tearing the flesh of prey obtained by themselves, or otherwise of carrion. In all the species the female is the largest, most powerful, and generally most daring. Their unions are always monogamous—often for life; but should one of the partners be destroyed during the breeding season, the other soon obtains a new mate. With the exception of the vultures their habits are in general solitary.

I. FAMILY VULTURIDÆ—*Vultures*.

This family is spread over the whole temperate and tropical parts of the earth, but the number of species is limited to about twenty. The generic characteristics are: bill, strong, rather over the medium length, strongly hooked; claws, moderately large, slightly curved; anterior toes connected at the base by a web; wings very long; plumage full; head and neck generally naked, with or without caruncles. All feed on dead animals, and if putrescent, all the better.

GENUS CATHARTES—*Illiger*—TURKEY VULTURES.

Head and upper part of the neck naked, or thinly covered with down; skin of the head wrinkled; bill of moderate length, rather slender, straight, and curved at the end; nostrils large, oblong, open, without protection; head oblong; wings long, the third and fourth primary feathers being generally the longest; tail of moderate length, with twelve feathers; legs and feet strong, of moderate size, covered with scales; claws strong and arched, middle toe long, hind one very short. To this genus belong the two species of vultures which inhabit Ohio.

CATHARTES AURA—*Linn*—TURKEY BUZZARD.

Wilson's Amer. Orn., IX., pl. 75, fig. 1; Audubon's Birds of America, oct. ed., I., pl. 2. Plumage brownish black, darker on the neck and upper parts, some of these feathers having a purplish lustre; bill tinged with yellow; head and neck, bright red, naked or thinly sprinkled with down, skin wrinkled; feet flesh-colored, tinged with yellow; length of skin, from 30 to 32 in.; extent of wings from 6 feet to 6 feet 4 inches; tail 12 inches. No specimen in Museum of Cleveland Academy of Natural Science.



At the present time, these birds are to be found distributed over a great part of the State, and prior to 1832-4 were very numerous around Cleveland. A favorite roosting place was in the immediate vicinity of where the Medical College now stands; but since that period, owing to some un-

known reason, the birds have entirely deserted their old haunt, and are seldom to be seen within many miles of Cleveland. In Huron, Erie and Sandusky counties they are comparatively plentiful, and their nests are said to be occasionally found on tall oak trees. In the neighborhood of Chillicothe, Ross county, they are abundant, and Mr. Winslow believes they pass the winter there. In the southern part of the State they are quite common.

The turkey buzzard feeds principally on carrion, and is therefore a benefactor, by removing putrid animal remains that would otherwise taint the air. According to Audubon it lays only two eggs, and builds its nest on the ground, at the roots of trees, or among long grass; and he says that it will eat the young and eggs of herons, and other birds. The eggs are large, cream-colored, with markings of brown and black on the largest end. The young are, in all probability, fed by regurgitation, in the manner of pigeons, this being the habit of the family. When disturbed after feeding, the old birds will vomit the unsavory contents of their crops in the face of any one who attempts to capture them. A pretty powerful way of making an impression, as no man could stand such a charge for a single moment.

The flight of this species is powerful, and not without grace. It sails high in the air in broad circles, and it rises readily from the ground. In the southern States they often mingle with the carrion crows, roosting on the same trees, and feeding on the same carcass.

CATHARTES ATRATUS—*Bartram*—CARRION CROW, OR BLACK
VULTURE.

Entire plumage deep black; head and naked portion of the neck rough and warted, and thinly sprinkled with hairs, color blackish; bill longish, with large nostrils; legs rather long, and tail even, while that of the preceding species is somewhat rounding; length of skin 23 to 26 inches; extent of wings 50 to 54 inches; tail $8\frac{1}{2}$ inches.

This species is added to our fauna on the authority of Audubon, who states that it is to be found along the Ohio river, as far up as Cincinnati; but if it visits us at all, it is but seldom. In the more southern States it is to be found in great numbers; and along with its cousin, the turkey buzzard, it is protected by law. They sit on the house-tops in the southern cities, and some even roost there.

This is the smallest species of the vulture known, and its habits agree with the rest of the family. Carrion is its delight. These birds are the scavengers of the south, and remove on short notice any filth capable of being digested by them. They form no nest, breed on the ground, and lay two eggs, and the young are fed by regurgitation. No specimen in the Museum of the Cleveland Academy of Natural Science.

II. FAMILY FALCONIDÆ—*Falcons, Eagles, Hawks, Kites.*

Head and neck usually covered with feathers, superciliary ridges prominent; bill very strong, curved and sharp; tarsi and toes strong; claws large, curved, and very sharp; wings large and well adapted for rapid and vigorous flight. Great difference in size, but all are organized to pursue, capture, and kill living animals. To this family belong the highest types of rapacious birds.

They are divided into noble and ignoble birds of prey, the former have the wings painted, the second quill being the longest, and the upper mandible has a tooth or scallop near its point, while the latter have truncated wings, the fourth quill being the longest, with several other distinguishing characteristics, on which are established subdivisions. The division into "noble and ignoble," is said to have originated in the practice of falconry to which the "noble" were peculiarly adapted, but it is well known that many of the "ignoble" were used, and some species by persons in very high stations in life only. Eagles for example.

GENUS FALCO.—*Linn.*

Form, robust and powerful; wings long and pointed, capable of vigorous and rapid flight; tail rather long; bill short, upper mandible curved, and with a distinct tooth; nostrils circular, with a central tubercle; tarsi short and robust, covered with hexagonal or round scales; middle toe long; claws large, curved and very sharp. This genus is spread over a considerable portion of the world. There are three species indigenous to the United States, of which the *F. nigriceps*, and *polyagrus* belong to the Pacific coast, and were recently described by Cassin.

FALCO ANATUM—*Bonaparte*—THE GREAT-FOOTED HAWK.

Wilson's Am. Orn., IX., pl. 76. Audubon's Birds of Am., Oct. Ed., I., pl. 20.

This hawk has by most writers been considered identical with its Euro-

pean analogue, the Peregrine Falcon—*F. peregrinus*. Both Wilson and Audubon took this view. Charles Bonaparte was the first who gave it a separate name, and Cassin, in his recent work on the "Birds of California and Texas," gives a description of those points in which it differs from the latter bird.



The Great-footed Hawk is one of the swiftest birds known, and is one that destroys chickens, ducks, and every kind of land and water-fowl under the size of a Mallard. Its rapacity is great, and in boldness it has few

equals. Specimens are more plentiful now than they were thirty or forty years ago. They may often be seen in the neighborhood of Cleveland, but are not often shot. Dr. Kirtland shot a fine adult specimen at Poland, Mahoning county, several years ago, in the act of flying away with a half-grown chicken. Audubon says he has often observed them flying over rivers and sheets of water in pursuit of ducks, water-hens, and other water-fowl. When a bird was captured, it was borne, if not too heavy, to the land, and there devoured, and he cites a case in which one of these birds came at the report of a gun and bore off the game—a Teal—at thirty yards distant from the sportsman.

The following description of the adult is from "Cassins Birds of California," as I have no specimen from which to give an original description: "Frontal band, white; top of the head, back, wing-coverts and rump, blueish-cinereous; every feather crossed transversely with bands of brownish-black; rump and lower part of the back lighter, and with the dark bands less numerous. Throat, sides of the neck, and upper part of the breast, white, with a tinge of buff, without spots; other under parts same color, with a deeper shade, and with cordate or rounded spots of black on the lower breast and abdomen, and *transverse* bars of the same black on the sides, under tail coverts and tibiae. Quills, brownish-black, with transverse bars of yellowish-white on their inner webs. Tail, brownish-black, with

transverse bars of cinerous, very pale and nearly white on their inner webs, and narrowly tipped with white.

“Cheeks with a patch of black, most narrow and clearly defined in the adult bird, and separated from the color of the back of the head by a white space; back of the neck mixed with yellowish feathers, forming an irregular color. Bill, light bluish horn color, paler at the base; legs and feet, fine yellow. Sexes alike.

“Female, total length nineteen to twenty inches; wing, fourteen and three-fourths to fifteen inches; tail, seven and one-half to eight inches. Male and young smaller.”

This bird is a little larger than the European Peregrine Falcon; and the young, the above quoted author says, differ.

The cut is taken from Audubon's plate, and represents the male in immature plumage.

GENUS HYPOTRIORCHIS—*Boie*.

Size small; tarsus lengthened and rather slender. Toes long, slender, and furnished with sharp curved claws. In its other characters it resembles the typical falcons. The species scattered over different parts of the world.

HYPOTRIORCHIS COLUMBARIUS—*Linn*—THE PIGEON HAWK.

Wilson's Am. Orn., II., pl. 15, fig. 3; Audubon's B. of Am., Oct. ed., I., pl. 21. This handsome little hawk is of pretty common occurrence in this State. Dr. Kirtland says that it is a permanent resident. A pair have built their nests for several years past near his house at Rockport, and he has observed them during the whole season. They visit his barns and out-houses in pursuit of mice and other small prey. He shot two young specimens, but the old are too shy to be approached within shot. They are now in very fine dark plumage; the young being much lighter colored. Its name of pigeon-hawk is probably derived from its size, which is that of a pigeon, and not from any habit of making war on that bird. Its food consists of small quadrupeds, such as mice, and, in all probability, frogs and small snakes. Small birds may also be destroyed by it, but it is too small to harm any of the denizens of the farm yard.

The head and body of this little hawk are broad and strong. Tarsi and toes slender, but stronger than those of the Sharp-shinned Hawk—*Accipiter fuscus*. Bill short; wings with the second and third quills longest; tail

slightly rounded. The color of the adult male is of a bluish slate on the upper parts, each feather with a black stripe; under-parts yellowish or reddish white, each feather also lined with a blackish stripe. Throat and forehead white; feathers of the legs light reddish. Quills of the wings black, with bands of white on their inner webs, and tipped with whitish. Tail on the upper side bluish gray, tipped with white, and a broad subterminal band of black, with several smaller bands of the same color towards the rump; and inner webs white; feet and cere yellow; bill blue. Less mature specimens have the upper parts brownish-black, and the under side of a deeper reddish yellow. The longitudinal stripes brownish, and the tail with four bars of white; while still younger birds have the forehead and under parts white, with the dark stripe on each feather, and the upper parts brown, but lighter than the last, and the tail with six white bars. The bars are variable. Length of female thirteen to fourteen inches; male ten to twelve.

Specimens in the Cleveland Academy of Natural Sciences.

GENUS TINNUNCULUS—*Viellot*.

The individuals composing this subdivision of the typical falcons, are of small size, with the tarsi and toes rather long and slender. The bill is short, hooked, and the upper mandible has always a distinct tooth. The head rather large, the claws are very sharp. Wings long and pointed, and the tail rather long.

Only one species indigenous to the United States.

TINNUNCULUS SPARVERIUS—*Linn*—THE SPARROW-HAWK.

Wilson's Am. Orn., II., pl. 16, fig. 1, and IV., pl. 32, fig. 2; Audobon's B. of Am., Oct. ed., I., pl. 22.

This pretty little hawk is found in every part of the States, and is quite common in Ohio. It cannot be considered as an injurious bird, but rather the contrary, as it feeds on mice, small snakes, crickets, grasshoppers, and other insects, and occasionally small birds. In its wild state, it has never been observed to attack poultry, however young, although a tame specimen in the possession of Audubon lost its life by attacking a brood of chickens, the old hen putting him *hors du combat*.

In selecting a place for their nest, the birds usually take possession of the deserted hole of a woodpecker. The eggs are from five to seven, of a nearly round form, color deep buff, covered with blotches of brown

and black. Sometimes there are two broods in a season; but we do not know that this occurs in Ohio. Both parents assist in the work of incubation, and are active in providing for the wants of their young family. In their general habits they are more amiable than other hawks, are easily tamed, and exhibit considerable attachment. They occasionally winter in Ohio.

In size, the male and female are nearly alike. The adult male has a white frontal band, with a spot on the back of the neck, and two others on the side of the neck, and a line running from the eye downwards, black. Upper part of the head bluish-lead colored, with a spot of light-reddish. Back of the neck, and back down to the middle of the tail, light-reddish. Wing-coverts, bluish-lead colored, with black spots; quills brownish-black, barred with white on the inner webs. Under parts palish-red, approaching in many specimens to white, spotted with circular and oblong black markings. Tail with a broad band of black, often tipped with white, sometimes the outer feathers are ash-colored, with black bars. Bill blue; feet and legs yellow. The wing-coverts of the female are rusty red, with numerous cross-bars of brownish-black; tail the same. Underside with many longitudinal stripes of blackish, and cross-bars of the same on the tibia. The red spot on the head, in many specimens of both sexes, is sometimes very obscure.

Length, eleven to twelve inches, including tail, which is from five to five and a half inches.

Specimens in the Cleveland Academy Museum.

II. SUB-FAMILY ACCIPITRINÆ.—THE HAWKS.

Bill short and hooked; the upper mandible with a lobe, but no tooth; tarsi, long, slender; toes long; claws, long, curved and sharp. Their flight is swift, and habits active and daring.

GENUS ASTUR—*Lacepede*.

Form, strong, but rather slender; bill, short, curved, festooned; nostrils, large, slightly ovate, inserted in the cere; wings of moderate size, but the tail long and broad; tarsi, rather long, covered on front with widish transverse scales; toes, long; claws, long and sharp.

ASTUR ATRICAPILLUS—*Wilson*—THE GOSHAWK.

Wilson's Am. Orn. VI., plate 52, fig. 3; Audubon's Birds of Am., Oct. ed., I., pl. 23; Fauna Boreali Americana, Birds, pl. 26.

This hawk is considered by many authors as identical with the Goshawk of Europe—*A. palumbarius*—but Cassin considers that they are quite distinct. Audubon was of a different opinion, while Temminck and Bonaparte agree with Cassin.

When Prof. Kirtland, in 1838, wrote his Report on Birds for the Ohio Geological Survey, he added this bird to our fauna, on the authority of Audubon, who stated that they were numerous in Kentucky during the winter; also, in Indiana and Pennsylvania, and at Niagara. Of course, they must necessarily occur in Ohio. They breed north of the Lakes, and pass southward in the fall, returning again in the spring. They are very rapid and powerful fliers, pursuing the flocks of wild pigeons, and capturing the birds with ease. The Goshawk is large and powerful, and was used for capturing game in Europe when falconry was a noble sport. Our American species flies at, and kills rabbits, squirrels, and all kinds of land and water fowl under the size of a goose. They carry off chickens and ducks from the farm-yard, and are looked upon with justice as vermin of the worst kind.

In size, this hawk is large, but rather slender in form; wings short, but the tail large, which it uses greatly in changing its course when flying. In the adult, the upper part of the head, back of the neck, and a stripe behind the eye, is black, mixed with ash color. The rest of the upper parts cinereous. A stripe of white above the eye, and a slight collar on the back of the neck, of the same color. Abdomen, and entire under parts, white, each feather having a longitudinal line of brownish black, and a few irregular bands of greyish brown. The quills of the wings brown, with darker bands, the inner webs mottled with white. Tail, dark brownish-grey, with irregular bands of black, and tipped with white; under-side whitish; under tail-coverts pure white. In the young, the head and upper-parts are dark-brown, mixed with reddish. The under-parts white, tinged with reddish-yellow, and marked with large oval and round spots of brown.

DIMENSIONS—Female, twenty-two to twenty-four inches in length. Male, nineteen to twenty inches.

GENUS ACCIPITER—*Brisson*.

The generic characters are similar to those of the preceding genus, but the species are smaller and more slender. The fourth wing-quill is the longest, but shorter than in *Astur*. Tail also long; tarsi long and slender,

with the scales almost wanting. Species distributed over the whole world. Three inhabit the United States, one of which—*A. Mexicanus*—is limited to the Pacific coast and Mexico.

I. A. COOPERII—*Bonaparte*—COOPER'S HAWK.

Audubon's B. of Am., Oct. ed., I., pl. 24.

This hawk is much more injurious to the farmer than we might be led to believe from its comparatively small sized and slender form, but its great courage and rapidity of flight enables it to combat and destroy much larger birds than itself. Audubon relates an instance in which a young male attacked a cock and succeeded in killing him, although the fowl was prepared for the combat. The marauder paid the penalty of his foray with his life, Mr. Audubon having shot him in the act of rising in the air after the battle.

Cooper's hawk destroys great quantities of game, and often visits the farm-yard for the purpose of preying on everything it can conquer. It builds its nest in the forked branch of some tall tree, often an oak. The eggs are three or four, nearly round, of a dull white, and very rough.

It is rather difficult to distinguish the species sometimes, as the variations of the plumage are considerable, and the markings vary. Its form is slender, with short wings and rounded tail. In the adult, the upper part of the head is brownish black, with a few marks of white. Upper parts of the body dark ashy brown, with an obscure reddish collar on the back of the neck. Tail dark slate color, with four broad bands of black, and tipped with white; under tail coverts white. Throat white, with lines of dark brown. Breast and abdomen barred with light-reddish and white.

The female measures from eighteen to twenty inches in length; the male sixteen to seventeen.

Specimens in the Cleveland Academy Museum.

Since writing the article on the Goshawk, we have seen specimens, and had an opportunity to examine and compare these with the European species—*A. palumbarius*—and from that examination we would be led to consider that they were quite distinct. Our Goshawk has been shot in the neighborhood of Cleveland, and Dr. Kirtland informs us that they are very numerous in Wisconsin. He has seen them flying around, and can distinguish them at a glance, from their peculiar method of flight. Dr. Sterling shot a specimen in this vicinity that is now in the possession of the Hon. William Case.

ACCIPITER FUSCUS—*Gmelin*—THE SHARP-SHINNED HAWK.

Wilson's Am. Orn., V., pl. 45, fig. 1, Young Female; VI., pl. 46, fig. 1, Male.

Audubon's B. of Am., Oct. ed., I., pl. 25.

This handsome little hawk is common in Ohio, and may often be seen in pursuit of its prey during the spring, summer, and fall months. Specimens are often shot in the vicinity of Cleveland. We have never seen the nest of this bird, but it has been found in various places within the State. The eggs are four in number, nearly alike rounded at either end. Color, white, with a bluish tinge, and thickly blotched with chocolate. The nest is built either in a tree or hole in a rock, and consists of a few sticks and grass loosely put together.

The food of the Sharp-shinned Hawk consists of every animal he is capable of capturing, from the common passenger pigeon to insects. Small quadrupeds, such as mice and moles, are often taken, and snakes and frogs form part of the feast. Little chickens are often captured, and Nuttall relates an incident in which one of these birds carried off a chicken before his face, while the housewife was endeavoring to frighten it away; and also of another, that came every day to a farm-house, and carried off a chicken each time, until twenty or thirty were taken.

In size, there is great variation between the sexes, and also between individuals of the same sex. Wilson described the two sexes as different species. The tail is long, nearly even at the end. Wings short; tarsi and toes very slender, and claws sharp. In the adult, the upper parts are dark-brown, approaching to black, with an occasional feather of an ash color. Under part light-reddish, darker on the legs, and banded with white. Throat and under tail coverts white. Tail, ashy, with four broad bands of black, and tipped with white. Wing-quills brownish-black, with obscure bands of blackish, and whitish on the inner webs; secondaries with whitish spots, concealed when the wing is folded. The young have the upper parts brown, with a tinge of ash, and a few white feathers on the back part of the neck. Under parts white, with oblong and circular spots of brown, and cross-bands of the same on the legs.

Length of the Female, twelve to fourteen inches; Male, ten to twelve. Specimens in the Cleveland Academy Museum.

Inhabits all North America, from Hudson's Bay to Texas, Mexico and

California, passing to the South on the approach of winter, and returning in the spring.

III. SUB-FAMILY BUTEONINÆ.—BUZZARDS.

Bill short and strong; upper mandible curved, and the edges festooned; wings long and broad; tail of moderate size, but somewhat short; legs and feet moderate, with the toes rather short; the flight is vigorous, and may be long continued; the form robust.

GENUS BUTEO—*Cuvier*—BUZZARDS.

Bill short, wide at base; edges of upper mandible festooned; nostrils large, ovate; wings long, wide, fourth and fifth quills longest; tail moderate, rather wide; tarsi rather long, and having transverse scales before and behind, but laterally small circular scales; toes moderate, rather short; claws strong. Contains seven species indigenous to the United States—three only are known to inhabit Ohio: The Red-Tailed Hawk, *B. borealis*; the Red-Shouldered Hawk, *B. lineatus*; and the Broad-Winged Hawk, *B. Pennsylvanicus*. It is, however, quite probable that individuals belonging to other species may yet be discovered within our borders.

I. BUTEO BOREALIS—*Gmelin*—THE RED-TAILED HAWK.

Wilson's Am. Ornithology, VI., pl. 52, figs. 1-2; Audubon's B. of Am., Oct. ed., I., pl. 7.

The Red-Tailed Hawk is a widely scattered species, having been found as far south as Jamaica and Cuba, and in the fur countries around Hudson's Bay. In Ohio they occur sparingly, and their nests may occasionally be found on tall trees. Some years ago we obtained of a farmer's boy a young living specimen, which he had reared from the nest. At that time it was nearly full grown; the plumage did not differ much from that of the adult. The tail was not red-colored, as in the older bird, but barred. This bird became as thoroughly domesticated as an animal of its fierce disposition could be, and was in our possession for nearly two years. We kept it in a coop with a high perch, and would often take it out for an airing. Sometimes, when tired of being kept in too long, our hawk would tear down the wooden bars of his cage, come out, and fly around, but would generally return to us when called. At other times, when perched on our own or a neighbor's house, he would remain for hours. He was great on rats, and would kill them with a single grasp of his talons; never troubled cats, but would let our own puss sit in the coop beside him.

Poultry gave him a wide berth, and he was an excellent protection to our garden from the scratching propensities of the biddies. Occasionally he would become mischievous, or rather too familiar, for he would sweep from the top of a fruit tree, and alight on the back or shoulder of some one of the family, uttering his terrible scream; without intending it, his claws hurt so that he was rather a rough playfellow. Unfortunately he was killed by a boy, who struck him over the head with a hoe. During the time he was with us, he never attempted to leave, although birds of his own species would circle high in the air above him, and he would answer scream for scream.

The Red-Tailed Hawk is commonly called the Hen-hawk, in consequence of its fondness for poultry, and the farmers make war upon it in retaliation. They are strong, fierce birds, and prey on everything wild or tame that they can master. After discovering a small animal, they alight on the top of some neighboring tree, and then descend with a rapid sweep. They seldom miss their aim. The male and female join in hunting the squirrel, and take opposite sides of the tree, thereby depriving the little animal of the benefit of running round the trunk.

In the adult male the bill is blackish, cere greenish yellow; feet yellow; claws blackish; upper part of the head lightish brown, shaded with grey; a band of dark brown from the angle of the mouth backward; back brown, with lighter shadings; upper part of the neck yellowish-red, with spots of brown; tail coverts whitish, with bars of brown; tail bright yellowish-red, with a narrow bar of black near the tip. On the tail of a specimen in the Museum of the Cleveland Academy, there are remains of numerous black bars, which coincide with the bars on the tail of the young. On looking closely, these can be distinctly traced. The abdomen and chin are white; the long feathers of the leg yellowish, with small brown spots. The length is about twenty-two inches; extent of wings forty-seven. The female is larger, and wants the black bar at the end of the tail.

Specimens of both sexes in the Cleveland Academy Museum.

II. BUTEO PENNSYLVANICUS—*Wilson*—THE BROAD-WINGED HAWK.

Wilson's Am. Orn., VI., pl. 54, fig. 1; *Audubon's B. of Am.*, oct. ed., I., pl. 10; *DeKay's Nat. Hist.*, N. Y. Or., pl. 5, fig. 11.

Very little seems to be known regarding the habits of this Hawk, although it is of common occurrence in this and neighboring States. All writers agree in describing it as of a mild character, more so than any other

species known. It was first described by Wilson, from a specimen shot by him, while it was feeding on a meadow-mouse. Audubon obtained the individual from which he made his drawing of the female, in its own nest while sitting on its eggs. And it did not have spirit enough to defend either itself or nest, but was quietly tied in a handkerchief, carried home, then placed on a stick, and sat for its portrait, without even moving. When done with, Mr. A. opened the window, and let the bird fly, when it sailed slowly off to the woods.

It seldom attacks other birds of any size, contenting itself with very young chickens or ducklings, small birds, snakes, meadow-mice, frogs and insects. The little Sparrow-hawk and Kingbird drive it off without much effort. Its nest is built in the forks of a tree, and much resembles that of a crow. The eggs are generally five, of a greyish white, blotched with dark brown. From its peaceable habits, this hawk can do but little damage, for the hen can easily protect her chickens from its assaults.

The Broad-Winged Hawk is so called from the great breadth of the wings through the secondary quill feathers. It flies with an easy, gliding motion, and in circles. The following description, taken from Cassin's "Illustration of Birds," is better than any we could write, and applies to the specimens we have seen:

"ADULT.—Entire upper-parts dark umber-brown; feathers on the back of the neck white at their bases; throat white, with narrow longitudinal lines of brown, and with a patch of brown on each side, running from the base of the lower mandible; breast with a wide band composed of large cordate and sagittate spots and transverse stripes of reddish-ferruginous tinged with ashy; other under-parts white, with numerous sagittate spots disposed to form transverse bands on the lower part of the breast, flanks, abdomen and tibiæ. In some specimens, in winter plumage, the ferruginous color predominates on all the under-parts, except the under tail-coverts, and all the feathers have large circular spots on each edge; under tail-coverts white; tail dark-brown, narrowly tipped with white, and with one broad band of white and several other narrow bands near the base; quills brownish-black, widely bordered with pure white on their inner webs. YOUNG.—Plumage above umber-brown, edged on the head and back of the neck with fulvous, and with many feathers on other upper-parts, edged with the same color and ashy-white; upper tail-coverts spotted with pure white; under-parts white, generally tinged with yellowish,

many feathers having oblong and lanceolate longitudinal stripes and spots of brown; a stripe of brown on each side of the neck from the base of the under mandible; tail brown, with several bands of a darker shade of the same, and of white on the inner webs of the feathers and narrowly tipped with white.

DIMENSIONS.—Female—total length, 17 to 18 inches; wing, 11; tail, 6½ to 7 inches. Male—smaller.”

III. BUTEO LINEATUS—*Gmelin*—THE RED-SHOULDERED HAWK.

Wilson's Am. Orn., VI., pl. 53, fig. 3; Audubon's B. of Am., oct. ed., I., pl. 9.

The Red-Shouldered Hawk is a permanent resident of our State, and is found more frequently than its Red-Tailed relative. Its range is a wide one, being from the Atlantic to the Pacific Oceans. The young was considered as a distinct species, under the name of Winter Falcon—*Falco hyemalis*. Audubon and Wilson considered them quite distinct; but Cassin says that they are identical.

This species pair for life, and select the same locality in which to build their nest. Audubon states that he has caused the tree on which the nest of a pair of these birds was built, to be cut down, and in a short time a new nest was begun within a short distance. They are decidedly arboreal in their habits, and prefer a life in the woods to one in the clearings. Their prey consists of squirrels, and other small quadrupeds, occasionally a young rabbit. They also kill wild pigeons, blackbirds, and small birds, and are not so apt to visit the poultry-yard as the red-tailed species. The young, as *F. hyemalis*, are described as feeding voraciously on frogs. Wilson says that he has taken the fragments and whole carcasses of ten frogs from the stomach of a single individual.

The Red-shouldered Hawk is very noisy in the early part of the season, and its note is easily recognized. The nest is about the size of that of the crow, and is built near the top of some tall tree. The eggs are grayish-white, with dark-brown blotches. The young are fed by the parent, after they are capable of flight; but as soon as they are able to shift for themselves, the young separate, and remain apart until the pairing season.

This species is nearly as long as the red-tailed, but is not as heavy; its legs are also more slender. The wings are shorter than those of the other species of the genus, and Sir Wm. Jardine considers it the joining link between *Buteo*, *Astur*, and *Circus*, partaking of the character of all these

genera. The species is considered as somewhat difficult to identify in its various states of plumage, as it is variable in both coloring and size. Males are found eighteen inches only in length, while females sometimes reach that of twenty-four inches. The adult bird is easily distinguished by the bright rufous wing-coverts, and rather paler color of the breast; the upper parts brown, mixed with rufous; tail brownish, with five transverse bands of white, and tipped with white. The young want the rufous characteristics, and have the under parts of a yellowish white, with stripes and oblong spots of brown; the tail is numerously barred.

Being very abundant throughout the State, the habits of this species may be studied with great ease. The young can generally be found in the nest by the middle of April, or even earlier.

GENUS ARCHIBUTEO—(*Brehm, Bis* 1828.)

Character similar to those of the preceding genus; but with the tarsi feathered to the base of the toes, but more or less naked on the hind part. Toes short; claws moderate; wings rather long. Species of this genus are found in both the eastern and western hemispheres; *A. lagopus* being considered common to both. Three species inhabit the United States.

I. ARCHIBUTEO SANCTI-JOHAANNIS—*Gmelin*—THE BLACK HAWK. THE ROUGH-LEGGED BUZZARD.

Wilson's Am. Orn., VI., pl. 53, figs. 1, 2; Audubon's Birds of Am., oct. ed., I., pl. 11; Richardson's Fauna Boreali-Americana, Birds, pl. 28.

Many naturalists consider this species identical with *A. lagopus*, of Europe, while others look upon them as quite distinct. Cassin says that specimens of what has been considered the young bird, agree in all respects with individuals from Europe, and that it is impossible to distinguish any difference. As both species—if there are two of them—are indigenous to this continent, and breed in the fur countries of the north, coming south at the approach of winter, and leaving us in March or April for their breeding places, it is rather difficult to decide, unless living birds of the light-colored plumage are obtained, and kept in confinement until it becomes apparent, after several moultings, to which species they belong. Wilson regarded the species as distinct; but Audubon was of a different opinion.

The black hawk cannot be regarded as injurious to the interests of man, as he feeds on frogs, lizzards, meadow-mice, moles, &c., occasionally captur-

ing a wounded duck or teal; but does not visit the farm-yard in pursuit of poultry. His favorite hunting-grounds are swamps, the banks of rivers and lakes, and marshes in the neighborhood of the sea. In such places his food is abundant and easily procured. His flight is not rapid, and he never attempts to capture birds by this means. Endowed with great size and strength, his habits are more like those of an owl than a falcon, and he pursues his game long after sunset, in dusky twilight.

The plumage of our hawk is more soft than that of other buzzards or hawks, and in this there is a resemblance to the owls. The same may be said of the feathered tarsi.

Having no set of specimens of this bird, from which a description can be given, we subjoin that of Cassin's Synopsis:

"Large, and rather heavy; wings long; tarsi feathered, a narrow space naked behind; toes naked, and rather short.

"ADULT—Entire plumage glossy black, in many specimens with a brown tinge; forehead, throat, and a large space on the head behind, mixed with white. Tail with one well-defined band of white, and irregularly marked towards the base with the same color. Quills with their inner webs white, most readily seen on the under surface of the wing. Some specimens have several well-defined bands of white in the tail. Others have the entire plumage dark chocolate-brown, with the head more or less striped with yellowish-white and reddish yellow. Cere and legs yellow.

"YOUNGER—Upper parts light umber-brown, with the feathers more or less edged with yellowish-white and reddish-yellow; abdomen with a broad transverse band of brownish-black; other under parts pale yellowish-white, longitudinally striped on the neck and breast with brownish-black; wings and tail brown, tinged with cinereous; quills for the greater part of their length white on their inner webs; tail-feathers white at their bases; plumage of the tibiae and tarsi pale reddish-yellow, spotted with brown. Other specimens have the throat and breast with the black color predominating.

"YOUNG MALE?—Entire upper-parts light ashy-brown, more or less mixed with white, especially on the head and fulvous; under-parts yellowish-white and dark-brown, the latter assuming the form of longitudinal stripes on the breast, and narrow transverse stripes on the abdomen; tarsi and tibiae dark-brown, striped with dull-white, and reddish; greater part of quills and tail white; cere and legs yellow.

"DIMENSIONS—Total length, female, 22 to 24 inches; wing 17 to 17½ inches; tail 9 inches. Male—total length, about 20 to 21 inches; wing 16 to 16½ inches; tail 8 to 8½ inches."

Since writing the above I observe that specimens of this hawk are quite numerous in the vicinity of Cleveland the present winter (1858-9). Some are in splendid plumage and very dark colored. Prof. Kirtland saw a fine one in the act of capturing a mouse a few days ago. They seem to search the meadows for this kind of game, and should be welcomed by our farmers for this service. They will not kill chickens.

II. ARCHIBUTEO LAGOPUS—*Gmelin*—THE ROUGH-LEGGED BUZZARD.

Wilson's Am. Orn., IV., pl. 23, fig. 1; Gould's Birds of Europe. I., pl. 15; Audubon's Birds of Am., folio edition, pl. 166.

There is considerable difference of opinion among naturalists in regard to the identity of this bird, specimens obtained in this country agreeing in every particular with others from Europe, while they also agree with individuals of the preceding species in immature plumage. If the species are distinct we may claim this as an Ohio bird, as a specimen now in the Cleveland Museum was obtained by Prof. Kirtland in that portion of Cleveland formerly Ohio City. This agrees in the most minute particular with descriptions of the European bird, and was labeled *A. lagopus*, by the distinguished naturalist just mentioned. In habit, the present species agrees with *A. Sancti Johannis*, and preys on meadow mice, frogs, &c. It cannot be considered an injurious bird, and it should not be killed because it belongs to a bad family.

In form this is similar to the preceding, and in color almost, if not quite identical with that of the younger bird. The upper parts are amber-brown, with an occasional feather edged with whitish and fulvous—these become quite numerous on the head and back of the neck. A wide band of brownish black across the abdomen. The rest of the lower parts yellowish-white, with longitudinal lines and spots of brownish black. Quills of the wings ashy-brown with the basal portion of their webs white; lower side of the tail white, upper, white on the basal half, the remainder brown tipped with white; feathers of the legs pale reddish-yellow with longitudinal stripes of brown.

General size same as preceding species. Inhabits all portions of North America, from the Atlantic to the Pacific Oceans, and breeds in the fur

countries of the north. It is common also in Europe, where its habits are the same as in this country. It nests in low trees, and is pretty shy.

III. SUB-FAMILY MILVINE, KITES.

The species contained in this division differ much in size, they are generally, however, small or moderate. The bill is small, hooked, sharp pointed and rather weak; the legs and feet slender; wings and tail usually long, the latter often forked. They lack the courage of the more robust species.

GENUS NAUCLERUS *vigors*.

Bill short, weak; wings long and pointed; tail long and deeply forked; tarsi and toes short. Believed to contain but three species, one of them African, the other two American.

N. FURCATUS—*Linn*—THE SWALLOW-TAILED HAWK.

Wilson's American Ornithology, VI., pl. 51, fig. 3. Audubon, B. of Am., oct, ed., vol. I., pl. 18.

This beautiful bird was once pretty plentiful in Ohio, and often seen in Summit and Portage counties; but recently it has become scarce in the northern part of the State. The prairies in Crawford county were formerly a favorite place of resort, and occasionally a specimen may be found there still. Further south it becomes more plentiful, and may sometimes be seen in small flocks during spring.

The flight of this hawk is peculiarly graceful; it glides through the air in a manner quite different from other hawks. Its food consists of grasshoppers, cicada, (seventeen year locusts,) beetles, and other insects; also small lizards and insects, and is thus more beneficial than otherwise to the farmer. Their prey is always devoured upon the wing, the bird never alighting for that purpose. The swallow-tailed hawk often flies very high in pursuit of insects.

The species is said to build on top of high trees, and the nest resembles that of the crow; the eggs are from four to six; greenish white, with blotches of brown at the larger end. Both parents take part in the labors of incubation. The young have the distinct black and white markings of the parents the first year. This hawk is migratory, and leaves the United States in September, for the lands south of the Gulf of Mexico, returning

in the spring. They are much more plentiful in the southern States, than in the northern, and are not found in the eastern at all.

The head, neck, breast and abdomen are white. The rest of the body black, with metallic purplish reflections. The feet greenish blue, with flesh-colored claws; bill bluish black; cere light blue; iris black. Both sexes alike, but the male rather smaller. Length of female, 23 to 25 inches; wing 16 to 17½; tail 14 inches.

Very fine specimen in the Cabinet of Prof. Kirtland.

GENUS CIRCUS—*Lacepede*,

Species of medium size; head rather large; face with a disc of short feathers partially encircling it, as in the owls. Bill short, compressed, curved from the base; nostrils large; wings long and pointed; tail long and wide; tarsi long, slender and compressed; toes moderate; claws long, and rather slender. The species, about fifteen, are scattered all over the world, one only in North America.

CIRCUS HUDSONIUS—*Linn*—THE MARSH HAWK.

Wilson's Am. Orn., VI., pl. 51, fig. 2; Audubon's B. of Am., oct. ed., I, pl. 26.

A widely distributed species having been obtained in California, Oregon, Cuba, and all the rest of North America. It is quite common in Ohio, and abounds around Sandusky Bay, in the marshes of which it obtains a rich supply of food. Along the Cuyahoga bottoms it may often be seen, and it no doubt breeds in these localities.

The nest of this species is usually built on the ground, and often within a few feet of the water level. The eggs, usually four, are of a bluish white color, sometimes sprinkled slightly with small, light brown spots. In form, rather round, smooth, and an inch and three-quarters in length.

The food of this species consists of insects, frogs, mice, and small birds, including quail and young ducks. Sometimes, when pressed by hunger and a good opportunity offers, a young chicken may fall a victim. It cannot, however, be looked upon as a dangerous neighbor, and may, possibly, do as much good as evil, in killing mice and other vermin.

The color of the adult is a pale grayish cinereous, sometimes almost blue, generally tinged with brown, or fuscous; back of the head darker; upper

tail coverts white; abdomen, and the rest of the under parts, white, usually spotted with small, heart-shaped, rusty brown markings. Tail slate colored, with obscure brown bars; inner webs whitish; under side white. Inferior wing coverts, white. Young, brown, mixed with yellowish on the upper parts, with white marks on the head and back of neck. Tail brown, barred with fulvous.

The female measures from twenty to twenty-one inches in length, the tail being ten inches. The male from fifteen to eighteen inches, with the tail from eight and a half to nine inches.

IV. SUB-FAMILY AQUILINÆ, EAGLES.

Generally of large size; tarsi of medium length, occasionally rather long; of great strength; toes long and strong; claws curved, sharp, and very strong; bill large, compressed; curved and sharp at point, straight at base.

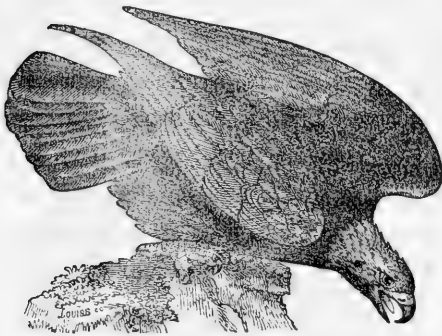
GENUS AQUILA—*Mehring*—EAGLES.

Large; bill large, strong, compressed, and hooked at the tip; wings long, pointed, very strong; tarsi moderate, feathered to the base of the toes. Tail rather long, rounded or wedge-shaped; toes and claws long; the latter very sharp and curved.

AQUILA CHRYSÆTOS—*Linn*—GOLDEN EAGLE.

“Adult female.—Wings long; the fourth quill longest, the third almost equal, the second considerably shorter, the first short; the first, second, third, fourth, fifth and sixth abruptly cut out on the inner webs; the secondaries long, broad and rounded. Tail rather long, ample, rounded, of twelve broad, rounded and acuminate feathers. Bill light bluish-gray at the base, black at the tip; cere and basal margins yellow. Eyebrows and margins of the eyelids light blue; iris chestnut.

Toes rich yellow; claws bluish-black. Fore part of the head, cheeks, throat, and under parts deep brown. Hind head, and posterior and



lateral parts of the neck, light brownish-yellow; the shafts and concealed parts of the feathers deep brown. The back is deep brown, glossy, with purplish reflections; the wing-coverts lighter. The primary quills brownish-black, the secondaries, with their coverts, brown, and those next the body more or less mottled with brownish-white, excepting at the ends; the edge of the wing at the flexure pale yellowish-brown. Tail dark brown, lighter toward the base, and with a few irregular whitish markings, like fragments of transverse bands; the coverts pale brown, mottled with white at the base, and paler at the ends. The short feathers of the legs and tarsi are light yellowish-brown, each with a dark shaft; the outer elongated feathers dark brown; the lower tail coverts light yellowish-brown. The base of the feathers on the upper parts of the body is white, on the lower, pale dusky-grey.

Length, three feet two inches; extent of wings, seven feet; bill along the back two and three-quarter inches; edge of lower mandible, two and a half; tarsus four and a half; middle toe and claw, four and a half; hind claw two and three-quarters. The extremities of the wings are one inch short of that of the tail."—*Audubon*.

This is the only species of the true eagle that is known to inhabit the United States, and is considered identical with the European species that bears the same name, although Cassin, in his "Synopsis of the Birds of America," expresses some doubt in regard to their identity. In comparing Audubon's figure with some well executed figures of the European bird, we cannot see any difference in the markings, but it is necessary to compare well preserved skins, from animals of equal age, before a definite opinion can be given. The habits of this bird in both hemispheres are alike. It generally prefers inaccessible rocks on which to build its eyrie, and hunts and feeds on the same kinds of animals. It prefers dead to living prey, and frequents the shores of seas and lakes for the dead animals thrown up by the waves, and will even feed on carrion. We are not aware that this eagle breeds in Ohio, as our State has no wild mountainous districts in which it can build its nest, but it has been found breeding in the highlands of the Hudson, and among the rocks and hills of the Upper Lakes, and may be found sparingly on all our mountain chains.

In 1810, when Dr. Kirtland first came to this State, eagles were plentiful, and were often seen flying along the lake shore. Among these, golden eagles were occasionally to be seen, but as all the large predacious birds

have become comparatively scarce, it is somewhat doubtful if this species now visits Ohio.

In describing this eagle, Macgillivray, in his "British Birds," says:

"The flight of the Golden Eagle is very beautiful. Owing to the great size of its wings, it finds some difficulty in rising from the ground, although it is considerably more active in this respect than the white-tailed Eagle; but when fairly on wing, it proceeds with great ease, and on occasion is capable of urging its speed so as to equal that of most large birds. However, even at its utmost stretch, it is certainly much inferior to that of the Rock Pigeon, the Merlin, and many other species; and the Raven, during the breeding season, finds no difficulty in overtaking an Eagle that may happen to fly near his nest. When searching the hills for food, it flies low, with a motion of the wings resembling that of the Raven, but with occasional sailings and curves, in the manner of many hawks. At times it ascends high into the air, and floats in a circling course over the mountains, until it has discovered some large object; but in tracing grouse and animals concealed among the herbage, or in hunting for sea-fowls and their young, it does not indulge in those aerial gyrations, which many closet and some field naturalists have supposed to be performed solely for the purpose of enabling it to spy out its prey from afar. In its ordinary flight, it draws its legs close to the body, contracts its neck, and advances by regular flappings of the wings; but when sailing, it extends these organs nearly to their full stretch, curving them at the same time a little upward at the tips. An Eagle sweeping past in this manner is a most imposing object, the more especially if in the vicinity of its rocky haunts, and still more if the observer be groping his way along the face of a crag, anxiously seeking a point or crevice on which to rest his foot.

"Both our native Eagles sometimes ascend to an immense height in fine weather, and float high over the mountain tops for hours together; but certainly not for the purpose of descrying the objects beneath, for no person has ever observed their sudden descent from this sublime station. It is a popular notion, countenanced even by many anatomists and others, who ought to know better, that the Eagle mounts toward the sun in order to enjoy unrestrained the sight of that glorious luminary. They tell us that its eye is peculiarly fitted for this purpose, by having a strong semi-opaque nycitant membrane, by means of which the rays are blunted; but they forget that the common duck, the domestic fowl, and the sparrow

which are not addicted to astronomical investigation, have eyes organized precisely in the same manner.

“On the ground, the Golden Eagle, like all others, is extremely awkward; for, owing to its large wings, its great weight, and the form of its toes, which are encumbered with very large curved and pointed claws, it can only walk in a very deliberate manner, or move from place to place by repeated leaps, in performing which it calls in the aid of its wings. Its feet in fact are not adapted for walking; they are most powerful organs of prehension, capable of inflicting mortal injury on any animal not exceeding a sheep in size. It is with them that it deprives its prey of life, and carries it off to its nest or to some convenient place of retreat. With its curved bill it tears off the feathers and hair; separates morsels of the flesh, and even crunches the bones of small animals.”

The young differ from the old in plumage, the base of the tail being white.

There is no specimen in the Museum of the Cleveland Academy of Natural Sciences, but Dr. Kirtland possesses a skin.

GENUS HALLETUS—*Savigny*—FISHER EAGLES.

Size large; tarsi short, naked, or feathered for a short distance below the joint of the tibia and tarsi, and with the toes covered with scales; bill large, strong, compressed; margin of upper mandible slightly festooned; wings rather long, pointed; tail moderate; toes rather long; claws very strong, curved, sharp. Of this genus there are four species indigenous to North America, viz: The Northern Sea Eagle, *H. pelagicus*; the Washington Eagle, *H. Washingtonii*; the Grey or European Sea Eagle, *H. Albicilla* (?); and the Bald or White-headed Eagle, *H. leucocephalus*. All prefer to feed on fish, and frequent the shores of the ocean and lakes, and the banks of the larger rivers, for that purpose. They chase and destroy quadrupeds and birds, and the last-named species will kill and devour young pigs and lambs. The *H. pelagicus* is the largest Eagle known, and frequents the shores of the Pacific, from California to the Arctic Circle. *H. Albicilla* inhabits Greenland, but Cassin doubts if it is identical with the European bird of that name.

HALLETUS LEUCOCEPHALUS—*Linn*—WHITE-HEADED OR BALD EAGLE.

Wilson's Am. Orn., IV., pl. 36; Audubon's B. of Am., oct. ed., I., pl. 14.

This Eagle was of more frequent occurrence during the early settlement of Ohio, than at the present day. Yet at this time they are not rare, as scarcely a season passes during which several are not killed on the Lake shore. In the last five years, we have seen three or four specimens that were obtained in the neighborhood of Cleveland. None of our Eagles have so wide a range as this. It has been found from the Atlantic to the Pacific coasts, and from the Gulf of Mexico to the shores of Hudson's Bay.

The Bald Eagle is remarkable for its great strength and daring. It provides well for its young, and has a life-long attachment for its mate. The nest is always built in the forks of some tall tree, and the chosen locality is seldom deserted during the life of the pair. Year after year this spot is their home, and in this first nest they raise their young. They breed very early, laying two or three eggs of a dull white color, and rounded alike at both ends. These hatch in about three weeks, and the young are covered with a soft, cottony down. When fully fledged, the young have not the peculiar white markings of the adult bird, and it is not until they are from three to five years of age, that the feathers of the head and tail become white. When in immature state, the bird is commonly known as the Grey or Brown Eagle, from the uniform color of the plumage. The young breed the first year after they leave the nest, and it often occurs that an adult bird is found mated to a young one. This occurs when the former partner of the old one has been killed or has died.

With all the strength and vigor which this Eagle possesses, he is a mean tyrant, utterly unworthy of the honor bestowed in selecting him as the emblem of our country. His habits accord better with those of a fillibuster, or robber, and we think with Franklin, that the selection was a poor one. During the summer he watches the motions of the Fish-hawk—*Pandion Haliaetus*—and when the latter has by its industry secured a fish, the Eagle gives chase, and overtaking the hawk, compels it, through fear, to relinquish its prey. This is no sooner done, than our robber bears off the prize to its nest in the woods. When it cannot obtain fish in this manner, it feeds on such as are thrown ashore. It also attacks pigs, lambs, rabbits, and such of our wild animals as it can conquer. The water-fowl

suffer severely—a pair of Eagles generally assisting each other in this kind of hunt, sweeping alternately at the devoted victim, compelling it to dive until it is exhausted for lack of breath, when it makes for the shore and is instantly killed. Audubon records a case of one of these Eagles attempting to carry off a child, which it did not succeed in doing in consequence of the dress of the babe giving way. When hard pressed for food, he will devour carrion, and even compel the Turkey-buzzard to disgorge, and will then swallow the fetid morsel.

For many years a pair of these birds bred on a high oak tree, upon the farm of Prof. Kirtland, on a precipice overlooking the Lake. The original tree on which this nest was built, was destroyed, and the birds immediately selected one close to it, for their future home. This nest is now used, and in all probability contains eggs or young at the present time. Nine or ten years ago, the female was shot by some one, and the male left the locality for that season. Next year, he came back with a new mate, and with her established themselves in the old nest. When the young are able to forage for themselves, the parents drive them away; but they remain in the vicinity of the nest, and roost on the same tree for a considerable time after they are able to fly.

The flight of this bird is very powerful, and it can ascend to great heights with little apparent exertion, sweeping in wide curves upward, on almost motionless wings, until it appears like a mere speck in the sky.

The length of this Eagle is about three feet; extent of wings seven feet; bill, two and three-fourths inches along the upper ridge; tarsi three, and middle toe three and a half inches. In the adult, the head and tail, with the upper and under coverts of the latter, are white, the rest of the plumage dark-brown; bill and feet yellow. The young bird has the entire plumage brown, with the bill blackish; slight mottlings of white on the tail, especially on the inner margins of the feathers. The iris of the young bird is also brown, while that of the adult is yellow.

There are several specimens in the Museum of the Cleveland Academy of Natural Sciences.

HALLETUS WASHINGTONII—THE WASHINGTON SEA EAGLE.

Audubon's Birds of America, Oct. ed., I, p. 53, pl. 13.

Considerable doubt exists in regard to this eagle, no naturalist having been able to identify the bird since the time Audubon discovered and de-

scribed it, and as this description is based on a single specimen shot by him at the village of Henderson, Kentucky, it is the more remarkable. In Ohio there are fisher-eagles that neither agree in specific character with *H. leucocephalus* nor *H. Washingtonii*, exceeding in size the former, but wanting the continuation of the tarsal scutella to the base of the toes, which is one of the distinguishing marks of the latter species. The Cleveland Academy of Natural Sciences has in its possession two specimens of this eagle, one mounted, the other a skin; the latter is now lying before us. The bird was shot three or four years since within a few miles of Cleveland, and the skin has shrunk a good deal in drying; the measurement of the total length cannot therefore be at all reliable. It is now about three feet two inches, and probably when recent was three feet four inches; the wings, from the flexure to the tips of the longest primaries, two feet one and a half inches; bill along the ridge three and a quarter inches; tarsi three and a half inches; middle toe and claw four and a half inches; tail fifteen inches long. Color, dark brown; tail and portion of the secondary feathers of the wing irregularly blotched with white; primaries black, the third, fourth and fifth being the longest and of equal length; bill blackish; feet yellow. The sex or age unknown. There is considerable shading of yellowish throughout the whole plumage, but it is rather irregular.

As the dimensions of this bird do not agree with those of *H. Washingtonii* or of *H. leucocephalus*, we cannot say to which it really belongs, and shall wait until an opportunity offers for the examination of a recent specimen, but we may state that it has been a question in the minds of the best ornithologists of Ohio, if this is not *really* the Washington eagle.

Audubon states that this bird frequents the course of the Ohio River and its tributaries, and also the chain of the great lakes—the latter on the authority of the voyageur who first called his attention to it. He also states that this species breeds in the cliffs of rocks, a habit that the bald-eagle has not, the latter always building in trees. It is also more industrious than its white-headed relation, fishing for itself in the manner of the fish-hawk, and does not rob this bird of food, like the former species.

We annex the following description from the above-named author:

“Adult male—Tarsus and toes uniformly scutellate in their whole length; bill bluish-black; cere yellowish-brown; feet orange-yellow; claws bluish-black. Upper part of the head, hind neck, back, scapulars, rump, tail coverts, and posterior tibial feathers, blackish-brown, glossed with a

coppery tint; throat fore neck, breast and belly, light brownish-yellow—each feather with a central blackish-brown streak; wing coverts light grayish-brown, those next the body becoming darker; primary quills dark-brown, deeper on their inner webs; secondaries lighter, and on their outer webs of nearly the same light tint as their coverts; tail uniform dark brown. Length three feet seven inches; extent of wings ten feet two inches; bill three and a quarter inches along the back; along the gap, which commences directly under the eye, to the tip of the lower mandible, three and one-third and one and three-quarters deep. Length of wing when folded, thirty-two inches; length of tail fifteen inches; tarsus four and a half inches; middle, four and three-quarter inches; hind claw two and a half inches.”

Whether this is really distinct, or the young of an otherwise undescribed species, it is hard to say. Cassin, in his “Synopsis,” favors the latter conclusion. Some have supposed it to be the young of the *H. pelagicus*, while others have thought it was only a very large specimen of the young *leucocephalus*. But is it not highly probable that there are some undiscovered species belonging to this family that inhabit the higher latitudes of British America, and may we not be occasionally favored with a visit from some of these birds?

GENUS PANDION—*Savigny*—OSPREYS.

Bill short, curved from the base, hooked, compressed; wings very long; tarsi short, very thick and strong, and covered with small circular scales; claws large, curved, very sharp; tail moderate.

1. PANDION CAROLINENSIS—*Gmelin*—THE FISH-HAWK.

Wilson's Am. Orn., V., pl. 37; Audubon's Birds of Am., oct. ed., I., pl. 15; De Kay, Nat. Hist. N. Y., Birds, pl. 8, fig. 15.

The Fish-Hawk is widely distributed over the whole country, and at one time was quite plentiful in Ohio. When Dr. Kirtland resided at Poland, Mahoning county, these birds built their nests in the vicinity of the village, and could be seen every day during the summer season. Now they are rare. A few pairs are generally to be found fishing in Sandusky Bay; but they are somewhat shy, and it is difficult to get a shot at them. Occasionally a specimen will make its appearance near the shore of the lake, in the vicinity of Cleveland. The last we saw there was about ten

years since, although others have seen individuals more recently. We are not aware that this hawk breeds near this place; but in the less frequented parts of our State, and in the neighborhood of water, the nests may some-



times be seen. On the Upper Lakes these birds are very numerous; and along the rapids of Sault Ste. Marie, Dr. Garlick informs us he has seen them plying their trade with great diligence, darting into the water and bringing up white-fish of the largest size. At one time, this gentleman observed a hawk endeavoring to carry

off two large fish, one grasped in each foot, but finding the weight too great, dropped one and bore off the other.

For a long time our species was considered identical with that of Europe—*P. haliaetus*—and it is figured and described by both Wilson and Audubon as such. Cassin, however, is of a different opinion, and says: “The American Osprey is very similar to that of the Old Continent, and specimens from Western America even more intimately resemble it. It is, however, larger, and retains, in all the specimens that we have seen, differently formed spots on the breast, being heart-shaped and circular, instead of narrow and lanceolate, as in the European species.”

In habits, all the fish-hawks are models of industry, and are perfectly harmless to everything but fish. They never attack quadruped or bird, although armed in the most dangerous manner. Their flight is elegant, sweeping in beautiful curves. When he sees a fish suited to his wants, he descends with great swiftness into the water, often disappearing for a few moments among the foam and spray, but soon emerging, he rises with his struggling victim grasped in his powerful talons. It he bears to his erye, supplying his family with abundance of food. In America, the nest is generally to be found on trees; but in Europe, some ancient ruin is preferred. It is large, and in general sufficient to make a good load for a cart. The materials are sticks of various sizes, and mingled with grass, and sea-weed if in the neighborhood of the ocean. The eggs are from two to four, of the shape of those of the common fowl, but a little larger, and vary from dark cream-color to white splashed with dark Spanish brown all

over. The eggs usually hatch about the last of June, and the young are abundantly supplied with food by both parents, who exhibit every sign of extreme watchfulness and care of their offspring. A remarkable trait recorded of this hawk is, that it will permit the Purple Crackle or Crow-Blackbird—*Quiscalus versicolor*—to build its nest in the interstices of that of the hawk. They live together in the greatest harmony, and carry on the business of life without interference.

The length of the adult female hawk is about 25 inches; wing $21\frac{1}{2}$ inches; tail $10\frac{1}{2}$ inches. Color—head and under-parts white; crown and hind head white; front, brownish, with a wide stripe of dark-brown through the eye, and extending down the neck behind; wings and tail deep brown, shaded with a lighter hue; tail, with eight bands of dark-brown, with a large portion of the inner webs white; breast spotted with dark-brown, in heart-shaped and circular markings; bill and claws bluish-black; feet yellow, with a green tinge; cere lightish blue.

They migrate south at the coming of winter.

A dilapidated specimen is in the possession of the Cleveland Academy of Natural Sciences. A perfect one in the collection of the Hon. Wm. Case of Cleveland.

This includes all hawks, eagles and vultures known to inhabit Ohio. Other species may appear occasionally, in consequence of the occurrence of a very warm, or very cold season. In the former the more southern species may visit us, in the latter those from the north. The Gyr falcon—*Hierofalco sacer*—is said to have been captured at Louisville, Ky., and as this is a very beautiful and powerful species, strictly northern in its habitat, building on the rocks of Greenland, Labrador, and in the vicinity of Hudson's Bay, and not common even in Maine; its appearance in Ohio would be apt to be observed. It cannot, therefore, be claimed as belonging to our fauna.

It is doubtful if the extermination of our hawks would result in any great benefit to farmers, as nearly all the larger species feed indiscriminately on both useful and injurious animals. And as the latter are generally more numerous in the haunts of the hawks than the former, their destruction is a positive benefit. Those species, that, like the red-tailed hawk, destroy chickens, also kill squirrels and the other small quadrupeds that infest the grain-fields and barns. In this manner the undue increase

of squirrels, rats, mice, &c., is checked. Nature is nicely balanced in all her relations, and man's interference often does more harm than good. It becomes necessary to weigh judiciously the ultimate consequences of our actions, or we may find evil effects when good only were expected.

III. FAMILY ——— OWLS.

There is no better defined family among birds, than the one containing the various species of owls. The peculiarity of appearance, structure and habits, separate them distinctly from all other birds, and no one will, under any circumstances, mistake a specimen of any given species for anything else than an owl. The great majority of the species are night-fliers; some prefer the twilight, and a few pursue their prey during the day, but even the latter prefer cloudy weather and the deep wood, to the full blaze of sunshine and the open field.

In early times the owl was considered by the ignorant, and even by some pretenders to learning, as a bird of ill omen. Its associates were thought to be ghosts and goblins. It held nightly converse with unholy things, and its cry was the herald note of misery and death to the hearers or their friends. When it flapped its wings at the window of a sick person, his time had come, and his friends already wailed him as among the dead. These charges against the poor owl were about as well founded as the claim of wisdom set up for it by the Greeks, who made it sacred to Minerva. All such notions were founded on *appearances* only. It frequented churchyards, because the buildings attached to them abounded with secure places in which to build its nest, and their nooks afforded protection from the light of day, its eyes being unfitted to receive the full rays of sunlight, that, instead of shedding light upon surrounding things, dazzled and blinded the poor owl. The most surprising thing is, that owls should still have retained a foothold in the midst of such hosts of human enemies, all thirsty for their blood, and killing them without mercy whenever an opportunity offered.

If farmers knew their own interests, they would encourage the visits of these birds, with few exceptions, as their food consists of a class of vermin extremely injurious to the farmer. Rats, mice, field-mice, and all the small nocturnal quadrupeds, are the chief reliance of his owlship, and the number of those killed by a pair of these birds during the breeding season is very great. The poultry yard never suffers, unless from some of the largest species, that are partly day-fliers. And it would be well if owls

were encouraged to breed in the vicinity of the farm. Some intelligent English farmers, aware of these facts, now protect the owls, and in return, are awarded by a reduction in the number of vermin that prey on the produce of the farm.

Owls are scattered over the whole world, and there are about one hundred and forty described species. America contains about forty of them, but the number belonging to the United States is much less. All the species are distinguished by a peculiar cat-like appearance, and their habits correspond in a remarkable degree. All, with the exception of a single genus indigenous to Asia, have the legs and toes feathered, some very densely. The head is apparently very large, the eyes large and look forward, and the face is surrounded by a more or less perfect disc of short, stiff feathers. The ears are very large internally, and some of the species have ear-tufts that increase their feline appearance. The form is short and heavy; wings rather long, and formed for noiseless flight; the outer edges of the main quills are fringed; tail usually short; bill apparently small, being concealed by projecting bristle-like feathers. The female is larger than the male, and the species vary much in size. All select living prey, and never feed on carrion. The smaller species feed on insects.

The barn owl, *Strix pratineola*, belonging to the sub-family Striginæ or typical owls will probably be found resident in Ohio, but as yet we do not know of a specimen being seen within its limits. It is found as far north as Vermont and Wisconsin, and is plentiful in the Southern States, occurring in Kentucky, Illinois and Pennsylvania. Its color is a pale fawn, or tawny brownish-yellow, some are nearly white, and are about 16 inches in length. This species should be encouraged, as it is beneficial to the farmer, by killing rats and mice, upon which it principally feeds.

SUB-FAMILY BUBONINÆ—THE HORNED OWLS.

Have the head large, with prominent and erectile ear-tufts. The eyes large, and the facial disc incomplete; legs, feet and claws very strong.

GENUS BUBO—*Cuvier*.

Size large; general form very robust and strong; head large, with prominent ear-tufts; eyes very large; wings long, and wide; tail moderate; tarsi short, and with the toes densely feathered; claws very strong, curved; bill rather short, curved from the base, strong, covered at base by projecting plumes.

BUBO VIRGINIANUS—*Gmelin*—THE GREAT HORNED OWL.

Wilson's Am. Orn., VI., pl. 50, fig. 1. Audubon's B. of Am., Oct. ed., 1st pl., 39.

The Great Horned Owl is a very common species in Ohio, and occurs during the whole year. It is the largest of the family, with the exception of one—the Great Cinereous Owl, that inhabits North America—and in courage it equals some of the eagles. When wounded, it will fight to the last, and the grip of its strong and sharp talons will produce a respect towards the bird, in the unlucky wight who ventures within its reach. Its food consists of small quadrupeds, such as rabbits, rats, squirrels, &c., and also such birds as it can capture. The farmer's chickens are sometimes visited, and if these visits are not put an end to, few will be left. The favorite haunts of this bird are the deep swamps and woods, and its nest is built in the fork of some tall tree. It flies during the twilight and in moonlight, or during a clear night, and its cry is one of the dreariest and appalling known.

The upper parts of the plumage are dark brown, finely mottled with ashy white and yellowish-brown; breast and abdomen white and fulvous, with each feather distinctly barred with brownish-black, the bars being more numerous towards the tip. The throat and chin are white; in some specimens the former is uniform with the breast—this is the case with one in the Cleveland Museum; this white band seems to vary in size in different birds. Between the chin and throat there is a band of fulvous, every feather having a broad, longitudinal stripe of dark brown down the center. Ear-tufts, brownish-black, edged with fulvous; facial disc dark fulvous, edged with black; a line of black extending from the inner angle of the eye towards the ear-tufts; tarsi and toes, fulvous; the upper parts of wings and tail mottled, like the back, but with broad grayish bands on the quills of the former, and narrower ones on those of the latter. The outer quills of the tail are also lighter colored than the rest. Bill and claws bluish-black.

The usual length of the female is about 24 inches; the male about three inches less.

The specimen from which the above description is taken, was shot at Hinckley, Medina county. There are also several specimens in the Museum of the Cleveland Academy of Natural Science.

GENUS SCOPS—*Savigny*.

Species of small size, with large heads and prominent ear-tufts; facial disc imperfect above the eyes; wings long; tail short, often with a slight inward curve; tarsi and toes long, and more or less covered with feathers; bill short and curved, almost covered by the feathers; claws long, curved and strong. The general form is short and compact.

SCOPS ASIO—*Linn*—THE SCREECH OWL.

Wilson's Am. Orn., pl. 19, fig. 1, and pl. 42, fig. 1; Audubon's Birds of Amer., oct. ed., I., pl. 40.

An abundant and well known species in Ohio, and one that is often quite familiar in its habits, approaching the house and barns often in pursuit of mice and insects. The orchard is also a favorite place of resort; occasionally it enters the cities and helps to rid them of small vermin. We were much interested two years ago in a family of these birds, that established itself for several weeks in our garden. Finding that the family did not molest them, they would sit on the fruit trees until we were within a few feet, and would turn their droll little heads around while looking at us. The garden was full of mice at the time, and the owls doubtless came there to feed upon them.

Beetles, seventeen-year locusts, and many other insects, are destroyed in great numbers by these owls, and our farmers should encourage their visits to the vicinity of their dwellings. They never prey on domestic animals, and seldom, if ever, on small birds. Their cry is far from being pleasant, and is well known to every school-boy. The bird itself is not likely to be confounded with any other species belonging to our State; it resides with us during the whole year. The colors of the adult and young differ very much. The former has the whole of the upper plumage of a light ashy-brown, mottled and striped with brown and ash. The under parts are ashy-white, each feather striped with brown, and with small cross lines of the same color. Face, ashy-white, lined and mottled with pale-brown; throat and tarsi the same; wing-quills brown, with cross bars; tail pale brown, with many cross bars of gray; the ear-tufts are large and the fourth quill of the wing is longest. The young differ from the adult in being of a reddish-brown color, darker on the back, and almost white on the under parts, barred and mottled with darker brown.

The nest of the Screech Owl is usually built in the hollow of a tree, and

is composed of grass, hay and feathers. The eggs are of a pure white, nearly round, as are those of all owls with which we are acquainted, and four in number. A hollow apple tree is sometimes selected as the nesting place.

This bird is strictly a night-flier, and its whole aspect is changed when the shades of evening fall. Instead of the solemn appearance which it exhibits in day-time, there is the greatest activity and energy.

Length from nine to ten inches.

Specimens in the Museum of the Cleveland Academy of Natural Science.

GENUS OTUS—*Cuvier*.

Head moderate, with erectile ear-tufts of various sizes in different species; bill short, curved from the base, almost concealed by the bristle-like erect feathers; facial disc nearly perfect; wings rather long, the second and third quills being longest; tail of moderate length; eyes rather small; legs long; tarsæ and toes densely feathered; claws long, curved and sharp.

OTUS BRACHYOTUS—*Forster*—THE SHORT-EARED OWL.

Audubon's Birds of Amer., oct. ed., I, pl. 38; Wilson's Amer. Orn., IV., pl. 33, fig. 3; De Kay's Nat. Hist. N. Y. Birds, pl. 12, fig. 27.

The Short-eared Owl is a very common species in Ohio during the winter, and may also be found in its favorite haunts in the neighborhood of rivers and swamps during the whole year, and is believed to breed in the swamps of Sandusky. Its food, in all probability, consists of small quadrupeds, and perchance an occasional small bird, but of the latter we have no evidence. Its small eyes, however, and the habit of flying about during twilight and cloudy weather, shows that it is better adapted to pursue its prey during the day than most of its congeners. Occasionally, this owl may be seen in considerable numbers on low lands and wet meadows during the fall and winter, and may generally be found upon the ground, or on low bushes or fences. We obtained a specimen several years ago from the border of the Horseshoe Pond, beneath the University Heights, and close by the Cuyahoga River, that is now before us. It is a female in mature plumage, and answers the description given by both Audubon and Cassin. The ear-tufts are short, and not likely to be observed, unless erected; the bill short, curved, and almost covered by the bristles; wings extend two inches beyond the tip of the tail, the second quill the largest; tail of moderate length; tarsæ and toes densely feathered; entire plu-

mage buff, darker on the back, every feather with a stripe of dark brown; abdomen paler, the central dark stripe narrower; legs and tarsi buff; eyes surrounded by a spot of black; throat white; wing coverts and secondary quills brown, with buff and reddish spots, and a few bars of like color at the tips of the larger secondaries; primaries brown, with large round fulvous spots on the inner webs; on the inner side a few irregular dark brown bars, and a distinct dark spot on the small feathers that cover the base of the primary quills; tail pale fulvous, with five dark brown bars; under tail coverts white; length 15 inches.

Specimens in the Museum of the Cleveland Academy of Natural Science, and likewise eggs, obtained at Chicago, Ill.

OTUS WILSONIANUS—*Lesson*—LONG-EARED OWL.

Wilson's Am. Orn., VII, pl. 51, fig. 1; Audubon's Birds of Amer., oct. ed., I, pl. 37.

This species, though nearly related to the preceding, differs considerably in habits. While the former prefers the open ground, in or near swamps or rivers, this is an inhabitant of the woods, from which it seldom ventures far. It is extremely abundant in the eastern States, on the seaboard, but is much scarcer west of the Alleghanies. In Ohio it occasionally occurs, and is in all likelihood a constant resident with us, and specimens are sometimes obtained, and it is, however, rather more plentiful than formerly. According to various authors, its food consists of mice, rats and small birds; and in the summer, it is said to destroy great numbers of large beetles. Wilson says it generally selects the deserted nest of some other bird, in which to deposit its eggs—usually three or four in number—which are white and roundish, and about one and a half inches in length.

For a long time this species was considered identical with the *Otus vulgaris*, of Europe, and it is thus named in Audubon's work, but is larger and of a darker color. The ear-tufts are long and very conspicuous, differing widely in this respect from the *brachyotus*. The wings are long, and legs and feet densely feathered. The plumage of the adult is mottled in the upper parts with dark brown, fulvous and ashy-white, with the dark hue preponderating; throat white. The breast is pale yellowish-white, with each feather marked with a wide dark-brown stripe. The abdomen is white, with like markings, and transverse stripes of dark brown. The legs and feet are of the same color as the breast, but usually with spots.

The facial disc, in front of the eye, is ashy-white, with small black lines; the rest brownish-yellow, tipped with black; a black ring nearly around the eye; the disc feathers tipped with black; ear-tufts brownish-black, edged with ashy-white and yellowish; quills of the wings yellowish at base, brown towards the tip, marked with irregular bars of brown, and mottled with the same color; under-wing covert yellowish, sometimes white; the larger feathers tipped with brownish-black; tail brown, irregularly banded with ashy fulvous, and mottled like the wings; iris of the eye yellow; bill and claws blackish.

Length of female, fifteen inches; tail six inches. Male smaller.

SUB-FAMILY SYRNINÆ.—THE DAY OWLS.

Have large heads, without ear-tufts or with very small and concealed ones; facial disc nearly perfect; eyes comparatively small; wings shorter than the preceding family; tarsi and toes densely feathered; size various.

GENUS SYRNIUM—*Savigny*.

Head large, and without ear-tufts; facial disc almost perfect; bill strong and curved from the base; broad at base, and re-curved at tip; wings long, with the fourth and fifth quills longest; tail broad, rounded and long; tarsi rather short, and with the toes densely covered with feathers; claws long, curved and sharp.

SYRNIUM NEBULOSUM—*Forster*—THE ROUND-HEADED, OR BARRED OWL.

Audubon's Birds of America, octavo ed., I., plate 36.

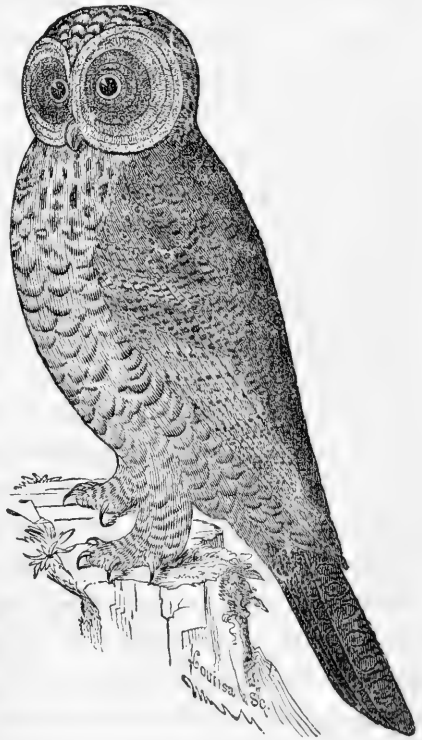
Probably the most common species in Ohio. In the neighborhood of Cleveland it is abundant during the whole year. It inhabits the woods, and if surprised during the day, it will fly off a short distance to the branch of some neighboring tree, where it will perch, and generally wait until shot at. During the day it is the most awkward of its family, and the saying of "solemn as an owl," will occur to any one who sees it. Night, however, puts greater energy into it, and the dull, unmeaning look becomes wonderfully changed. It feeds on squirrels, rats, mice, small birds and chickens, and prefers living in the woods. We have seen it, however, flying during moonlight, over the principal streets of Cleveland, probably in pursuit of rats. These owls have the bad habit of visiting the barn-yard, and attacking the young chickens. No owl glides on more silent pinions than this. Its soft, downy plumage produces no sound in

the night air. The upper parts of this owl are light brown, with bars and blotches of white; face ashy, with several obscure rings of brown on the facial disc, around each eye; breast ashy-white, with brown bars; abdomen and tarsi ashy-white and fulvous, with oblong stripes of dark brown; quills of the wings brown, with six or seven roundish spots of white on the outer webs, arranged in the form of bars, the markings on the inner webs being ashy; tail brown, with narrow bars of white; bill light-yellow; claws dark. Different specimens exhibit great variation in color and markings; but all may be easily distinguished by the peculiar barred appearance on the back and wing-coverts, and the large size of the head. Length of female, from nineteen to twenty inches; male, smaller. Specimens in the Museum of the Cleveland Academy of Natural Science.

SYRNIUM CINERIUM—*Gmelin*—CINEREOUS OWL.

Audubon's Birds of America, octavo ed., I, plate 35.

This largest of North American owls has been added to our fauna, in consequence of an owl answering the description of this species, having been shot some years ago at Huntsburg, Geauga county. We did not see the specimen, but as no other species could be readily confounded with this, there is little doubt concerning it. This owl is, or was, quite plentiful at the opposite side of Lake Erie, in Canada, and it is very likely that this species, like the Snowy Owl, should venture across during the winter. Being in Canada, and about twelve miles from London, in the latter part of September, 1843, we were returning home in the evening, after a day's hunting of ruffed grouse, when, in passing an old beaver dam, at the lower end of a swamp, where the trees were large, something that the increasing darkness did not allow us to recognize at the moment, swept toward us. A close shot brought it



down badly mutilated, the head being severed from the body, the latter falling at our feet. It proved to be a fine, large specimen of this owl. Some time during the following February, and near the same place—about twelve miles from Port Stanly—an individual of the same species attacked, and instantly killed a large rooster, that had previously come off victor in many an encounter with the hawks. The head of the gallant bird was struck from its body by the owl, within a few yards of the barn, and in sight of the farmer. Coming up a short time afterwards, the owl was pointed out, sitting on the trunk of a tree, whose top had been blown off. The first shot secured it in excellent condition; the skin, however, was unfortunately lost six months afterwards.

Both these birds were lighter colored than Audubon's plate, and of a bluer shade. They bore a closer resemblance to the figure of the same species in Macgillivray's edition of Cuvier's Animal Kingdom, with which they were compared at the time. There were, however, no notes taken that would enable a description to be given at this time.

As the Cinereous owl will never, in all probability, be a common bird in Ohio, our farmers need not be afraid of its ravages. It feeds on rabbits and other small quadrupeds, chickens, grouse, quail, or any other bird that it can capture. It is bold and courageous, and a dangerous visitor to the barn-yard. It is not likely that it breeds in the State.

The following description is from "Cassin's Birds of California," &c:—
 "Large; head very large; eyes small; tail long. ADULT—Entire upper parts smoky-brown, nearly every feather more or less mottled, and transversely barred with ashy-white; under parts smoky brown; feathers on the breast edged with ashy-white, and on the abdomen edged and transversely barred with ashy-white; in some specimens, all the feathers are ashy-white, with wide, longitudinal stripes of smoky-brown; legs brown, with numerous ashy-white transverse stripes; quills brown, with about five wide irregular transverse bands of ashy-white; in some specimens, tinged with reddish-yellow; these bands mottled with brown; tail brown, with about five wide irregular bands of ashy-white, which bands are mottled with brown; throat black; discal feathers on the neck tipped with yellowish-white; eye nearly encircled by a black spot; radiating feathers around the eye, with irregular transverse narrow bars of dark-brown and ashy-white; bill pale-yellow; claws pale, dark at their tips, sexes alike. DIMENSIONS of female—total length, 26 inches; wing, 18 inches; tail, 12 inches."

GENUS NYCTALE—*Brehm.*

Small size; large head, without visible ear-tufts; bill of moderate size, and nearly covered with feathers; disc nearly complete; tarsi and toes short, and fully feathered; wings moderate or long; tail short.

NYCTALE ACADIA.—*Gmelin*—SAW WHET—ACADIAN OWL.

Wilson's Am. Orn., IV., pl. 34, fig. 1; Audubon's B. of Am., octavo ed., I., pl. 33.

A pretty little owl, the smallest species of the family that inhabits Ohio. It is not plentiful with us, but may occasionally be found. Audubon describes this owl as often visiting cities, for what purpose seems not known. It probably feeds on insects, and occasionally mice; is strictly a nocturnal species, and nestles in trees, selecting the deserted nest of a crow, or a squirrel's hole, or that made by the woodpecker. The eggs are four or five, and pure white. We have never seen its nest, but there is a single egg of this species in the Cleveland Museum.

In Macgillivray's edition of "Cuvier's Animal Kingdom," there is a very good plate of this species, under the name of *Strix Dalhousii*, or Lady Dalhousie's Owl. Some naturalists are of the opinion that the *N. albifrons* is identical with this species; but Cassin, from a thorough examination of numerous specimens, considers them distinct. Its European analogue is the *N. passerina*, to which it bears a strong resemblance.

The color of the upper parts is olive brown, with irregular blotches of white on the wing coverts; the face ashy white; breast and abdomen white, with oblong brownish-red markings; quills of the wings dark olive brown, with four ash-white bars; tail lighter, with two or three narrow bars of white; tarsi light fulvous; bill and claws dark. Many specimens are lighter colored. Length from $7\frac{1}{2}$ to 8 inches.

SUB-FAMILY NYCTEININÆ—THE DAY OWLS.

Head moderate, without ear-tufts; wings and tail rather short; tarsi strong and more densely feathered than any sub-family. Form robust and compact.

GENUS NYCTEA—*Stephens.*

Large size, head large, destitute of ear-tufts, without facial disc; bill very strong, short, and nearly covered by the projecting feathers; claws curved, strong and sharp, and nearly covered by the feathers of the toes; wings

long and wide, with the third quill longest; tail moderate, or long and broad; plumage dense. Only one species.

NYCTEA NIVEA—*Daudin*—THE SNOWY OWL.

Audubon's Birds of Am., Oct. ed., I., pl, 25.

This large and beautiful species is very common during the winter, along the lake shore. As these owls do not breed in our State, but in high northern latitudes, they appear here in winter only; but their visits do not depend on the severity of the weather alone, as they are often quite plentiful in mild seasons; this is the case the present winter, 1858-'59, so remarkable for its mildness. In the neighborhood of Cleveland a great many were shot, and this is the case almost every year. This bird leaves its summer haunts, when winter sets in, and proceeding southward, spreads over the temperate latitudes of North America, Asia and Europe. It is said to build its nest on the ground. The rugged and inhospitable mountains and shores of Greenland, and the neighborhood of Hudson's Bay, are its favorite hunting grounds, and it is said to feed on hares, rabbits, ducks, grouse, and other small quadrupeds and birds. It has also obtained some celebrity as a fisher. In its winter visits with us, it devours great numbers of mice and other vermin, hunting them during the day, and also during twilight.

Few birds attract more attention than this, and consequently a great many of them are annually shot. It is not, however, likely that the number visiting us will decrease, as it abounds in its summer haunts, where it is undisturbed, and raises its young in perfect safety, from the unwelcome visits of bird-nesting school-boys. Its feathers, are of a pure white, with spots of dark brown. The specimens vary greatly, some being almost entirely white, while others are thickly spotted, and barred with the dark brown. Quills and tail are regularly banded with brown. All are beautiful birds, and cannot be mistaken for any other species.

The female is, as usual, larger than the male, and measures from 24 to 26 inches in length, the tail being ten inches.

Several specimens in the Museum of the Cleveland Academy of Natural Sciences, and the private cabinets of Prof. Kirtland and others.

GENUS SURNIA—*Dameril*.

Of small or medium size; head moderate, without ear-tufts, and the facial disc obsolete; wings long, with the third quill longest; tail long and broad,

bill strongly curved, of moderate size, and covered at base with projecting feathers; legs short, and densely feathered to the tips of the toes. One American species.

SURNIA ULULA—*Linn*—THE HAWK OWL.

Wilson's Am. Orn., VI., plate 50, fig. 6; Audubon's B. of Am., Oct. ed., I, pl. 27.

This bird is the joining link between the hawks and owls; like the former, it hunts by day, pursuing its prey in the same manner. It also resembles the hawks in form of body, and length of tail; the distinguishing facial disc has almost disappeared, and the head is smaller than that of the owl proper. It is an active and courageous bird, and is very abundant in Arctic America, from Hudson's Bay to the Pacific coast. With us, it is, in all probability, a winter visitor only. It breeds, however, in some of the more Northern States and in Canada, and is said to feed on small quadrupeds, grouse and ptarmigan, and often endeavors to seize the small game shot by the hunter. This species is rare in Ohio. Having no specimen, we give the following description from Cassin's "Synopsis;"—"Size medium; first three quills incised on their inner webs; tail long, with its central feathers about two inches longer than the outer; tarsi and toes thickly feathered. ADULT—Entire upper parts fuliginous brown; the head and neck behind with numerous small circular spots of white; scapulars and wing-coverts with numerous, partially concealed, large spots of white; face silky, grayish-white; throat mixed, dark brown and white; a large brown spot on each side of the breast; all the other under parts transversely lined or striped with pale brown; quills and tail brown, with white stripes; bill pale yellowish, and claws horn color; irides yellow; color of upper parts darkest on the head, and the white markings on the head and body varying somewhat in different specimens.

Female, total length 16 to 17 inches; wing 9, and tail 7 inches; male smaller."

PROBABLE CHANGES IN THE CLIMATE OF OHIO.

BY C. REEMELIN.

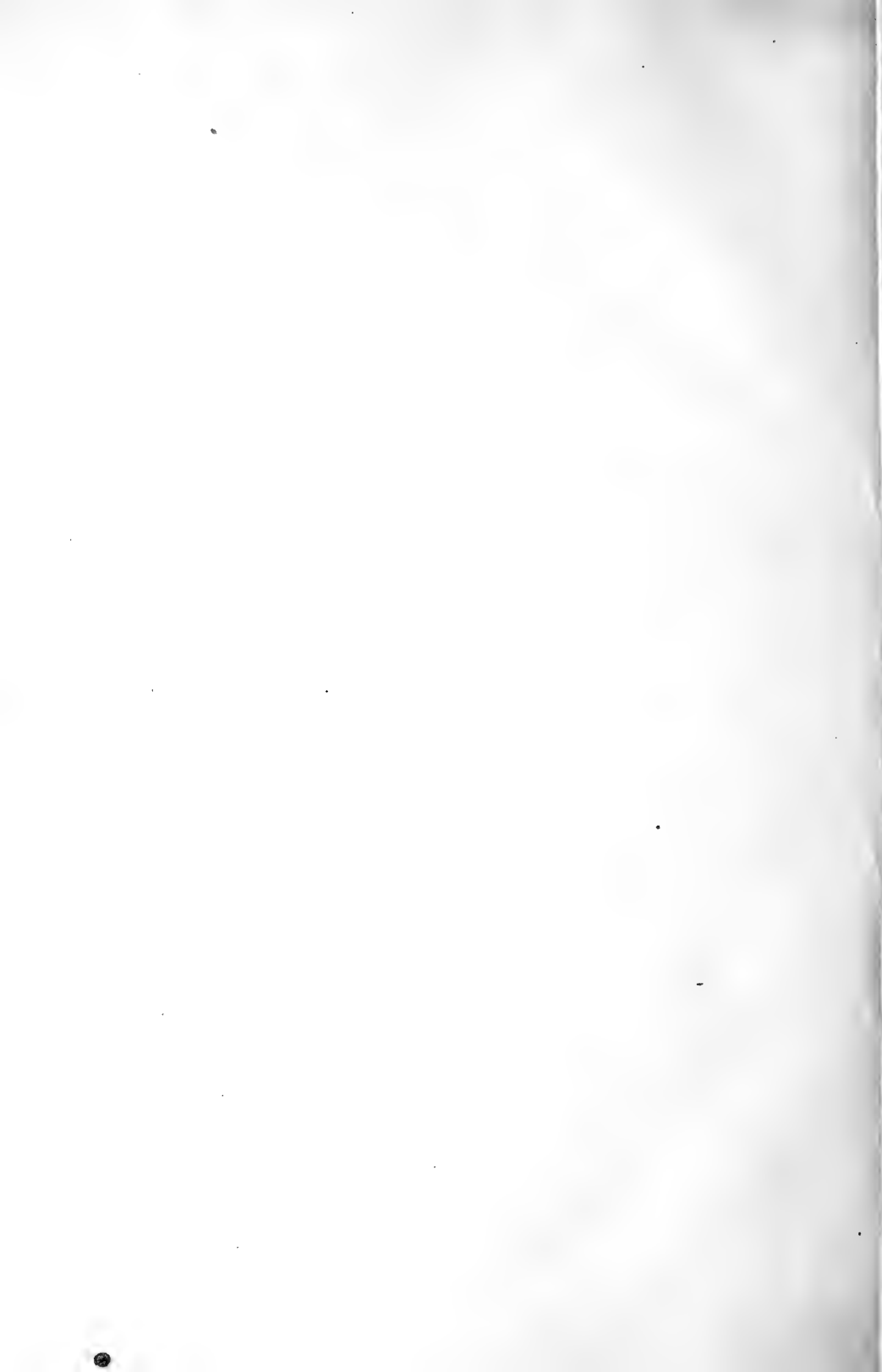
To J. H. KLIPPART, *Secretary of the Board of Agriculture* :

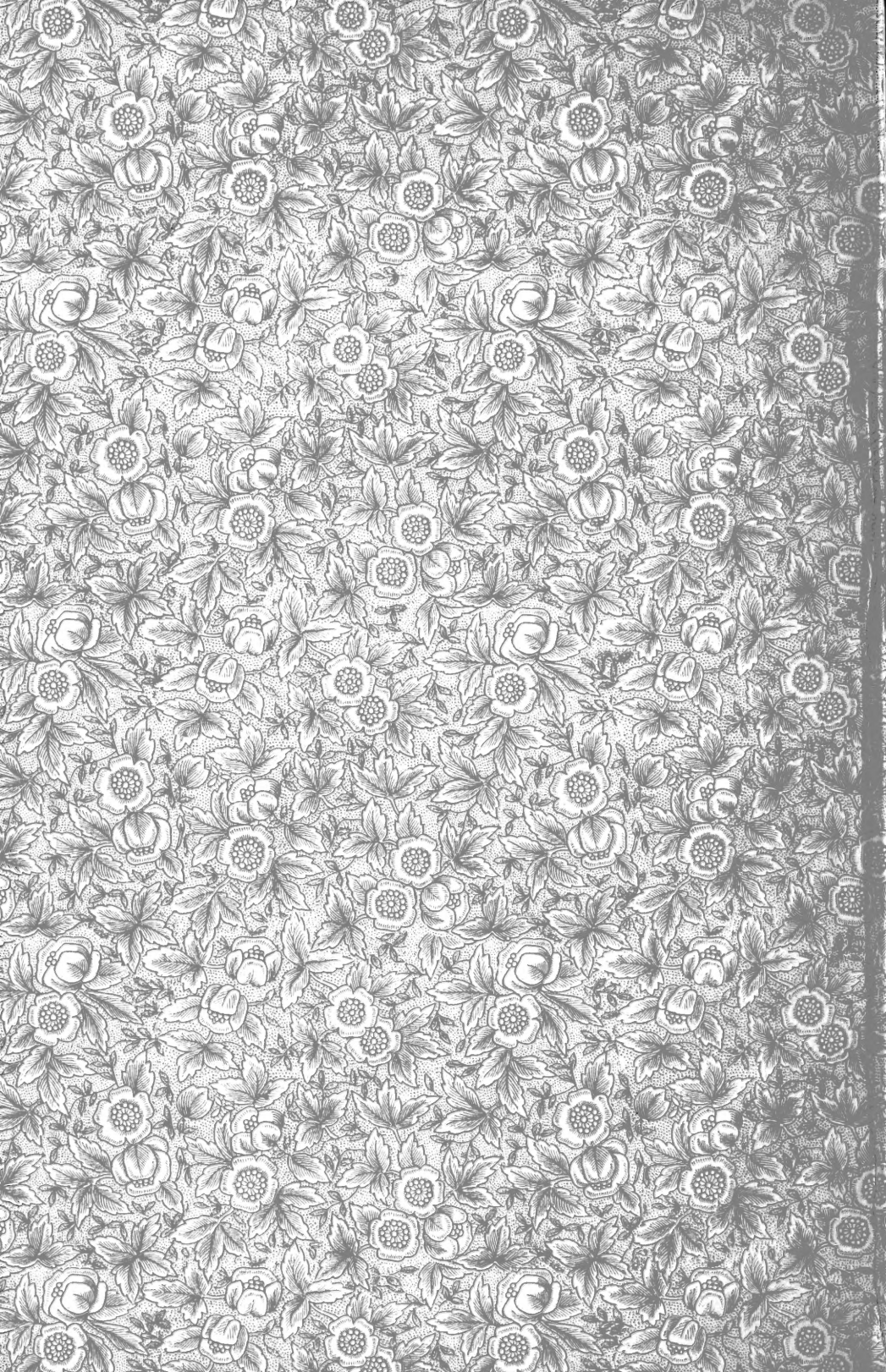
At the conclusion of an essay on "*the Climate of Ohio*," I promised to follow up the subject by a second article. Feeling my knowledge upon the subject to be incomplete, I would have been glad to have escaped from my engagement, but your solicitations and my own sense of duty prompt me to its fulfillment.

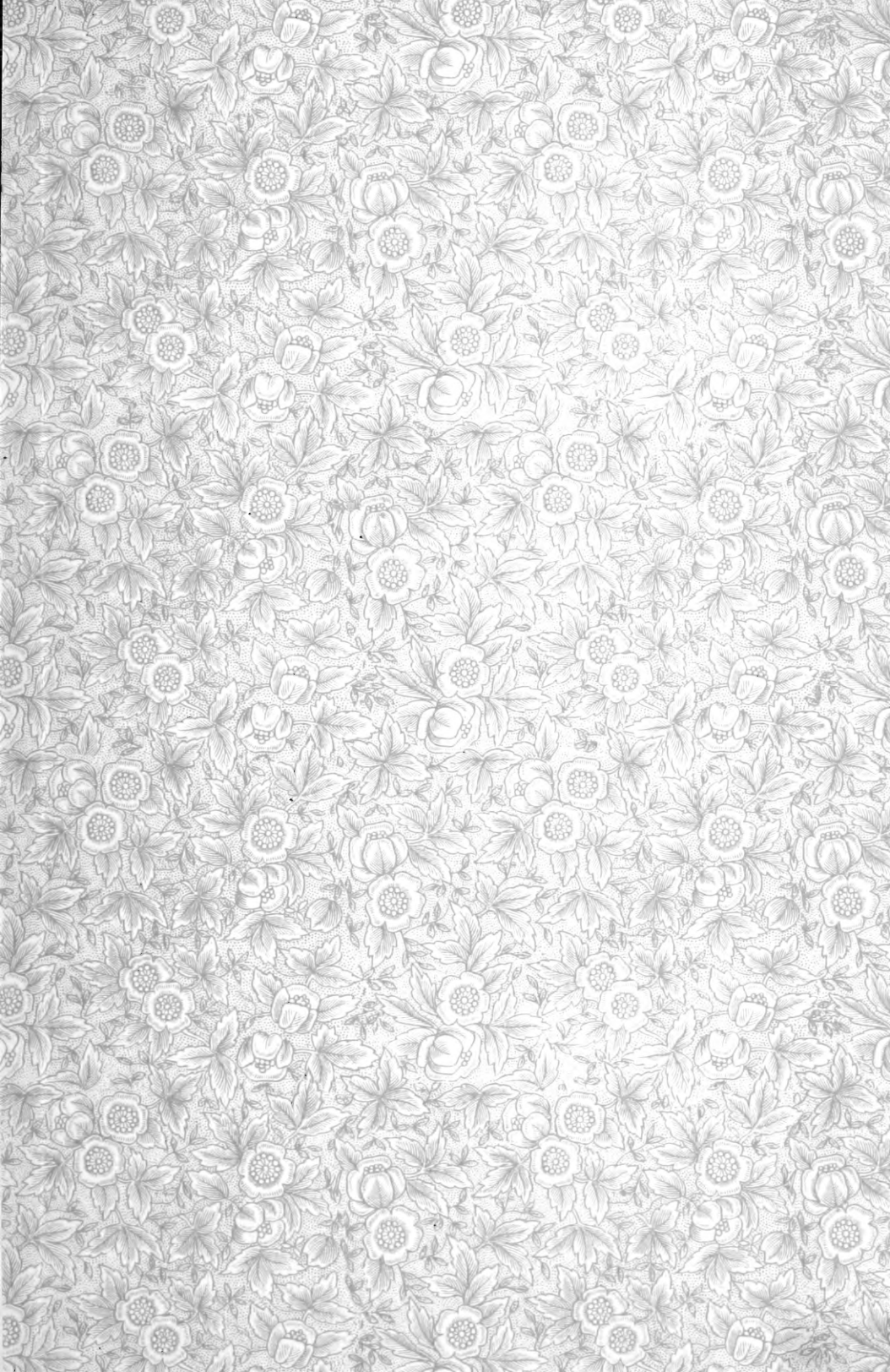
The subject is one of great interest to every inhabitant of our State, as upon its correct understanding depends the question whether labor shall be well or ill directed. Every person should, as far as able, study and observe the laws of climate and present any facts and impressions thus gained to the public at large. With this view, I furnished last year the general characteristics of our climate, and now venture to offer some additional remarks on such modifications as are likely to result from alterations on the surface of the State.

Before I do this I desire, however, to say that I share the growing belief in the permanency of climates, and appreciate in its fullest force the axiom, that artificial changes in the surface of the country, cannot greatly counteract, much less entirely obliterate their general characteristics, and yet I hold it injurious to deny to human agency all ameliorating powers. That we should guard against any misapplication of man's labor, is wise; and we should ever act upon the truth that the greatest success in agriculture and industrial pursuits exists wherever men labor most in harmony with the laws of nature which surround them. It is but too often a waste of physical power to attempt a system of agriculture at variance with climate, or to try to raise special products not congenial to the particular locality; and yet we know that man has added to his comfort and pleasure by forcing, if I may be allowed the expression, his climate southwardly. The fruits of the tropics are now cultivated in many parts of the temperate









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