

Observations of Andreas Hesselius on the Natural
History of Delaware During the Years
1711-1724.

[THE manuscript from which the following article has been printed was preserved among the ornithological papers of Charles J. Pennock presented to Dr. Witmer Stone by Mrs. Pennock for use in connection with the work of the Delaware Valley Ornithological Club. The following explanation accompanies it.

“Andreas Hesselius was a Swedish missionary sent over by his government to the Swedish settlement at Christina on the Delaware [now the city of Wilmington] in 1711. The manuscript account of his experiences was examined by the late Charles J. Stille, formerly president of the Historical Society of Pennsylvania, in the Royal Library at Stockholm, in the summer of 1888. Under his orders it was translated and the copy sent to the Historical Society. Here it was read by Albert Cook Myers, who, noticing the frequent references to Natural History which it contained, called my attention to it, and I have had the following extracts copied out. Reference to West India is frequently made, this being the early name applied to this whole region. To add to the interest and to give a little insight into the life and surroundings of the author the quotations have not been strictly limited to ornithology.—C. J. PENNOCK.”]

June 23, 1711. I became unexpectedly commissioned by the royal government to go as a preacher to the Swedish parishes in West India. From the Royal Exchequer and also from the funds of the Custom Houses of divers places 2000 Daler silver coin were allowed me and my assistant curate, Mr. Abraham Lidelius, wherewith to defray the traveling expenses.

October 5. In Gottenberg we went on board an English ship called Judith, Captain Johan Hollen, where we, contrary to all

his good promises and our punctual payment for board and passage, had to endure all sorts of inconveniences for reason that nutriment and sustenance went short.

October 14. In the Northern Sea between Sweden and England we saw a kind of seabird big as a dove, following close up to the ship, swimming on assiduously and diligently hard on to the ship and again flying as if it wanted to be with us on the ship. It is of speckled feathers, white and darkish brown on the back, but wholly white under the breast, its bill is short and its feet are small, the wings short as is also the tail and its flight is alike the bat's.

October 30. Heavy gale and some wreckage in the English Channel. Smoked herring and West Gotha cheese our sole fare but with no bread for the whole of the six weeks we were in quarantine—no other sort of a drink did our Presbyterian Captain allow us but some foul water, though we paid for both ale and wine of which there were also supplies enough in the ship.

December 5. By land to Harwich. [In London until Feb. 11, the following year (1712), "abiding conveyance for the West India Journey."]

February 11, 1712. After having bid our friends in London farewell * * * together with a letter from Governor Penn to the Government in Pennsylvania. We went in a boat to our ship the "Patopsico Merchant," anchored in Gravesend, thither we arrived the following day and going on board there in the name of God we set out for the long West Indian voyage escorted by three Men of War besides more than forty merchant vessels.

March 5. Touched at island of Madeira.

March 13. Saw porpoises.

March 24. Under height of the pole 23 degrees, 21 minutes, I saw for the first time flying fishes on both sides of the ship.

March 25. * * * Did we see a rare bird called the Tropic Bird, from the reason that it is said never to be found anywhere else but under "The Tropics." It is big as a sea gull and wholly white, having for tail a long pen, looking most alike a lightened candle, its flight resembles most that of a falcon.

April 17. In the morning I saw a bird in the sea, in English

it is called the Ganet, but in Latin, *Larus cineris major*; it is about as big as a goose but black on the end of the wings. This bird gives always hope that land will soon be visible as it is never to be seen far out at sea.

April 20. When it was Easter Sunday we saw land for the first time, namely North Carolina, that is a wooded land and sends out a sweet smell from the rare trees growing there. The whole woody seaside of North Carolina is uninhabited and uncultivated.

April 21. Saw Smith Island on the right hand side of the entrance to Virginia, not far from Cape Charles, which is the furthestmost point on the mainland on that side of the bay. At 12 o'clock we did cast anchor for the first time.

After the midday meal at 2 o'clock we weighed anchor, parting from the convoys and under a good breeze went from Cape Henry and on up Chesapeake river, Pian Kitanck river, Rappatanock river west of us, but eastward Northampton and Arammaco land up to the Tanger Islands.

April 22. Some birds came to us flying out of the woods, by the Englishmen called Wren. Of those we caught one that permitted itself to be taken with the hands. It is a small, pretty and docile little bird, big as a siskin, with small innocent eyes; the breast is yellow but the back dark brown. The same day we sailed with a fair wind up the bay passing Potovinackie river, leaving Virginia and came farther and farther up toward Maryland, past Potuxen river on the left, but on the right hand side we had Dorchester land up to Heringe Bay where we anchored in the night. The country is nothing but a woodland everywhere and all over full of tobacco plantations.

April 23. While we were at anchor here I went ashore with the Captain, together with my brother, the portrait painter, Mr. Gustavus Hesselius, and sat there our feet in the name of Jesus for the first time on American soil. We had not been ashore before since we went aboard at Graveland in England on the twelfth of last February. We came thus up into a charming land and walked about one English mile from the water and saw with wonderment such riches in that country which are only sparingly or not at all to be found in our Northern countries.

The country is rising and hilly yet not stony, an abundance of delightful flowers and trees, as oak of four kinds, white, black, red, Spanish, Cedars, Dogwood trees, Apple and Cherry trees, Mulberry trees, Sycamore, etc., and all of them in their full blossoming splendor and fairness, spreading such a pleasant odor that we fancied we had come into Paradise. Birds of many species and most of them strange to us made the woods resounding with their chirping in every direction and filled the air with their several and peculiar crying so that no music could be more charming.

While we went about all by ourselves, I and my brother (as the Captain had gone to Colonel Sir Francois Holland) we were met by two Indians, nearly all naked, having only a wicked weapon over the shoulders and the body otherwise wholly bare and brown to the color, tall and stately in stature. At the first appearance of those savage men we became somewhat amazed, although they did not stop when meeting us, but said only "Haito," which is a sort of salutation corresponding to our "Good day," therewith making it evident that they are accustomed to Europeans. Soon thereafter a messenger from the Colonel came inviting us to the Manor, whereat we followed him and were very nicely entertained with eatable things, wine and cider. We partook thereof one to us unknown but very delicious fish called Rock by the English people, but by the Swedes in Pennsylvania it is called Swabt and in appearance as a large Rudd, but in taste as new pickled salmon. Aforementioned Colonel made us the pleasure to take us around the Manor, showing us various species, most especially of American singing birds, Redbirds, Mocking birds, etc., everyone of them of beautiful color but the one last mentioned to tune also, for it has not so much tune of its own but rather is imitating everything it heard. As to that bird it is remarkable that its handsome tones are never heard, nay, it does not even sing the least little bit of a song outside of America. When brought over to England it becomes instantly dumb though it is thriving there well enough and can live there for many years when other birds brought from East or West India nevertheless retain their original way of warbling whatever country they come to. The

Redbird is as big as a Starling, entirely vermilion red, having a red tuft of feathers on the head and a black spot below the beak, is highly esteemed for its singing and color.

The shore of Heringe Bay, as well as everywhere else in Maryland abounds in oysters that are bigger and wider than the hand of a tall man, delicious and rich and yet mostly eaten by the negroes. In the Colonel's house we saw a snow-white squirrel he had caught there in that region, besides a great many other rare animals and plants that presented themselves to our view just as if they wanted at our very first entry to bid us welcome to the new world. We could not more than marvel and think of what David says in Psalm 24, verse 1: "The earth is the Lord's and the fulness thereof, the world and they that dwell therein."

April 24. We on board the ship got for a present some American fishes called Shad, which is a kind of herring, but large and broad and fat as a Swedish Bream. We were also allowed to change our diet now by degrees and to relinquish our polves that we so often had been weary of on the ocean. Polve is a dish consisting of boiled chicken, rice and salted pork, but with no soup; it is a pleasing food if it is not served too frequently.

April 26. We did go ashore again to Anapolis, a small town in Maryland, which, however, is the only one in the whole Province.

April 28. We left our ship, the Potopsico Merchant, with our things and went in the long boat to Bohemia Landing.

May 1. We travelled the way by land from Bohemia over the woodland country to Christina in Pennsylvania, and arrived there in the evening, and in this way through the Lord's gracious guiding during one so long and hazardous journey we had in good health and uninjured completed our entire voyage from Sweden to the region we had in view. The total amount of miles from Lizard in England, where I began my reckoning, unto Christina in America is 5209 English miles.

May 10. I saw for the first time American Turtle Doves promenading on the river bank by two and two picking sand; they are much smaller than the European, bluish-gray in color,

and have a soft melancholic tone or cooing as the Englishmen call it. As soon as the sun has set in this country, happening here between seven and eight in the month of May, there appears every evening and all night in the summer a great many fire flies, as they are called, hovering in the air, both in the woods and in the field, nay, about the houses, too; they look like sparks of fire out of a chimney, causing a singular glistening in the dark. These mischievous insects are to appearance like the Spanish Flies, though the shell covering the wings is brown and they have their light below their small bodies that so to say is glistening every time they breathe. Between whiles it goes out, so if one wants to follow up such a fly by its flying, one will be sure to lose it in the dark and only find it again, at a guess, by means of the glistening.

May 16. I caught a ground squirrel or Ground hog, which is a kind of squirrel that makes its nest in the ground, is larger than a rat, and to color it is like a badger. It is very clumsy and awkward when it is to climb a tree and from that cause is easily caught.

May 19. I travelled to Philadelphia which is the capital of Pennsylvania and which is an exceedingly nice and beautiful City, about as large as Westeras [in Sweden] but with such regular streets and such magnificent houses that one must be astounded how from the year 1683, when it was founded, it has been possible to attain the riches and the splendor it now has.

May 23. Shortly after my return from Philadelphia did I find a tortoise in the woods adjacent to Christina; it was of the size of a fist. When caught it enclosed itself within its beautiful house, both with head, feet and tail, and in doing it a slight hissing was perceptible; every opening was so closely shut that it was beyond my power to break the shell open, not even by means of a knife. It does not venture a peep as long as it is being carried about nor afterward until thinking everything safe around it. This species of turtle is found only in the woods, but not anywhere else, and is used for food both by the Indians and Christians. According to my taste it has a delicious and subtle flavor, especially the liver prepared in the way used by the Indians who roast it in hot ashes it is most to my liking, though the method spoils the showy shell.

June 4. I shot a black Crow; the gray one does not exist in this country. In every other respect it resembles the Swedish Crows in their mischievous nature.

On the 6th, did I catch a rabbit that is a sort of a hare in this country as well as in England. They are hardly larger than a Coney and always brownish-gray in color both in summer and in winter; any other kind of hare is not found here.

On the 28 I saw a singular quadruped in this country called Opossum, of which the female one has two pouches called double-belly. In the outer pouch, that looks like a cloth bag, it protects and carries its young when there is danger ahead. This animal is bigger than a cat; it has a head like a pig's with long and sharp teeth. The hairs are long and light gray, mixed with silver color but the tail is long and bare as that of a mouse. When such an animal is found in the woods it does not run away, and the feet do not even permit any fast running, since the hind legs are like that of a fox, for that reason and from fear, it is lying down quietly, grinning and with closed eyes as if it was dead, arranging the long tail in a ring like a serpent. By means of a stick around which the tail proudly curls itself, one can afterward carry the animal on the back anywhere one may want to. In the night the Opossum has for wont to visit the hen-houses, and as it can climb both in trees and up a wall very well, although but slowly, it surprises the chickens quite unawares wherever they may be at roost. The Opossum is an animal so tenacious of life that though the hounds mangle it so that the bones crackle the creature for all that promenades away before next morning, a thing which I have to my greatest astonishment tried myself and have let large hounds loose upon it, but next day it has been found still to be in life.

July 19. I shot a stock pigeon, blue in color, like the French doves, but the breast is yellowish-brown, particularly the breast of one that is *she*. Their tone is entirely the Swedish Stock-pigeon's, the tail is long and pointed as on a magpie. In the autumn these birds are found in great and numberless multitude.

August 13. I shot two black squirrels that are more rare than such of the other species in this country, else there is generally of those creatures a large quantity, both of gray, light

gray and dark gray, all mischievous to the grains; for that reason the Government has enjoined on every householder to produce at every Court of Assize a certain number of squirrel heads, or pay fines to a fixed amount for each head wanting in the number.

August 14. I shot a pheasant which kind of bird is esteemed as one of the most delicate amongst wood birds; they are smaller in size than the European, but are slightly larger than our Hazel Grouse; in regard to the color they nearly resemble each other. Mostly they go two and two together and are sounded through the clapping of the wings when they sit upon a wind-fallen water-soaked log over a brook in the woods.

September 30. I partook for the first time of Wild Turkey. The forest turkey is the best amongst the game birds of America. They are blackish in color and larger than the domesticated ones. They are found in great numbers in the Autumn, particularly on the green shoots of the Autumn corn (Rye and Wheat) but mighty timorous they are. It was my most enjoyed pleasure, nevertheless, when out with my gun, if I have an opportunity to follow the Turkey at long distance, when they left the corn fields in the evening and then to note in what tree they went to roost at night, whereupon I went home to return later on in moonlight and could then walk straight up to the tree where they had nestled and feel right sure to be able that very night to shoot the whole lot, only I had a fellow hunter who would come to my assistance, as the birds do not go long distances at night, so that they, at the report of the gun, just only fly on to the tree nearest, until they are all shot.

October 17. I shot a Vulture. This is a large bird of prey, very much like a turkey; it has such a head as a turkey. The wattle, however, is not so big. It is such a stinking bird, since it feeds on carrion, that it cannot very well be handled, notwithstanding it is useful in medicine. Right through the beak there is a wide opening through which the daylight is seen and when a string is brought through this a person can in walking drag it along without being offended by the foul stench, and upon coming to the village it is fixed to a spit with the feathers on and all and thus allowed to roast by a good fire until the

fat is dripping. This is then collected to be kept and causes an incredible relief if rubbed in for dry aches, pains in the joints or in the back for gouty twinges.

November 6. I saw a flying squirrel. This creature is scarcely bigger than a good-sized rat, but is very pretty and soon tamed, has its nest in hollow oaks and flutters from one tree to another. It is steering by means of the tail which is flat, thin and broad. The wings consist only of a loose skin going from the body to the end of the claws of the fore feet. This is spread out in fluttering but is contracted and folded again when the animal wants to walk. In flight it always goes in curves. In this way it sets out from one tree and makes then constantly a curve toward the earth and thereupon quickly upwards again to the tree it had designed, though it be hundred ells from thence. It is gray-colored on the back but white beneath the belly.

July 13, 1713. Did I shoot a White-headed Eagle. This species of Eagle is the very biggest and is hardly to be found in other countries. In the London Tower I saw certainly one of this species but it had also come from America and was a peculiar rarity, presented to her Majesty, Queen Anna. This kind of an Eagle is grayish all over the body, but the head and the tail are wholly white, the eyes are yellow and the look is grim, otherwise it is not so very destroying, but when it can come at any water-fowl, such ones as are shooten by the common people, it comes forward and hovers about boldly, in order to secure its share.

November 25. I did for the first time see an American polecat, that the Swedes in Pennsylvania call Wild Cat. It is the most badly stinking animal amongst all kinds of quadrupeds. It has its haunts in the woods, but resorts in the nights toward the houses to steal hens. It is of the size of a young fox. The hairs are black except on the head, where on both sides of the eyes white stripes are running downward to the tail. It has small eyes and a short-legged body with an ugly, long-haired tail, more like that of a Lapp-dog than a cat's.

Wherever this animal goes it leaves behind a smell so intense as Spirit of Salt of Ammoniac of a power that it seems to be inveterate and just as if it was stagnant in the air over the spot

where the Wild Cat has passed. A person unacquainted with the nature of this animal is easily fooled by it, for as this cat is never in a hurry to shun human beings, one can go close up to it and when the Wild Cat considers the distance convenient, it stops for awhile, raising its tail in the air and fouling the person and bespattering him all over, though he be twenty or thirty steps away from the cat. This Spirit is so extreme that one may be choked and the troublesome balsam can afterwards in no wise be effaced of the clothes.

July 29, 1714. I caught a Golden-crested Wren in my garden. It is my belief that this bird is the prettiest and most diminutive among all flying animals clothed with feathers. In length it is not more than half a finger. It is golden-colored on the back but under the beak, that is long and pointed, the one that is *he* has an indescribable beauteous spot that is glistening like a sparkling, burning coal and is of a so vivacious and sprightly blush that I am sure it cannot by any painter be pictured by any color that is sufficiently high. This little bird builds its nest on the branches of the tallest oaks. It fastens there its mellow material and makes it like a small, silk purse, where it lays its eggs, in size resembling small white peas. By Englishmen it is called a Humming Bird, for the buzz caused by its little wings just alike a gad-fly. It feeds barely on the sweetish juice it draws out of lilies and other flowers; into those it nibbles with its long beak and tongue and in doing that it constantly flaps the wings, that it is something very rare to find it perching quietly.

February 18, 1715. We saw for the first time in that year the pretty little spring flowers, as for instance *Hepatica nobilis*, and several other species, both blue and white.

May 13. I made my first observation of the most peculiar insects I believe to exist the whole world over, which have not for fifteen years been seen in this country up to this year and in this month. In English it is called Locusts or Locustae, but it has absolutely no resemblance whatever to grasshoppers.

[After a two-page description of their transformation, he says:]
When the heat is most intense in the day they resort in an enormous innumerableness to every tree, tuning like crickets so

fiercely and harshly that two persons can hardly make themselves heard by each other should they be close by them, in consequence of their screams and howl.

[He states that the Indians use them for food.] The squirrels have their plentiful nourishment by them. In the month of July their time is up when they gather in immense armies and crawl on the ground toward the nearest river and are off for the water to become food for the fishes.

If the visionary spirits of the Quakers here in Pennsylvania would with moderation contemplate the Lord's wonderful mightiness in regard to the emerging of those insects out of the ground they should never with such a pertinacity renounce the possibility of resurrection, by which they are making themselves the most noxious vermin in America.

August 11. I killed one of the most destroying Snakes in West India, that is called the Horned Snake. It is excessively big and thick, certainly five ells in length with white and black scales all over the body and in the tail is the point it makes use of in killing. It consists of a horny matter, is as sharp as the prickle of a hedgehog, but not more than half a finger in length. Beneath the belly it is orange-colored. The gap is terrible, though harmless. When it is infuriated it stretches the mouth so highly that it becomes disjointed and cannot be closed anymore. When it wants to sting it curls up in a ring and then just as if it were a spring it throws out its tail in a moment, reaching what it may. For such a sting there is no remedy, neither for human nor any other creature, death will soon follow upon it.

February 23, 1722. Was for the first time this year heard the little bird Vivi or Seri, so-called, which among all birds is the one that gives the first warning of the arrival of spring time. It is as small as a Siskin and grayish in color, always in appearance as if just dipped in water, perches generally alone on a roof or a chimney and begins in the morning with its chirping that is nothing else than a distinct expression of these words in Swedish: "Vet I? Vet I? Vet I? vi Vet." (Do you know? Do you know? Do you know? We do know.)

March 26, 1723. Did I shoot a Muskrat or as the Swedes

call it a Desman Rat, running in Christina river. This animal has its haunts in marshes on the river bank, where it, like the beaver has its holes and anfractuositousnesses underneath. It feeds mostly on muscels and roots and is generally when water is at its lowest to be found upon the clayey mire, where it takes its repasts of a huge pile of oysters and mussels. During ebb it gathers its shell fishes from the river bottom and carries them on to land to be devoured in moments of leisure. It is as big as a cat of the grossest size, but much more bulky. In color it is like an otter. The hairs are however of a greater length. It is the one most enjoyable among hunts here in America to go a hunting those muskrats, for no sooner do they espy a person rowing in the river than they each and all of them run into the river where water bubbles arise to the surface and make known their whereabouts. There they crawl upon the bottom and because they cannot lengthily exist under the water they must needs up to the surface again for air's sake and the shooting is made. As soon as one is shot the two vascula where is contained the strong desman fat, must be cut out or the skin will take to itself too intense a smell that would not be pleasing to everybody and not make it of such usefulness, as otherwise is the case, for furs.

May 23. Numerous observations in particular of divers things and incidents, that could have occurred to me, I have nevertheless not thought of such an importance as to take them down in my journal for this year, for each day as they happened, partly for the reason that things have become that habitual to me from my long acquaintance to them, that I have not thought them worth the pain to put on paper; partly also because my domestic affairs and thoughts of my journey home to Sweden, whereupon I in the past year, November 11, 1722, received a legal summons from my Fatherland. All this has not allowed me to complete the description I had with all assiduity commenced upon American conditions in totality, concerning Christians as well as pagans, both in regard to the essentiality of religious, as also of politics and of economies, most particularly, however, do I bemoan that my collection in historia naturali, together with all my books and clothing, and a multi-

tude of rarities were destroyed by the swelling billows and the horrid gales I had to suffer between October 16 and November 29, when I and my family got into harbor at London, and as such a loss most especially and grievously is felt in moments when memory will not suffice to subministrate all the fresh and delightful ideas formerly perceived and in such a manner the nutriment of the mind becomes as it were congealed by the Northern frost, why, it is best for me to meditate upon bygone days with moderation and with a Christian resignation and gratitude to God and my gracious Government for the vocation where I am now placed in and rejoice only for every soul I can here win over to the Kingdom of God.