

X

MAY, 1858

(ÆT. 40)

May 1. A warm and pleasant day, reminding me of the 3d of April when the *R. halecina* waked up so suddenly and generally, and now, as then, apparently a new, allied frog is almost equally wide awake,—the one of last evening (and before).

When I am behind Cheney's this warm and still afternoon, I hear a voice calling to oxen three quarters of a mile distant, and I know it to be Elijah Wood's. It is wonderful how far the *individual* proclaims himself. Out of the thousand millions of human beings on this globe, I know that this sound was made by the lungs and larynx and lips of E. Wood, am as sure of it as if he nudged me with his elbow and shouted in my ear. He can impress himself on the very atmosphere, then, can launch himself a mile on the wind, through trees and rustling sedge and over rippling water, associating with a myriad sounds, and yet arrive distinct at my ear; and yet this creature that is felt so far, that was so noticeable, lives but a short time, quietly dies and makes no more noise than I know of. I can tell him, too, with my eyes by the very gait and motion of him half a mile distant. Far more wonderful his purely spiritual influence,—that after the lapse of thousands of years you may still detect the individual in the turn

of a sentence or the tone of a thought! E. Wood has a peculiar way of modulating the air, imparts to it peculiar vibrations, which several times when standing near him I have noticed, and now a vibration, spreading far and wide over the fields and up and down the river, reaches me and maybe hundreds of others, which we all know to have been produced by Mr. Wood's pipes. However, E. Wood is not a match for a little peeping hylodes in this respect, and there is no peculiar divinity in this.

The inhabitants of the river are peculiarly wide awake this warm day,—fishes, frogs, and toads, from time to time,—and quite often I hear a tremendous rush of a pickerel after his prey. They are peculiarly active, maybe after the *Rana palustris*, now breeding. It is a perfect frog and toad day. I hear the stertorous notes of last evening from all sides of the river at intervals, but most from the grassiest and warmest or most sheltered and sunniest shores. I get sight of ten or twelve *Rana palustris* and catch three of them. One apparent male utters one fine, sharp squeak when caught. Also see by the shore one apparent young bullfrog (?), with bright or vivid light green just along its jaws, a dark line between this and jaws, and a white throat; head, brown above. This is the case with one I have in the firkin, which I think was at first a dull green. These are the only kinds I find sitting along the river. The *Rana palustris* is the prevailing one, and I suppose it makes the *halecina*-like sound described last night.¹ They will be silent for a long time. You

¹ It does. *Vide* May 2d.

will see perhaps one or two snouts and eyes above the surface, then at last may hear a coarsely purring croak, often rapid and as if it began with a *p*, at a distance sounding softer and like *tut tut, tut tut, tut*, lasting a second or two; and then, perchance, others far and near will be excited to utter similar sounds, and all the shore seems alive with them. However, I do not as yet succeed to see one make this sound. Then there may be another pause of fifteen or thirty minutes.

The *Rana palustris* leaves a peculiar strong scent on the hand, which reminds me of days when I went a-fishing for pickerel and used a frog's leg for bait. When I try to think what it smells like, I am inclined to say that it might be the bark of some plant. It is disagreeable. Some are in the water, others on the shore.

I do not see a single *R. halecina*. What has become of the thousands with which the meadows swarmed a month ago? They have given place to the *R. palustris*. Only their spawn, mostly hatched and dissolving, remains, and I expect to detect the spawn of the *palustris* soon.

I find many apparent young bullfrogs in the shaded pools on the Island Neck.¹ There is one good-sized bullfrog among them.²

The toads are so numerous, some sitting on all sides, that their ring is a continuous sound throughout the day and night, if it is warm enough, as it now is, except perhaps in the morning. It is as uninterrupted to the

¹ Probably *R. fontinalis*.

² This probably the first bullfrog of the season.

ear as the rippling breeze or the circulations of the air itself, for when it dies away on one side it swells again on another, and if it should suddenly cease all men would exclaim at the pause, though they might not have noticed the sound itself.

It occurs to me that that early purple grass on pools corresponds to the color of leaves acquired after the frosts in the fall, as if the cold had, after all, more to do with it than is supposed. As the tops of the *Juncus filiformis* are red, and the first *Lysimachia quadrifolia* red-brown.

As I sit above the Island, waiting for the *Rana palustris* to croak, I see many minnows from three quarters to two inches long, but mostly about one inch. They have that distinct black line along each side from eye to tail on a somewhat transparent brownish body, dace-like, and a very sharply forked tail. When were they hatched? Certainly two or three months ago, at least; perhaps last year. Is it not the brook minnow?

I also hear the myrtle-birds on the Island woods. Their common note is somewhat like the *chill-lill* or jingle of the *F. hyemalis*. Ephemeræ quite common over the water.

Suddenly a large hawk sailed over from the Assabet, which at first I took for a hen-harrier, it was so neat a bird and apparently not very large. It was a fish hawk, with a very conspicuous white crown or head and a uniform brown above elsewhere; beneath white, breast and belly. Probably it was the male, which is the smaller and whiter beneath. A wedge-shaped tail.

He alighted on a dead elm limb on Prichard's ground, and at this distance, with my glass, I could see some dark of head above the white of throat or breast. He was incessantly looking about as if on his guard. After fifteen minutes came a crow from the Assabet and alighted cawing, about twenty rods from him, and ten minutes later another. How alert they are to detect these great birds of prey! They do not thus pursue ordinary hawks, and their attendance alone might suggest to unskillful observers the presence of a fish hawk or eagle. Some crows up the Assabet evidently knew that he was sitting on that elm far away. He sailed low almost directly over my boat, fishing. His wings had not obviously that angular form which I thought those of another had the other day.

The old *Salix sericea* is now all alive with the hum of honey-bees. This would show that it is in bloom. I see and hear one humblebee among them, inaugurating summer with his deep bass. May it be such a summer to me as it suggests. It sounds a little like mockery, however, to cheat me again with the promise of such tropical opportunities. I have learned to suspect him, as I do all fortune-tellers. But no sound so brings round the summer again. It is like the drum of May training. This reminds me that men and boys and the most enlightened communities still love to march after the beating of a drum, as do the most aboriginal of savages.

Two sternothæruses which I catch emit no scent yet. Hear a thrasher.

Hear that a shad-bush is out at Lee's Cliff.

May 2. Sit without fire to-day and yesterday.

I compare the three *Rana palustris* caught yesterday with the male and female of April 23d. The males agree very well. What I have regarded as the ground-work varies from pale brown to dusky brown, even in the same specimen at different times. The present female is larger than that of April 23d, more than half an inch longer than her male, and she has the round dark spots on the orbits and one in front on head and also oblong-square spots on back. She is also dusky-brown like male. None of all have any green. I at last hear the note, for two are coupled in a firkin in my chamber, under my face. It is made by the male alone, and is, as I supposed, the sound of April 30th and May 1st, — the *tut tut tut*, more or less rapidly repeated, and a frequent querulous or inquisitive *cr-r-rack*, half a second long. It makes these sounds only when I excite it by putting others of its kind near it. Its pouches are distended laterally, apparently beneath and behind the eye, and not very conspicuous. Close by, it sounds like a dry belching sound, the bursting of little bubbles more or less rapidly, and the querulous note may be the same very rapidly repeated.

I doubt if I have heard any sound from a bullfrog in river yet.

P. M. — Down river.

The *Salix Babylonica* (fertile) behind Dodd's is more forward than the *alba* by my boat. Put it just before it. See stake-driver. At mouth of the Mill Brook, I hear, I should say, the true *R. halecina* croak, *i. e.* with the faint bullfrog-like *er-er-er* intermixed. Are they

still breeding? Peetweet on a rock. See and hear the red-wings in flocks yet, making a great noise.

If I were to be a frog hawk for a month I should soon know some things about the frogs. How patiently they skim the meadows, occasionally alighting, and fluttering as if it were difficult ever to stand still on the ground. I have seen more of them than usual since I too have been looking for frogs. Hear a tree-toad.

May 3. P. M. — Ride to Flint's Pond to look for *Uvularia perfoliata*. *Salix purpurea* in Monroe's garden effetc. Apparently blooms with our early willows; say 10th of April?

At Hosmer's medicinal (?) spring, Everett's farm, *Ranunculus repens*, abundantly out, apparently several days.

Hear of a peach out in Lincoln.

Probably I heard the black and white creeper April 25th. I hear it and see it well to-day.

Comptonia well out, how long? *Viola cucullata*, how long? Hear of robins' nests with four eggs. See no signs of the *Uvularia perfoliata* yet; apparently will not bloom within ten days.

E. Hoar brings me a twig of a willow plucked in Newton, which was killed some weeks ago, when it had just begun to bloom. The catkins look peculiarly woolly, and the scales peculiarly rounded or blunt. Is it the *eriocephala*? Our earliest gooseberry not yet, perhaps because there will be but few blossoms on it this year. Partridges have been heard drumming.

In the woods near the *Uvularia perfoliata*, see and hear a new bird to me. At first it was silent, and I took

it for the common pewee, but, bringing my glass to bear on it, found it to be pure white throat and beneath, yellow on sides of body or wings, greenish-yellow back and shoulders, a white or whitish ring about eyes, and a light mark along side of head, two white bars on wings, apparently black bill and dark or perhaps slate-colored (?) wings and above tail. It surprised me by singing in a novel and powerful and rich strain. Yet it may be the white-eyed vireo (which I do not know), if it comes so early.¹ Nuttall says it comes to Cambridge about the middle of April.

May 4. The *Salix pedicellaris* by railroad, apparently not for two or three days. The Missouri currant, probably to-day.

P. M.—By boat to Holden Swamp.

To go among the willows now and hear the bees hum is equal to going some hundreds of miles southward toward summer.

I see along the sides of the river, *i. e.*, where the bottom is permanently covered, what I have heretofore called the oat spawn, attached to old *pontederia* stems, etc.,² now some foot or eighteen inches under the surface. It is not black and white, like that of the *Rana halecina*, *sylvatica*, and *palustris*, which I cannot distinguish from one another, but a pale brown or fawn-color. Some is pretty fresh or recently laid, others already flattened out. Hence, from comparison with my earlier *sylvatica* and *halecina* spawn, I judge that it may have been laid ten days.³

¹ *Vide* the 9th.

² *Vide* the 8th.

³ Is it not that of the *R. fontinalis*? *Vide* June 8th.

At Clamshell Shore, I see a clam lying up with open valves.

Salix pedicellaris at Holden's Swamp, stamineate, out apparently two days.

It is still warmer than May 1st, yet I hear the ster-torous *tut tut tut* of hardly so many frogs (*R. palustris* chiefly, I suppose) as then. As with the *halecina*, it is the first sudden heats that excite them most, methinks.

I find hopping in the meadow a *Rana halecina*, much brighter than any I have seen this year. There is not only a vivid green halo about each spot, but the back is vivid light-green between the spots. I think this was not the case with any of the hundreds I saw a month ago!! Why?? The brassy lines along the sides of the back are narrower (only about one sixteenth of an inch) and more prominent than the more fawn-colored lines of the *R. palustris*. In this one, which I carry home and compare with the *palustris*, there is a large spot on each orbit, but none on the top of the head in front. It is all white beneath, except a tinge of greenish yellow on the abdomen.

Witherell speaks of the *R. palustris* as the yellow-legged frog, very properly. See several bullfrogs along the river, but silent.

I go into Holden Swamp to hear warblers. See a little blue butterfly (or moth)—saw one yesterday—fluttering about over the dry brown leaves in a warm place by the swamp-side, making a pleasant contrast. From time to time have seen the large *Vanessa Antiopa* resting on the black willows, like a leaf still adhering.

As I sit there by the swamp-side this warm summery afternoon, I hear the crows cawing hoarsely, and from time to time see one flying toward the top of a tall white pine. At length I distinguish a hen-hawk perched on the top. The crow repeatedly stoops toward him, now from this side, now from that, passing near his head each time, but he pays not the least attention to it.

I hear the *wewe wese wese* of the creeper continually from the swamp. It is the prevailing note there. And methought I heard a redstart's note (?), but oftener than the last I heard the tweezer note, or *screeper* note, of the parti-colored warbler, bluish above, yellow or orange throat and breast, white vent, and white on wings, neck *above* yellowish, going restlessly over the trees — maples, etc. — by the swamp, in creeper fashion, and as you may hear at the same time the true creeper's note without seeing it, you might think it uttered the creeper's note also.

The red-wings, though here and there in flocks, are apparently beginning to build. I judge by their shyness and alarm in the bushes along the river and their richer, solitary warbling.

Coming back, I talk with Witherell at William Wheeler's landing. He comes pushing Wheeler's square-ended boat down-stream with a fish-spear. Says he caught a snapping turtle in the river May 1st. He sits on the side of my boat by the shore a little while, talking with me. There is a hole in the knee of his pants as big as your hand, and he keeps passing his hand



over this slowly, to hide his bare skin, which is sunburnt and the color of his face, though the latter is reddened by rum, of which his breath smells. But how intimate he is with mud and its inhabitants. He says he caught a large pickerel the other night with spawn in it yet; that Henry Bigelow put many little trout into that round pond (Green Pond he calls it) on the Marlborough road, which Elbridge Haynes caught a few years after, weighing two or three pounds apiece. A man told him that he saw a trout weighing about a pound and a half darting at a pickerel, and every time he darted he took a bit off a fin, and at last the man walked in and caught the pickerel, and it weighed five pounds. This was in Spectacle Pond in Littleton. A fisherman told him once that the common eel "gendered" into the river clam, and the young fed on the clam till they were big enough to get other food, and hence you found so many dead clams in the river. I asked him if he knew what fish made the stone-heaps in the river. He said the lamprey eel. He saw one making one last spring about this time, as he was going across the fields by the river near Tarbell's to get seed corn. It was a single lamprey piling up the stones. He used to see thousands of them where he lived a boy, where the lead pipe factory was.

Agassiz says in his Introduction (page 175), "I have known it [the *Chelonara serpentina*] snapping in the same fierce manner [which somebody else had described at a later period when it was very young] as it does when full grown, at a time it was still a pale almost colorless embryo, wrapped up in its foetal

envelopes, with a yolk larger than itself hanging from its sternum, three months before hatching."

May 5. The two *Rana palustris* which I caught May 1st have been coupled ever since in a firkin in my chamber. They were not coupled when I caught them. Last night I heard them hopping about, for the first time, as if trying to get out. Perhaps the female was trying to find a good place to deposit her spawn. As soon as I get up I find that she has dropped her spawn, a globular mass, wrong or white side up, about two inches in diameter, which still adheres to her posterior, and the male still lies on her back. A few moments later they are separate. The female moves about restlessly from time to time, the spawn still attached, but soon it is detached from her posterior, still adhering to her right leg, as if merely sticking to it. In the course of the forenoon it becomes quite detached. At night they are coupled again. The spawn was not dropped at 10 p. m. the evening before, but apparently in the night. The female now looked long and lank. This is the first spawn I have known to be dropped by the *R. palustris*. I should not know it by its appearance from that of the *sylvatica* and *halecina*. The only frogs hereabouts whose spawn I do not know are the bullfrogs, *R. fontinalis*, and hylodes. The first have not begun to trump, and I conclude are not yet breeding; the last, I think, must be nearly done breeding, and probably do not put their spawn in the river proper; possibly, therefore, the oat spawn of yesterday may be that of the *R. fontinalis*.¹

¹ *Vide* June 8th.

Saw and heard the small pewee yesterday. The aspen leaves at Island to-day appear as big as a nine-pence suddenly.

May 6. I heard from time to time a new note from my *Rana palustris* in the firkin in my chamber. It was that strong vibratory purr or *prr-r-r-a-a-a*, as if it began with a *p*, lasting two or three seconds and sometimes longer. In the firkin near my bed, it sounded just like a vibrating sliver which struck hard and rapidly against the rail [it] belonged to, — *dry*, like a fine and steady watchman's rattle sounding but [a] little while. I recognized it as a sound I hear along the riverside. It was like the *tut tut tut* more sharply and very rapidly or closely sounded perchance; perhaps even like the tapping of a woodpecker. Yes, quite like it thus close by.

This morning that spawn laid night before last has expanded to three and a half inches in diameter.

P. M. — To Trillium Wood.

It is a muggy and louring afternoon, and I go looking for toad spawn and for frogs. In all cases in which I have noticed frogs coupled this year, — the *sylvatica*, *halecina*, and *palustris*, — the female has been considerably the largest. The most common frog that I get sight of along the brooks and ditches this afternoon, and indeed for some weeks in similar localities and even in some parts of the river shore, is what I have called the young *R. pipiens*, with commonly a dull-green head and sides of head, sometimes bright green, and back dusky-spotted. Can this be the bull-

frog? Is it not the *fontinalis* with less bright green and a white throat? Sometimes it is yellow-throated. I saw lately in the river a full-grown bullfrog, with, *I think*, a white throat.

I see a *Rana sylvatica* by a ditch in Stow's meadow, fifteen rods from the (Trillium) Wood. The *Salix rostrata* stamine flowers are of very peculiar yellow, — a bright, what you might call *yellow* yellow.

A boy brings me to-day an *Attacus Cecropia* moth which has come out of a cocoon in his trunk. It is, I think, the male, a dark brown above, and considerably larger than mine. It must be about seven inches in alar extent.

Minott remembers the *Rana palustris*, or yellow-legged one, as "the one that stinks so," as if that scent were peculiar to it. I suppose it is. He says that the white-legged one (*the halecina*) was preferred for invalids, *i. e.* their legs, as being sweeter. He says that there used to be a great many more bullfrogs than there are now, and what has got them he does not know.

About 9 p. m. I went to the edge of the river to hear the frogs. It was a warm and moist, rather foggy evening, and the air full of the ring of the toad, the peep of the hylodes, and the low *growling* croak or stertorization of the *Rana palustris*. Just there, however, I did not hear much of the toad, but rather from the road, but I heard the steady peeping of innumerable hylodes for a background to the *palustris* snoring, further over the meadow. There was a universal snoring of the *R. palustris* all up and down the river on each side, the very sounds that mine made in my

chamber last night, and probably it began in earnest last evening on the river. It is a hard, dry, unmusical, *fine* watchman's-rattle-like stertoration, swelling to a speedy conclusion, lasting say some four or five seconds usually. The rhythm of it is like that of the toads' ring, but not the sound. This is considerably like that of the tree-toad, when you think of it critically, after all, but is not so musical or sonorous as that even. There is an occasional more articulate, querulous, or rather quivering, alarm note such as I have described (May 2d). Each shore of the river now for its whole length is all alive with this stertorous purring. It is such a sound as I make in my throat when I imitate the growling of wild animals. I have heard a little of it at intervals for a week, in the warmest days, but now at night it [is] universal all along the river. If the note of the *R. halecina*, April 3d, was the first awakening of the river meadows, this is the second, — considering the hylodes and toads less (?) peculiarly of the river meadows. Yet how few distinguished this sound at all, and I know not one who can tell what frog makes it, though it is almost as universal as the breeze itself. The sounds of those three reptiles now fill the air, especially at night. The toads are most regardless of the light, and regard less a cold day than the *R. palustris* does. In the mornings now, I hear no *R. palustris* and no hylodes, but a few toads still, but now, at night, all ring together, the toads ringing through the day, the hylodes beginning in earnest toward night and the *palustris* at evening. I think that the different epochs in the revolution of the seasons

may perhaps be best marked by the notes of reptiles. They express, as it were, the very feelings of the earth or nature. They are perfect thermometers, hygrometers, and barometers.

One of our cherries opens.

I heard a myrtle-bird's¹ *tull-lull* yesterday, and that somebody else heard it four or five days ago.

Many are catching pouts this louring afternoon, in the little meadow by Walden.

The thinker, he who is serene and self-possessed, is the brave, not the desperate soldier. He who can deal with his thoughts as a material, building them into poems in which future generations will delight, he is the man of the greatest and rarest vigor, not sturdy diggers and lusty polygamists. He is the man of energy, in whom subtle and poetic thoughts are bred. Common men can enjoy partially; they can go a-fishing rainy days; they can *read* poems perchance, but they have not the vigor to beget poems. They can enjoy feebly, but they cannot create. Men talk of freedom! How many are free to think? free from fear, from perturbation, from prejudice? Nine hundred and ninety-nine in a thousand are perfect slaves. How many can exercise the highest human faculties? He is the man truly — courageous, wise, ingenious — who can use his thoughts and ecstasies as the material of fair and durable creations. One man shall derive from the fisherman's story more than the fisher has got who tells it. The mass of men do not know how to cultivate the fields they traverse. The mass glean only a scanty pittance

¹ White-throat sparrow.

where the thinker reaps an abundant harvest. What is all your building, if you do not build with thoughts? No exercise implies more real manhood and vigor than joining thought to thought. How few men can tell what they have thought! I hardly know half a dozen who are not too lazy for this. They cannot get over some difficulty, and therefore they are on the long way round. You conquer fate by thought. If you think the fatal thought of men and institutions, you need never pull the trigger. The consequences of thinking inevitably follow. There is no more Herculean task than to think a thought about this life and then get it expressed.

Horticulturalists think that they make flower-gardens, though in their thoughts they are barren and flowerless, but to the poet the earth is a flower-garden wherever he goes, or thinks. Most men can keep a horse or keep up a certain fashionable style of living, but few indeed can keep up great expectations. They justly think very meanly of themselves.

May 7. Plant melons. Hear young bluebirds in the box. Did I not see a bank swallow fly by?

Cousin Charles says that he drove Grandmother over to Weston the 2d of May; on the 3d it snowed and he rode about there in a sleigh; on the 4th and the 5th, when he returned in a chaise to Concord, it was considered dangerous on account of the drifts.

P. M. — To Assabet by Tarbell's.

I see the second amelanchier well out by railroad. How long elsewhere? The wild gooseberry here and

there along the edge of river in front of Tarbell's, like our second one, apparently as early as in garden, and will open in a few days.

I see a wood tortoise by the river there, half covered with the old withered leaves. Taking it up, I find that it must have lain perfectly still there for some weeks, for though the grass is all green about it, when I take it up, it leaves just such a bare cavity, in which are seen the compressed white roots of the grass only, as when you take up a stone. This shows how sluggish these creatures are. It is quite lively when I touch it, but I see that it has some time lost the end of its tail, and possibly it has been sick. Yet there was another crawling about within four or five feet. It seems, then, that it will lie just like a stone for weeks immovable in the grass. It lets the season slide. The male yellow-spotted and also wood turtle have very distinctly depressed sternums, but not so the male *Emys picta* that I have noticed. The earliest apple trees begin to leave and to show green veils against the ground and the sky. See already a considerable patch of *Viola pedata* on the dry, bushy bank northeast of Tarbell's.

May 8. P. M. — To stone-heaps.

Mr. Wright of the factory village, with whom I talked yesterday, an old fisherman, remembers the lamprey eels well, which he used to see in the Assabet there, but thinks that there have been none in the river for a dozen years and that the stone-heaps are not made by them. I saw one apparently just formed yesterday. Could find none April 15th. This after-

noon I overhaul two new ones in the river opposite Prescott Barrett's, and get up more than a peck of stones. The nests are quite large and very high, rising to within a foot of the surface where the water is some three feet deep. I cannot detect any ova or young fishes or eels in the heap, but a great many insects, pashas with two tails, and, I think, some little leeches only. The larger stones are a little larger than a hen's egg, but the greater part of the heap is merely a coarse gravel.

I see a great deal of the oat spawn, generally just flattened out, in that long pokelogan by the Assabet Bath-Place. It is over the coarse, weedy (*pontederia* and yellow lily stubble), and not the grassy bottom, commonly where there is more or less water all summer.

The herb-of-St.-Barbara. Broke off a twig of Prichard's Canada plum in the evening, from which I judge that it may have opened to-day.

May 9. P. M. — To Holden and to Ledum Swamp.

See two *Rana halecina*. They have the green halo, but are plain brown between the spots on the back and not vivid light-green like the one of May 4th.

See in *Ludwigia palustris* ditch on Hubbard's land evidently toad-spawn already hatched, or flattened out. I distinguish the long strings, now straighter than usual and floating thin on the surface. It is less obvious than frog-spawn, and might easily be overlooked on a slimy surface. I can distinguish the little pollywog while yet in the ova by their being quite small and

very black. This makes the fifth kind of frog or toad spawn that I have detected this year.

See, in the Holden Swamp wood, the bird of May 3d. It has sly and inquisitive ways, holding down its head and looking at me at some distance off. It has a distinct white line along the bill and about the eyes, and no yellow there, as is said of the white-eyed vireo, and I am now inclined to think it the *solitary vireo* (?), whose song is not described, and which is considered rare. I should say it had a blue-slate head, and, I note, a distinct yellowish *vent*, which none of the vireos are allowed to have!! The sides of the body are distinctly yellow, but there is none at all on the throat or breast.

Vaccinium Pennsylvanicum, — how long? — by owl-nest tree. The parti-colored warbler is very common and musical there, — my tweezier-bird, — making the *screep screep screep* note. It is an almost incessant singer and a very handsomely marked bird. It frequents the spruce trees, at regular intervals pausing as it flits, hops, and creeps about from limb to limb or up the main stem, and holding up its head, utters its humble notes, like *ah twze twze twze*, or *ah twze twze twze twze*.

I notice very large clams, apparently the *Unio complanatus* (*vide* two specimens in drawer), or common, in West Meadow Brook near the road, one more than four and a half inches long. I have before seen them very large in brooks.

A dandelion perfectly gone to seed, a complete globe, a system in itself.

My *Rana palustris* spawn, laid in house May 5th, in the sun this afternoon swells and rises to the surface in the jar, so that the uppermost ova project slightly above it.

May 10. A rather warm and pleasant day. Going down-town in the morning, I hear the warbling vireo, golden robin, catbird, and summer yellowbird. For some days the *Salix alba* have shown their yellow wreaths here and there, suggesting the coming of the yellowbird, and now they are alive with them.

About 8.30 A. M., I go down the river to Ball's Hill.

As I paddle along, hear the Maryland yellow-throat, the bobolink, the oven-bird, and the yellow-throated vireo.

That early glaucous, sharp-pointed, erect sedge, grass-like, by the riverside is now apparently in prime. Is it the *Carex aquatilis*?

I hear in several places the low dumping notes of awakened bullfrogs, what I call their *pebbly* notes, as if they were cracking pebbles in their mouths; not the plump *dont dont* or *ker dont*, but *kerdle dont dont*. As if they sat round mumbling pebbles. At length, near Ball's Hill, I hear the first regular bullfrog's trump. Some fainter ones far off are very like the looing [sic] of cows. This sound, heard low and far off over meadows when the warmer hours have come, grandly inauguates the summer. I perspire with rowing in my thick coat and wish I had worn a thin one. This trumpeter, marching or leaping in the van of advancing summer, whom I now hear coming on

over the green meadows, seems to say, "*Take off your coat, take off your coat, take off your coat!*" He says, "Here comes a gale that I can breathe. This is something like; this is what I call summer." I see three or four of them sitting silent in one warm meadow bay. Evidently their breeding-season now begins. But they are soon silent as yet, and it is only an occasional and transient trump that you hear. That season which is bounded on the north, on the spring side at least, by the trump of the bullfrog. This note is like the first colored petals within the calyx of a flower. It conducts us toward the germ of the flower summer. He knows no winter. I hear in his tone the rumors of summer heats. By this note he reassures the season. Not till the air is of that quality that it can support this sound does he emit it. It requires a certain sonorousness. The van is led by the croaking wood frog and the little peeping hylodes, and at last comes this pursy trumpeter, the air growing more and more genial, and even sultry, as well as sonorous. As soon as Nature is ready for him to play his part, she awakens him with a warmer, perchance a sultry, breath and excites him to sound his trombone. It reminds me at once of tepid waters and of bathing. His trump is to the ear what the yellow lily or spatter-dock is to the eye. He swears by the powers of mud. It is enough for the day to have heard only the first half-trump of an early awakened one from far in some warm meadow bay. It is a certain revelation and anticipation of the livelong summer to come. It gives leave to the corn to grow and to the heavens to thunder and lighten. It gives leave

to the invalid to take the air. Our climate is now as tropical as any. It says, Put out your fires and sit in the fire which the sun has kindled.

I hear from some far meadow bay, across the Great Meadows, the half-sounded trump of a bullfrog this warm morning. It is like the tap of a drum when human legions are mustering. It reminds me that summer is now in earnest mustering her forces, and that ere long I shall see their waving plumes and glancing armor and hear the full bands and steady tread. The bullfrog is earth's trumpeter, at the head of the terrene band. He replies to the sky with answering thunder. I see still five or six ducks, which I scare from the Great Meadows. Some may be going to breed here.

How much expression there is in the *Viola pedata*! I do not know on the whole but it is the handsomest of them all, it is so large and grows in such large masses. Yet I have thought there was a certain shallowness in its expression. Yet it spreads so perfectly open with its face turned upward that you get its whole expression.

P. M.—To Walden.

R. W. E. is sure that he heard a cuckoo to-day. A hair-bird's nest in his yard with one egg.

The northern wild red cherry by Everett's, apparently to-morrow. Hear in various woods the yorrick note of the veery. So the bird seen long since probably was not the veery. A boy found yesterday one or two of the fringed polygala out.

It is remarkable how many new birds have come all at once to-day. The hollow-sounding note of the

oven-bird is heard from the depth of the wood. The warbling vireo cheers the clms with a strain for which they must have pined. The trees, in respect to these new arrivers, have been so many empty music-halls. The oriole is seen darting like a bright flash with clear whistle from one tree-top to another over the street. The very catbird's mew in the copse harmonizes with the bare twigs, as it were shaming them into life and verdure, and soon he mounts upon a tree and is a new creature. Toward night [the] wood thrush ennobles the wood and the world with his strain.

May 11. P. M.—Wishing to get one of the little brook (?) pickerel, of Hubbard's ditches, in the arethusa meadow, I took a line in my pocket, and, baiting with a worm and cutting a pole there, I caught two directly. The biggest was nine inches long and thickly barred transversely with broken dark greenish-brown lines, alternating with golden ones. The back was the dark greenish brown with a pale-brown dorsal line. Both have the vertical dark or black line beneath the eyes and appearing, with the pupil and a mark above, to pass through it. Noticed the same in the *reticulatus* the other day. The head, *i. e.* to the rear of the gills, just one fourth the whole length. From the front of the eye to the end of the lower jaw about one ninth the whole length. In the largest specimen the lower jaw projects one eleventh of an inch beyond the upper. I put the small one, six or seven inches long, in spirits. Opening the larger, I found that it was a female, and that the ova were few and small as yet !!

I also found that apparently its last food was another pickerel two thirds as big as itself, the tail end not yet digested. So it appears that you may dig a ditch in the river meadow, for the sake of peat, and though it have no other connection with brook or river except that it is occasionally overflowed, though only twenty or thirty feet long by three or four wide and one to three deep, you may have pickerel in it nine inches long, at least, and these live in part by devouring one another. Surely it cannot be many pickerel that the bigger ones find to devour there. You might think they would have more sympathy with their fellow-prisoners. This ditch, or these ditches—for I caught one in two ditches—have not been overflowed or connected with the brook or river since the spring of '57, I think,—certainly not any of them since last fall. Yet you may find a few sizable pickerel in such narrow quarters. I have seen them several together in much smaller and shallower ditches there, and they will bury themselves in the mud at your approach. Yet, opening one, you may perchance discover that he has just swallowed his sole surviving companion! You can easily distinguish the transverse bars a rod off, when the fish is in the water. Melvin says they get to weigh about two pounds.¹

May 12. Chimney swallows.

P. M.—Up Assabet.

On the 8th I noticed a little pickerel recently dead in the river with a slit in its upper lip three quarters of an inch long, apparently where a hook had pulled

¹ It appears to be the *Esox fasciatus*. *Vide* May 27.

out. There was a white fuzzy swelling at the end of the snout accordingly, and this apparently had killed it.

It rained last night, and now I see the elm seed or samarae generally fallen or falling. It not only strews the street but the surface of the river, floating off in green patches to plant other shores. The rain evidently hastened its fall. This must be the earliest of trees and shrubs to go to seed or drop its seed. The white maple keys have not fallen. The elm seed floats off down the stream and over the meadows, and thus these trees are found bordering on the stream. By the way, I notice that birches near meadows, where there is an exceedingly gentle inclination, grow in more or less parallel lines a foot or two apart, parallel with the shore, apparently the seed having been dropped there either by a freshet or else lodged in the parallel waving hollows of the snow.

It clears off in the forenoon and promises to be warm in the afternoon, though it at last becomes cool. I see now, as I go forth on the river, the first summer shower coming up in the northwest, a dark and well-defined cloud with rain falling sheaf-like from it, but fortunately moving off northeast along the horizon, or down the river. The peculiarity seems to be that the sky is not generally overcast, but elsewhere, south and northeast, is a fair-weather sky with only innocent cumuli, etc., in it. The thunder-cloud is like the ovary of a perfect flower. Other showers are merely staminiferous or barren. There are twenty barren to one fertile. It is not commonly till thus late in the season that the fertile are seen. In the thunder-cloud, so

distinct and condensed, there is a positive energy, and I notice the first as the bursting of the pollen-cells in the flower of the sky.

Waded through the west-of-rock, or Wheeler, meadow,¹ but I find no frog-spawn there!! I do not even notice tadpoles. Beside that those places are now half full of grass, some pools where was spawn are about dried up (!), as that in Stow's land by railroad. Where are the tadpoles? There is much less water there than a month ago. Where, then, do the *Rana palustris* lay their spawn? I think in the river, because it is there I hear them, but I cannot see any. Perhaps they choose pretty deep water, now it is so warm. Now and for a week I have noticed a few pads with wrinkled edges blown up by the wind. Already the coarse grass along the meadow shore, or where it is wettest, is a luxuriant green, answering in its deep, dark color to the thunder-cloud,—both summer phenomena,—as if it too had some lightning in its bosom.

Some early brakes at the Island woods are a foot high and already spread three or four inches. The *Polygonatum pubescens* is strongly budded. The *Salix lucida* above Assabet Spring will not open for several days. The early form of the cinquefoil is now apparently in prime and very pretty, spotting the banks with its clear bright yellow.

See apparently young toad tadpoles now,—judging from their blackness,—now quite free from the eggs or spawn. If I remember rightly, the toad is colored

¹ And the next day over the large meadow south.

and spotted more like a frog at this season when it is found in the water.

Observed an *Emys insculpta*, as often before, with the rear edge on one side of its shell broken off for a couple of inches, as if nibbled by some animal. Do not foxes or musquash do this? In this case the under jaw was quite nervy.

Found a large water adder by the edge of Farmer's large mud-hole, which abounds with tadpoles and frogs, on which probably it was feeding. It was sunning on the bank and would face me and dart its head toward me when I tried to drive it from the water. It is barred above, but indistinctly when out of water, so that it then appears almost uniformly dark-brown, but in the water broad reddish-brown bars are seen, very distinctly alternating with very dark brown ones. The head was very flat and suddenly broader than the neck behind. Beneath it was whitish and reddish flesh-color. It was about two inches in diameter at the thickest part. They are the biggest and most formidable-looking snakes that we have. The inside of its mouth and throat was pink. It was awful to see it wind along the bottom of the ditch at last, raising wreaths of mud, amid the tadpoles, to which it must be a very sea-serpent. I afterward saw another running under Sam Barrett's grist-mill the same afternoon. He said that he saw a water snake, which he distinguished from a black snake, in an apple tree near by, last year, with a young robin in its mouth, having taken it from the nest. There was a cleft or fork in the tree which enabled it to ascend.

Find the *Viola Muhlenbergii* abundantly out (how long?), in the meadow southwest of Farmer's Spring.

The cinnamon and interrupted ferns are both about two feet high in some places. The first is more uniformly woolly down the stem, the other, though very woolly at top, being partly bare on the stem. The wool of the last is coarser.

George, the carpenter, says that he used to see a great many stone-heaps in the Saco in Bartlett, near the White Mountains, like those in the Assabet, and that there were no lampreys there and they called them "snake-heaps."

Saw some unusually broad chestnut planks, just sawed, at the mill. Barrett said that they came from Lincoln; whereupon I said that I guessed I knew where they came from, judging by their size alone, and it turned out that I was right. I had often gathered the nuts of those very trees and had observed within a year that they were cut down. So it appears that we have come to this, that if I see any peculiarly large chestnuts at the sawmill, I can guess where they came from, even know them in the log. These planks were quite shaky, and the heart had fallen out of one. Barrett said that it was apt to be the case with large chestnut. They use this wood for coffins, instead of black walnut.

May 13. P. M. — To Island.

Uvularia sessilifolia is well out in Island woods, opposite Bath Rock; how long?

The early willows now show great green wands a foot or two long, consisting of curled worm-like catkins

three inches long, now in their prime. They present conspicuous masses of green now before the leaves are noticeable, like the fruit of the elm at present. Some have begun to show their down. So this is apparently the next tree (or shrub?) after the elm to shed its seeds.

I wade through the great Lee farm meadow. Many *Emys picta* which I see have perfectly fresh and clear black scales now. I can even see the outlines of the bony plates beneath impressed in the scales. These turtles abound now in the shallow pools in the meadows with grassy or weedy bottoms. I notice on one, part of whose rear marginal plate is broken, two small claw-like horny appendages on the skin, just over the tail.

Viola lanceolata, how long?

As I sat in my boat near the Bath Rock at Island, I saw a red squirrel steal slyly up a red maple, as if he were in search of a bird's nest (though it is early for most), and I thought I would see what he was at. He crept far out on the slender branches and, reaching out his neck, nibbled off the fruit-stems, sometimes bending them within reach with his paw; and then, squatting on the twig, he voraciously devoured the half-grown keys, using his paws to direct them to his mouth, as a nut. Bunch after bunch he plucked and ate, letting many fall, and he made an abundant if not sumptuous feast, the whole tree hanging red with fruit around him. It seemed like a fairy fruit as I sat looking toward the sun and saw the red keys made all glowing and transparent by the sun between me and the body of the squirrel. It was certainly a cheering sight, a cunning red squirrel perched on a slender

twig between you and the sun, feasting on the handsome red maple keys. He nibbled voraciously, as if they were a sweet and luscious fruit to him. What an abundance and variety of food is now ready for him! At length, when the wind suddenly began to blow hard and shake the twig on which he sat, he quickly ran down a dozen feet.

The large globular masses of oat spawn, often on the very top of the old pontederia stems and also on the shooting *Equisetum limosum*, of the same color with the weeds and bottom, look like a seedy fruit which is divested of its rind.

May 14. 5.30 A. M.—Up railroad.

Hear and see the red-eye on an oak. The tail is slightly forked and apparently three quarters of an inch beyond wings; all whitish beneath. Hear and see a redstart. Methinks I did also on the 10th? The rhythm a little way off is *ah, tche tche tche'-ar*.

10 A. M.—To Hill.

A kingbird. Saw a young robin dead. Saw the *Viola palmata*, early form, yesterday; how long? Look at White Avens Shore. See what I call vernal grass in bloom in many places.

The *Salix sericea*, large and small, and the *petiolaris* or loose-catkinned (so far as I know their staminate flowers) are now out of bloom. The *rostrata* not quite done. Some of its catkins now three and a half inches long. The *alba* not quite done. *S. pedicellaris* by railroad about done, and the *Torreyana* done.

Picked up, floating, an *Emys picta*, hatched last year. It is an inch and one twentieth long in the upper shell and agrees with Agassiz's description at that age. Agassiz says he could never obtain a specimen of the *insculpta* only one year old, it is so rarely met with, and young *Emydidæ* are so aquatic. I have seen them frequently.

To-day, for the first time, it appears to me summer-like and a new season. There is a tender green on the meadows and just leafing trees. The blossoms of the cherry, peach, pear, etc., are conspicuous, and the air is suddenly full of fragrance. Houses are seen to stand amid blossoming fruit trees, and the air about them is full of fragrance and the music of birds.

As I go down the railroad at evening, I hear the incessant evening song of the bay-wing from far over the fields. It suggests pleasant associations. Are they not heard chiefly at this season?

The fruit of the early aspen is almost as large — its catkins — as those of the early willow. It will soon be ripe. The very common puffed-up yellow ovaries make quite a show, like some normal fruit; even quite pretty.

I discovered this morning that a large rock three feet in diameter was partially hollow, and broke into it at length with a stone in order to reach some large black crystals which I could partly see. I found that it had been the retreat of a squirrel, and it had left many nuts there. It had entered a small hole bristling with crystals, and there found a chamber or grotto a foot long at least, surrounded on all sides by crystals.

They thus explore and carry their nuts into every crevice, even in the rocks.

Celandine by cemetery. One tells me he saw to-day the arum flower.¹

May 15. 7.30 A. M. — Ride to the Shawsheen in the northeast of Bedford. Meadow saxifrage well out, many of them, at the tan-yard meadow. The *Equisetum limosum* will apparently (?) open there in two or three days. *Thalictrum dioicum* abundant, apparently in prime; how long? It is a very interesting, graceful, and delicate plant, especially the sterile, with its pretty, commonly purple, petal-like sepals, and its conspicuous long yellow anthers in little bare clusters (?), trembling over the meadow. Yet a frail and rather inobvious plant. It grows on moist, commonly rocky slopes next to meadows at the base of hills, or by rocks in rather swampy woods. The meadows are now full of sedges in bloom, which shed clouds of pollen and cover my shoes with it. The cassia has not come up yet. High blueberries well out.

Hear the evergreen-forest note. Also, in rather low ground in Bedford, a note much like the summer yellowbird's, or between that and the redstart, and see the bird quite near, but hopping quite low on the bushes. It looked like the yellowbird with a bluishash top of head. What was it?²

The shad-bush in bloom is now conspicuous, its white flags on all sides. Is it not the most massy and

¹ I find it *well out* the 16th. See dioecious specimens.

² Probably parti-colored warbler. *Vide* [p. 423].

conspicuous of any wild plant now in bloom? I see where the farmer mending his fence has just cut one to make part of the fence, and it is stretched out horizontally, a mass of white bloom.

Measured two apple trees by the road from the middle of Bedford and Fitch's mill. One, which divided at the ground, was thirteen and a half feet in circumference there, around the double trunk; but another, in a field on the opposite side of the road, was the most remarkable tree for size. This tree was exceedingly low for the size of its trunk, and the top rather small. At three feet from the ground it measured ten and a quarter feet in circumference, and immediately above this sent off a branch as big as a large apple tree. It was hollow, and on one side part of the trunk had fallen out. These trees mark the residence of an old settler evidently.

May 16. A. M. — Up Assabet.

Aralia nudicaulis at Island. The leaf-stalks are often eaten off, probably by some quadruped. The flower-buds of the *Cornus florida* are five eighths of an inch in diameter. The *Salix lucida* will hardly bloom within two days. The *S. Torreyana* catkins are so reddish that at a little distance it looks somewhat like the common black cherry now leafing.

A hummingbird yesterday came into the next house and was caught. Flew about our parlor to-day and tasted Sophia's flowers. In some lights you saw none of the colors of its throat. In others, in the shade the throat was a clear bright scarlet, but in the sun it glowed

1858] A HUMMINGBIRD IN THE HOUSE 423

with splendid metallic, *fiery* reflections about the neck and throat. It uttered from time to time, as it flew, a faint squeaking chirp or chirrup. The hum sounded more hollow when it approached a flower. Its wings fanned the air so forcibly that you felt the cool wind they raised a foot off, and nearer it was very remarkable. Does not this very motion of the wings keep a bird cool in hot weather?

The only indigenous willow I noticed yesterday on the Shawsheen — a mile below Fitch's mill — was the small *sericea*, such as by Assabet white maple. What was that loud but distant note of a bird, apparently in the low land, somewhat like the guinea-hen note, also reminding me a little of the plover about Truro light, but apparently a hawk? Got quite a view down the valley of the Shawsheen below the junction of Vine Brook, northeast, from a hill in the extreme northeast of Bedford.

*P. M. — To *Uvularia perfoliata* at Flint's Pond.*

See again the warbler of yesterday. All bright yellow beneath and apparently bluish-slate above, but I do not see it well. Its note, with little variation, is like *twit twit, twit twit, twitter twitter twe.* It must be the parti-colored warbler.¹

Sat down in the sun in the path through Wright's wood-lot above Goose Pond, but soon, hearing a slight rustling, I looked round and saw a very large black snake about five feet long on the dry leaves, about a rod off. When I moved, it vibrated its tail very rapidly

¹ [Probably the Nashville warbler.]

and smartly, which made quite a loud rustling or rattling sound, reminding me of the rattlesnake, as if many snakes obeyed the same instinct as the rattle-snake when they vibrate their tails. Once I thought I heard a low hiss. It was on the edge of a young wood of oaks and a few white pines from ten to eighteen feet high, the oaks as yet bare of leaves. As I moved toward the snake, I thought it would take refuge in some hole, but it appeared that it was out on a scout and did not know of any place of refuge near. Suddenly, as it moved along, it erected itself half its length, and when I thought it was preparing to strike at me, to my surprise it glided up a slender oak sapling about an inch in diameter at the ground and ten feet high. It ascended this easily and quickly, at first, I think, slanting its body over the lowest twig of the next tree. There were seven little branches for nine feet, averaging about the size of a pipe-stem. It moved up in a somewhat zig-zag manner, availing itself of the branches, yet also in part spirally about the main stem. It finds a rest (or hold if necessary) for its neck or forward part of its body, moving crosswise the small twigs, then draws up the rest of its body. From the top of this little oak it passed into the top of a white pine of the same height an inch and a half in diameter at the ground and two feet off; from this into another oak, fifteen feet high and three feet from the pine; from this to another oak, three feet from the last and about the same height; from this to a large oak about four feet off and three or four inches in diameter, in which it was about fourteen feet from the ground: thence through two more oaks, a little lower, at

intervals of four feet, and so into a white pine; and at last into a smaller white pine and thence to the ground. The distance in a straight line from where it left the ground to where it descended was about twenty-five feet, and the greatest height it reached, about fourteen feet. It moved quite deliberately for the most part, choosing its course from tree to tree with great skill, and resting from time to time while it watched me, only my approach compelling it to move again. It surprised me very much to see it cross from tree to tree exactly like a squirrel, where there appeared little or no support for such a body. It would glide down the proper twig, its body resting at intervals of a foot or two, on the smaller side twigs, perchance, and then would easily cross an interval of two feet, sometimes in an ascending, sometimes a descending, direction. If the latter, its weight at last bent the first twig down nearer to the opposite one. It would extend its neck very much, as I could see by the increased width of the scales exposed, till its neck rested across the opposite twig, hold on all the while tightly to some part of the last twig by the very tip of its tail, which was curled round it just like a monkey's. I have hardly seen a squirrel *rest* on such slight twigs as it would rest on in mid-air, only two or three not bigger than a pipe-stem, while its body stretched *clear* a foot at least between two trees. It was not at all like creeping over a coarse basket-work, but suggested long practice and skill, like the rope-dancer's. There were no limbs for it to use comparable for size with its own body, and you hardly noticed the few slight twigs it rested on, as it glided through the air. When its neck rested on the opposite twig, it was, as it

were, glued to it. It helped itself over or up them as surely as if it grasped with a hand. There were, no doubt, rigid kinks in its body when they were needed for support. It is a sort of endless hook, and, by its ability to bend its body in every direction, it finds some support on every side. Perhaps the edges of its scales give it a hold also. It is evident that it can take the young birds out of a sapling of any height, and no twigs are so small and pliant as to prevent it. Pendulous sprays would be the most difficult for it, where the twigs are more nearly parallel with the main one, as well as nearly vertical, but even then it might hold on by its tail while its head hung below. I have no doubt that this snake could have reached many of the oriole-nests which I have seen. I noticed that in its anger its rigid neck was very much flattened or compressed vertically. At length it coiled itself upon itself as if to strike, and, I presenting a stick, it struck it smartly and then darted away, running swiftly down the hill toward the pond.

Yellow butterflies. Nabalus leaves are already up and coming up in the wood-paths. Also the radical leaves of one variety of *Solidago arguta*, and apparently of *S. altissima*, are conspicuously up.

A golden-crowned thrush hops quite near. It is quite small, about the size of the creeper, with the upper part of its breast thickly and distinctly pencilled with black, a tawny head; and utters now only a sharp cluck for a *chip*. See and hear a redstart, the rhythm of whose strain is *tse'-tse, tse'-tse, tse'*, emphasizing the last syllable of all and not ending with the common *tscar*. Hear the night-warbler.

The *Uvularia perfoliata*, which did not show itself at all on the 3d, is now conspicuous, and one is open but will not shed pollen before to-morrow. It has shot up about ten inches in one case and bloomed within thirteen days!!

Ranunculus repens at Brister's Spring; how long? Was that *R. repens* at the Everett Spring on the 3d?¹ The whip-poor-will heard.

E. Hoar detected the other day two ovaries under one scale of a *Salix rostrata*, and, under another, a stamen and another stamen converted into an ovary.

May 17. Louring and more or less rainy.

P. M. — To Ledum Swamp.

Near Bæomyces Bank, I see the *Salix humilis* showing its down or cotton, and also the *S. tristis*.² Probably the last is wholly out of bloom some time. These, then, have ripe seed before the white maple.

It rains gently from time to time as I walk, but I see a farmer with his boys, John Hosmer, still working in the rain, bent on finishing his planting. He is slowly getting a soaking, quietly dropping manure in the furrows. This rain is good for thought. It is especially agreeable to me as I enter the wood and hear the soothing dripping on the leaves. It domiciliates me in nature. The woods are the more like a house for the rain; the few slight noises sound more hollow in them; the birds hop nearer; the very trees seem still and pensive. The clouds are but

¹ Yes.

² As I see the last still in bloom on the 20th on a north side-hill, perhaps this was a very small *humilis*?

a higher roof. The clouds and rain confine me to near objects, the surface of the earth and the trees. On the first holdings up in the intervals of the rain, the chewink is heard again, and the huckleberry-bird, and the ever-green-forest note, etc. I am coming in sight of the Charles Miles house. What a pleasant sandy road, soaking up the rain, that from the woods to the Miles house! The house becomes a controlling feature in the landscape when there is but one or two in sight.

The red maple tops ten days ago looked like red paint sealing off, when seen against houses. Now they have acquired a browner red. The *Populus grandidentata* now shows large, silvery, downy, but still folded, leafets.

You are more than paid for a wet coat and feet, not only by the exhilaration that the fertile moist air imparts, but by the increased fragrance and more gem-like character of expanding buds and leafets in the rain. All vegetation is now fuller of life and expression, somewhat like lichens in wet weather, and the grass. Buds are set in syrup or amber.

Measured the large apple tree in front of the Charles Miles house. It is nine feet and ten inches in circumference at two and a half feet from the ground, the smallest place below the branches, which are now four,—once five, one being cut,—starting at about five feet from the ground, and each as big as a good-sized modern tree. The top is large. The trunk looks healthy and is scarcely larger at the ground than where measured. It is large for an oak, a sturdy-looking tree, reminding one of the portly bodies of some of our grandfathers. It is not grafted. Once stood by the fence.

While I was measuring the tree, Puffer came along, and I had a long talk with him, standing under the tree in the cool sprinkling rain till we shivered. He said that he had seen pout-spawn attached to the under side of the white lily pads!! He thought he knew it from having seen it in their bodies. He thought that the pickerel-spawn was dropped in deep water and was devoured by pouts and eels. Wondered where eels bred, and how, for he never detected any spawn in them. Had been told (like Witherell) that they gendered into, i. e. copulated with, the clam. Told of a winter some fifteen years ago when there was a freshet in February, and the snapping turtles thought it was spring and came up with it on to the meadows; but it froze, and the ice settled on them and killed them when the water went down, and they were found dead in great numbers in the spring,—one that must have weighed one hundred pounds. Had seen pickerel that had been frozen four or five hours brought to life in water. Said that the black snake laid eight or ten eggs in a field. Once killed a very large water adder, and counted over sixty little snakes in it an inch or two long, and that was not all. Once he was going along, saw a water adder and heard a low sound which it made with its mouth, and he saw as many as twenty-five little snakes run into its mouth. Says the foxes eat the *Emys picta*, which I believe he called grass turtles. He had seen where they had opened them. But they could not get at the box turtle. Found some young stake-drivers as he was mowing.

When the hummingbird flew about the room yesterday, his body and tail hung in a singular manner be-

tween the wings, swinging back and forth with a sort of oscillating motion, not hanging directly down, but yet pulsating or teetering up and down.

I see a chewink flit low across the road with its peculiar flirting, undulating motion.

I thought yesterday that the view of the mountains from the bare hill on the Lincoln side of Flint's Pond was very grand. Surely they do not look so grand anywhere within twenty miles of them. And I reflected what kind of life it must be that is lived always in sight of them. I looked round at some windows in the middle of Lincoln and considered that such was the privilege of the inhabitants of these chambers; but their blinds were closed, and I have but little doubt that they are *blind* to the beauty and sublimity of this prospect. I doubt if in the landscape there can be anything finer than a distant mountain-range. They are a constant elevating influence.

Ranunculus acris, apparently in a day or two. Rhodora at Clamshell well out.

Just after hearing my night-warbler I see two birds on a tree. The one which I examined — as well as I could without a glass — had a white throat with a white spot on his wings, was dark above and moved from time to time like a creeper, and it was about the creeper's size.¹ The other bird, which I did not examine particularly, was a little larger and more tawny.²

It is remarkable how little way most men get in their

¹ The plate of *Sylvia Canadensis* in New York Reports has since reminded me of this.

² Perhaps golden-crowned thrush.

account of the mysteries of nature. Puffer, after describing the habits of a snake or turtle, — some peculiarity which struck him in its behavior, — would say with a remarkable air as if he were communicating or suggesting something, possibly explaining something, "Now I take it *that* is Nature; Nature did that."

May 18. Set an arbor-vitæ hedge fifteen inches east of our line; about twenty inches high.

May 19. A. M. — Surveying (by the eye) for Warner the meadow surveyed for John Hosmer in June, '56.

The black currant near southwest corner of his Saw Mill field (*Ribes floridum*) perfectly out; how long?

P. M. — To Everett Spring.

There appears to be quite a variety in the colors of the *Viola cucullata*. Some dark-blue, if not lilac (?), some with a very dark blue centre and whitish circumference, others dark-blue within and dark without, others all very pale blue. *Stellaria borealis* well out, apparently several days. What I called the *Ranunculus bulbosus* there May 3d proves to be the *R. repens*. It would appear then to be the earliest ranunculus. It is a dense bed of yellow now. I am struck by the light spot in the sinuses of the leaves. The *Equisetum sylvaticum* there is now of a reddish cast.

R. W. E. says that Pratt found yesterday out the *trientalis*, *Trillium cernuum*, and *Smilacina bifolia*.

Four rods plus south of the cross-fence over Everett's hill, on the west slope, I find the *Ranunculus aborti-*

vus, two plants open only; but will not shed pollen till to-morrow. A rod or two further the *Equisetum hyemale*, apparently a little past bloom, or effete, all the heads open.

Looking with my glass into the Gourgas pond-hole, I see three or four buck-bean blossoms. Two birds about the size and of the appearance of a pigeon or turtle dove start up with a loud alarm note from the shallow muddy flat there, — with a harsh shrill cry, *phil phil phil* or the like. At first I could not guess what they were, but since concluded that they were the larger yellow-legs. Could this bird have made the sound heard on the 15th? There remained feeding on the mud along the water's edge two peetweet-like birds, but apparently larger and less teetering. I thought they were *T. solitarius*.

Heard the night-warbler *begin* his strain just like an oven-bird! I have noticed that when it drops down into the woods it darts suddenly *one side* to a perch when low.

May 20. P. M. — Up Assabet.

A cloudy afternoon, with a cool east wind, producing a mist. Hundreds of swallows are now skimming close over the river, at its broadest part, where it is shallow and runs the swiftest, just below the Island, for a distance of twenty rods. There are bank, barn, cliff, and chimney swallows, all mingled together and continually scaling back and forth, — a very lively sight. They keep descending or stooping to within a few inches of the water on a curving wing,

without quite touching it, and I suppose are attracted by some small insects which hover close over it. They also stoop low about me as I stand on the flat island there, but I do not perceive the insects. They rarely rise more than five feet above the surface, and a general twittering adds to the impression of sociability. The principal note is the low grating sound of the bank swallow, and I hear the *vit vit* of the barn swallow. The cliff swallow, then, is here. Are the insects in any measure confined to that part of the river? Or are they congregated for the sake of society? I have also in other years noticed them over another swift place, at Hubbard's Bath, and also, when they first come, in smaller numbers, over the still and smooth water under the lee of the Island wood. They are thick as the gnats which perhaps they catch. Swallows are more confident and fly nearer to man than most birds. It may be because they are more protected by the sentiment and superstitions of men.

The season is more backward on account of the cloudy and rainy weather of the last four or five days and some preceding. The *Polygonatum pubescens*, not quite. The red oak is not out.

Hear a quail whistle.

I notice that the sugar maple opposite Barrett's does not bloom this year, nor does the canoe birch by the Hemlocks bear sterile catkins. Perhaps they more or less respect the alternate years.

3.30 p. m. — To Brister's Hill.

Going along the deep valley in the woods, just be-

fore entering the part called Laurel Glen, I heard a noise, and saw a fox running off along the shrubby side-hill. It looked like a rather small dirty-brown fox, and very clumsy, running much like a wood-chuck. It had a dirty or dark brown tail, with very little white to the tip. A few steps further I came upon the remains of a woodchuck, yet warm, which it had been eating. Head, legs, and tail, all remained, united by the skin, but the bowels and a good part of the flesh were eaten. This was evidently a young fox, say three quarters grown, or perhaps less, and appeared as full as a tick. There was a fox-hole within three rods, with a very large sand-heap, several cartloads, before it, much trodden. Hearing a bird of which I was in search, I turned to examine it, when I heard a bark behind me, and, looking round, saw an old fox on the brow of the hill on the west side of the valley, amid the bushes, about ten rods off, looking down at me. At first it was a short, puppy-like bark, but afterward it began to bark on a higher key and more prolonged, very unlike a dog, a very ragged half-screaming *bur-ar-r-r*. I proceeded along the valley half a dozen rods after a little delay (the fox being gone), and then looked round to see if it returned to the woodchuck. I then saw a full-grown fox, perhaps the same as the last, cross the valley through the thin low wood fifteen or twenty rods behind me, but from east to west, pausing and looking at me anxiously from time to time. It was rather light tawny (not fox-colored) with dusky-brown bars, and looked very large, wolf-like. The full-grown fox stood much higher on its legs and was longer, but

the body was apparently not much heavier than that of the young. Going a little further, I came to another hole, and ten feet off was a space of a dozen square feet amid some little oaks, worn quite bare and smooth, apparently by the playing of the foxes, and the ground close around a large stump about a rod from the hole was worn bare and hard, and all the bark and much of the rotten wood was pawed or gnawed off lately. They had pawed a deep channel about one and in between the roots, perhaps for insects. There lay the remains of another woodchuck, now dry, the head, skin, and legs being left, and also part of the skin of a third, and the bones of another animal, and some partridge feathers. The old foxes had kept their larder well supplied. Within a rod was another hole, apparently a back door, having no heap of sand, and five or six rods off another in the side of the hill with a small sand-heap, and, as far down the valley, another with a large sand-heap and a back door with none. There was a well-beaten path from the one on the side-hill five or six rods long to one in the valley, and there was much blackish dung about the holes and stump and the path. By the hole furthest down the valley was another stump, which had been gnawed (?) very much and trampled and pawed about like the other. I suppose the young foxes play there. There were half a dozen holes or more, and what with the skulls and feathers and skin and bones about, I was reminded of Golgotha. These holes were some of them very large and conspicuous, a foot wide vertically, by eight or ten inches, going into the side-hill with a curving stoop,

and there was commonly a very large heap of sand before them, trodden smooth. It was a sprout-land valley, cut off but a year or two since.

As I stood by the last hole, I heard the old fox bark, and saw her (?) near the brow of the hill on the north-west, amid the bushes, restless and anxious, overlooking me a dozen or fourteen rods off. I was, on doubt, by the hole in which the young were. She uttered at very short intervals a prolonged, shrill, screeching kind of bark, beginning lower and rising to a very high key, lasting two seconds; a very broken and ragged sound, more like the scream of a large and angry bird than the bark of a dog, trilled like a piece of vibrating metal at the end. It moved restlessly back and forth, or approached nearer, and stood or sat on its haunches like a dog with its tail laid out in a curve on one side, and when it barked it laid its ears flat back and stretched its nose forward. Sometimes it uttered a short, puppy-like, snappish bark. It was not fox-colored now, but a very light tawny or wolf-color, dark-brown or dusky beneath in a broad line from its throat; its legs the same, with a broad dusky perpendicular band on its haunches and similar ones on its tail, and a small whitish spot on each side of its mouth. There it sat like a chieftain on his hills, looking, methought, as big as a prairie wolf, and shaggy like it, anxious and even fierce, as I peered through my glass. I noticed, when it withdrew, — I too withdrawing in the opposite direction, — that as it had descended the hill a little way and wanted to go off over the pinnacle without my seeing which way it went, it ran one side about ten feet, till it was behind

a small white pine, then turned at a right angle and ascended the hill directly, with the pine between us. The sight of it suggested that two or three might attack a man. The note was a shrill, vibrating scream or cry; could easily be heard a quarter of a mile. How many woodchucks, rabbits, partridges, etc., etc., they must kill, and yet how few of them are seen! A very wolfish color. It must have been a large fox, and, if it is true that the old are white on the sides of the face, an old one. They evidently used more than a half dozen holes within fifteen rods. I withdrew the sooner for fear by his barking he would be betrayed to some dog or gunner.

It was a very wild sight to see the wolf-like parent circling about me in the thin wood, from time to time pausing to look and bark at me. This appears to be nearest to the cross fox of Audubon, and is considered a variety of the red by him and most others, not white beneath as the red fox of Harlan. Emmons says of the red fox, "In the spring the color appears to fade," and that some are "pale yellow," but does not describe minutely. This was probably a female, for Bell says of the English fox that the female "loses all her timidity and shyness when suckling her young;" also that they are a year and a half in attaining their full size.¹

Hear the pepe. See tanagers, male and female, in

¹ I find afterward three or four more fox-holes near by, and see where they have sat on a large upturned stump, which had heaved up earth with it. Many large pieces of woodchuck's skin about these holes. They leave the head and feet. A scent of carrion about the holes.

the top of a pine, one red, other yellow, from below. We have got to these high colors among birds.

Saw in the street a young cat owl, one of two which Skinner killed in Walden Woods yesterday. It was almost ready to fly, at least two and a half feet in alar extent; tawny with many black bars, and darker on wings. Holmes, in Patent Office Report, says they "pair early in February." So I visited the nest. It was in a large white pine close on the north side of the path, some ten rods west of the old Stratton cellar in the woods. This is the largest pine thereabouts, and the nest is some thirty-five feet high on two limbs close to the main stem, and, according to Skinner, was not much more than a foot across, made of small sticks, nearly flat, "without fine stuff!" There were but two young. This is a path which somebody travels every half-day, at least, and only a stone's throw from the great road. There were many white droppings about and large rejected pellets containing the vertebrae and hair of a skunk. As I stood there, I heard the crows making a great noise some thirty or forty rods off, and immediately suspected that they were pestering one of the old owls, which Skinner had not seen. It proved so, for, as I approached, the owl sailed away from amidst a white pine top, with the crows in full pursuit, and he looked very large, stately, and heavy, like a seventy-four among schooners. I soon knew by the loud cawing of the crows that he had alighted again some forty rods off, and there again I found him perched high on a white pine, the large tawny fellow with black dashes and large erect horns. Away he goes again, and the crows after him.

May 21. P. M. — To Boulder Field.

Horse-chestnut in bloom. *Aesculus spicata* var. *rubra* will bloom, apparently, in four or five days. It is now fifteen inches high. Lilac in bloom. Pratt shows me what I take to be *Genista tinctoria* (not budded) from the Boulder Field. It has leafed; when? Also a ranunculus from his land, — which has been out how long? — which is very near to *R. repens*, but has small flowers, petals less than the calyx, and leaves, methinks, more divided, but I did not see it open. It may be a variety of *repens*.¹

His daughter has found in bloom: huckleberry on the 19th; *Viola pubescens*, 16th; *Geranium maculatum*, 18th. I notice that the old indigo-bird path behind Pratt's is for some distance distinctly defined by young birches, three or four feet high, which are now clothed with tender leaves before the young oaks, etc., on each side. They are especially thick in the ruts, while there are but few here and there in the sprout-land generally. I suspect that the seed was blown and lodged there in the winter.

E. Hoar saw *Silene Pennsylvanica* out in Lincoln today, in a warm cleft of a rock; also *Cerasus pumila* between here and Newton.

May 22. Saturday. Ed. Emerson brings me the egg of a hawk, dirty bluish-white,² just found, with three other eggs not much developed, in a nest on the ground. Probably a hen-harrier's.

¹ When I look May 29th, the flower open is of usual size and true *R. repens*. ² *Vide* May 30th.

P. M. — By cars to Worcester, on way to New York.

We have had much rainy weather for about a week, and it has just cleared up. I notice, as I glide along, that the sun coming out shines brightly on smooth waters, ponds, and flooded meadows raised by the rain, and is reflected from the new lily pads, which most now first generally notice, spread out on the surface, the foul weather having prevented our observing their growth. Something like this annually occurs. After this May storm the sun bursts forth and is reflected brightly in some placid hour from the new leaves of the lily spread out on the surface in the ponds and pools raised [by] the rain, and we seem to have taken a long stride into summer. So was it also in a former geological age, when water and water-plants prevailed and before man was here to behold them. The sun was then reflected from the lily pad after the May storm as brightly as now.

May 23. In Worcester.

5 A. M. — Walk with Blake, Brown, and Rogers to Quinsigamond Pond, carrying our breakfast. Paddled up the pond northerly three quarters of a mile from the bridge, and lunched in Shrewsbury on the east side. See some quite fresh frog-spawn of the dark kind, like the *Rana palustris*, for instance. Cross and ascend Wigwam Hill. Krigia and comandra out there. Brown thrasher's nest on ground, under a small tree, with four eggs.

Found in the water, eight or ten inches deep, just behind the Lake House, a nasturtium not quite open, which I think must be a variety of the horse-radish (*N. Armoracia*). Yet such a variety is not described by

Gray, for the immersed stem leaves were all narrowly dissected and pinnate (*vide* pressed specimen), and I saw similar ones in the streets in Worcester in dry ground. The lowest portion — for I had not the root — had the true horse-radish taste. It seemed to be the result of its growing at some time in water. Has the *N. lacustre* the common horse-radish taste?

A little south of the Boston and Worcester turnpike, and six rods from the west side of the pond, I saw a chestnut about eighteen inches in diameter which was struck by lightning in the night some ten days ago. There was left standing only a splinter of the stump, some seven feet high, with the main limbs fallen upon and around it. The bark and thin slivers or strips of the wood had been cast to a dozen rods around in all directions, the ground being strewn with them, and some rested on the top of an adjacent wood[-pile]. Also one or two large limbs were thrown to a distance. But what was most remarkable and peculiar, there was a trench somewhat more than two rods long, five feet wide at top, and more than two feet deep, leading perfectly straight from the foot of the tree toward the pond, large old roots being burst through, in the gravelly soil, and masses of the earth cast a rod each way, yet most of the dirt formed a bank to the trench. It would have taken an Irishman at least three hours to have dug this. Then, after an interval of three or four rods, where the ground was a little higher, the trench reappeared at the water's edge, though quite short there, exactly in the line of the first ditch continued, and there some two cartloads of gravelly soil were thrown out, and the water stood in it.

I counted in all nine places within eight or ten rods along the water's edge, or six or eight rods from the tree, where it had made a short furrow in the ground; and in some cases there were slight furrows here and there between these and the tree, as if the lightning had diverged in rays from the base of the tree, perhaps (?) at first along the roots to the pond. Did it pass *through* the ground when it did not break the surface? The bark was not so much stripped off as I have seen, but the wood was finely splintered.

May 24. Monday. To New York by railroad.

All through Connecticut and New York the white involucres of the cornel (*C. Florida*), recently expanded, some of them reddish or rosaceous, are now conspicuous. It is not quite expanded in Concord. It is the most showy indigenous tree now open. (One plant at Staten Island on the 25th had but just begun to flower, *i. e.* the true flowers to open.) After entering the State of New York I observed, now fully in bloom, what I call the *Viburnum prunifolium*, looking very like our *V. Lentago* in flower at a little distance. It is thorny, as they told me at Staten Island, and the same I dealt with at Perth Amboy, and is insufficiently described. It grows on higher and drier ground than our *V. nudum*, but its fruit, which is called "nanny berries," resembles that rather than the *V. Lentago*. It shows now rich, dense, rounded masses of white flowers; *i. e.*, the surface of the bushes makes the impression of regular curves or convex masses of bloom, bearing a large proportion to the green leaves. The pink azalea, too, not yet out at home, is

1858] NEW YORK AND STATEN ISLAND 443

generally out, with the cornel. (I see it also next day at Staten Island.)

I saw a musquash swimming across a pool, I think after entering upon Manhattan Island!

In the evening, looked at the aquarium at Barnum's. The glass boxes with nothing but water (labelled fresh or salt) and pebbles seemed sufficiently interesting. There were breams only two inches long, probably hatched only last year. The sea-anemones were new and interesting to me. The ferns, etc., under glass a fine parlor ornament.

May 25. Visited the Egyptian Museum.

The chariot wheel might have been picked out of a ditch in Carlisle, and the infant's shoe have been found with it.

P. M.—To Staten Island.

See an abundance of *Ranunculus abortivus* in the wood-path behind Mr. E.'s house, going to seed and in bloom. The branches are fine and spreading, about eight or ten inches high. (*Vide* pressed plants.) Also some *R. recurvatus*; and, well out, what appears to be *Thaspium trifoliatum* (?) in flower, in path to house. (*Vide* pressed.) Potatoes just hoed; ours not fairly up.

May 26. 3 P. M. — Return to Boston.

May 27. At Boston, Cambridge, and Concord.

De Kay describes the *Esox fasciatus*, which is apparently mine of May 11th. As I count, the rays are the same in number, *viz.* "P. 13, V. 9, D. 14, A. 13, C. 20."

He says it is from six to eight inches long and abundant in New York; among other things is distinguished by "a muddy tinge of the roundish pectoral, abdominal, and ventral fins; and by a broad concave or lunated tail." I do not observe the peculiarity in the tail in mine, now it is in spirits.

Ed. Emerson shows me an egg of a bittern (*Ardea minor*) from a nest in the midst of the Great Meadows, which four boys found, scaring up the bird, last Monday, the 24th. It was about a foot wide on the top of a tussock, where the water around was about one foot deep. I will measure the egg.¹ They were a little developed. Also an egg of a turtle dove, one of two in a nest in a pitch pine, about six feet from the ground, in Sleepy Hollow Cemetery, by the side of a frequented walk, on a fork on a nearly horizontal limb. The egg is milk-white, elliptical, one and three sixteenths inches long by seven eighths wide.

May 28. I get the nest of the turtle dove above named, it being deserted and no egg left. It appears to have been built on the foundation of an old robin's nest and consists of a loose wisp of straw and pinweed, the seedy ends projecting, ten inches long, laid across the mud foundation of the robin's nest, with a very slight depression. Very loose and coarse material is artificially disposed, without any lining or architecture. It was close to a frequented path of the cemetery and within reach of the hand.

¹ It is clay-colored, one and seven eighths inches long by one and nine sixteenths, about the same size at each end.

Hear the wood pewee.

P. M. — By boat to Great Meadows to look for the bittern's nest.

The *Cornus florida* involucres are partly expanded, but not yet very showy. *Salix nigra* apparently one day in one place. The *Salix pedicellaris*, which abounds in the Great Meadows, is a peculiar and rather interesting willow, some fifteen inches high and scarcely rising above the grass even now. With its expanded reddish ovaries, it looks like the choke-berry in bud at a little distance. The *Ranunculus Purshii* is now abundant and conspicuous in river.

I see common in these meadows what appears to be that coarse grass growing in circles, light or yellowish green, with dense wool-grass-like heads and almost black involucres, just begun to bloom. Is it the *Scirpus sylvaticus* var. *atrovirens*? (*Vide* pressed.) As I look far over the meadow, which is very wet, — often a foot of water amid the grass, — I see this yellowish green interspersed with irregular dark-green patches where it is wettest, just like the shadow of a cloud, — and mistook it for that at first. That was a dark-green and fine kind of sedge. These various shades of grass remind me of June, now close at hand. From time to time I hear the sound of the bittern, concealed in the grass, indefinitely far or near, and can only guess at the direction, not the distance. I fail to find the nest.

I come, in the midst of the meadow, on two of the *Emys meleagris*, much larger than I have found before. Perhaps they are male and female, the one's sternum being decidedly depressed an eighth of an inch, the

other's not at all. They are just out of the water, partly concealed by some withered grass, and hiss loudly and run out their long necks very far and struggle a good deal when caught. They continue to scratch my hand in their efforts to escape as I carry them, more than other turtles do. The dorsal shield of each is just seven inches long; the sternum of what appears to be the female is about an eighth inch shorter, of the male near a quarter of an inch longer, yet in both the projection of the sternum is chiefly forward. Breadth of shell in the male four and seven eighths, of female four and a half, in middle, but the female widens a little behind. Height of each about two and three quarters inches. The smoothish dark-brown shells, high, regularly rounded, are very thickly but not conspicuously spotted (unless in water) with small oval or elongated yellow spots, as many as fifty or sixty to a scale, and more or less raying from the origin of the scale, becoming larger and horn-colored on the marginal scales especially of one. The thickly and evenly distributed yellow marks of the head and neck correspond to those of the shell pretty well. They are high-backed turtles. The sternum is horn-color, with a large dark or blackish spot occupying a third or more of the rear outer angle of each scale. The throat is clear light-yellow and much and frequently exposed. Tail, tapering and sharp. The claws are quite sharp and perfect. One closes its forward valve to within an eighth of an inch, but the posterior not so much, and evidently they are not inclined to shut up close, if indeed they can at this season, or at all. The sternum

of the male, notwithstanding the depression, curves upward at each extremity much more than the female's. They run out their heads remarkably far and have quite a harmless and helpless expression, yet, from the visible length of neck, the more snake-like. About the size of the wood tortoise. Very regularly and smoothly rounded shells. @ Q Voided many fragments of common snail-shells @ Q and some insect exuviae.

Hear for a long time, as I sit under a willow, a summer yellowbird sing, without knowing what it is. It is a rich and varied singer with but few notes to remind me of its common one, continually hopping about.

See already one or two (?) white maple keys on the water. Saw the mouse-ear going to seed in Worcester the 23d. The red actaea is fully expanded and probably has been open two or three days, but there will be no pollen till to-morrow. What kind of cherry tree is that, now rather past prime, wild-red-cherry-like, if not it, between the actaea and river near wall? Some ten inches in diameter. Hear the night[hawk?] and see a bat to-night. The earliest cinnamon fern, apparently not long.

E. Hoar finds the *Eriophorum vaginatum* at Ledum Swamp, with lead-colored scales; how long?

May 29. P. M. — To Bateman's Pond via Pratt's.

Buttonwood, one tree, not for two or three days. *Rubus triflorus*, well out, at Calla Swamp, how long? Calla apparently in two or three, or three or four days, the very earliest. *Arethusa bulbosa*, well out. *Cornus*

Canadensis blooms apparently with *C. florida*; not quite yet. I mistook dense groves of little barberries in the droppings of cows in the Boulder Field for apple trees at first. So the cows eat barberries, and help disperse or disseminate them exactly as they do the apple! That helps account for the spread of the barberry, then. See the genista, winter-killed at top, some seven or eight rods north of the southernmost large boulder in the Boulder Field. Cannot find any large corydalis plants where it has been very plenty. A few of the *Cornus florida* buds by the pond have escaped after all.

Farmer describes an animal which he saw lately near Bateman's Pond, which he thought would weigh fifty or sixty pounds, color of a she fox at this season, low but very long, and ran somewhat like a woodchuck. I think it must have been an otter, though they are described as dark glossy-brown.

May 30. Hear of lady's-slipper seen the 23d; how long? I saw the *Nuphar advena* above water and yellow in Shrewsbury the 23d.

P. M. — To hen-harrier's nest and to Ledum Swamp.

Edward Emerson shows me the nest which he and another discovered. It is in the midst of the low wood, sometimes inundated, just southwest of Hubbard's Bath, the island of wood in the meadow. The hawk rises when we approach and circles about over the wood, uttering a note singularly like the common one of the flicker. The nest is in a more bushy or open place in this low wood, and consists of a large mass of

sedge and stubble with a very few small twigs, as it were accidentally intermingled. It is about twenty inches in diameter and remarkably flat, the slight depression in the middle not exceeding three quarters of an inch. The whole opening amid the low bushes is not more than two feet in diameter. The thickness of it raises the surface about four inches above the ground. The inner and upper part is uniformly rather fine and pale-brown sedge. There are two dirty, or rather dirtied, white eggs left (of four that were), one of them one and seven tenths inches long, and not "spherical," as Brewer says, but broad in proportion to length.¹

Ledum, one flower out, but perhaps if Pratt had not plucked some last Sunday it might have bloomed here yesterday? It is decidedly leafing also. *Andromeda Polifolia* by the ditch well out, how long? I perceive the turpentine scent of the ledum in the air as I walk through it.

As I stand by the riverside some time after sundown, I see a light white mist rising here and there in wisps from the meadow, far and near, — less visible within a foot of me, — to the height of three or four or ten feet. It does not rise generally and evenly from every part of the meadow, but, as yet, over certain spots only, where there is some warm breath of the meadow turned into cloud.

May 31. A. M. — To Island.

¹ Another is one and seven eighths inches long by one and a half inches. *Vide* the last (which was addled).

Choke-cherry, a day or two. *Cornus florida*, not yet for two or three days. I saw some in Connecticut with involucres much more rosaceous than ours. A yellowbird's nest of that grayish milkweed fibre, one egg, in alder by wall west of Indian burying(?) -ground.

P. M. — To Laurel Glen.

I see, running along on the flat side of a railroad rail on the causeway, a wild mouse with an exceedingly long tail. Perhaps it would be called the long-tailed meadow mouse. It has no white, only the feet are light flesh-color; but it is uniformly brown as far as I can see, — for it rests a long time on the rail within a rod, — but when I look at it from behind in the sun it is a very tawny almost golden brown, quite handsome. It finally runs, with a slight hop, — the tarsus of the hind legs being very long while the fore legs are short and its head accordingly low, — down the bank to the meadow.

I saw on the 29th white *Viola pedata*, and to-day a white *V. cucullata*.

There were severe frosts on the nights of the 28th and 29th, and now I see the hickories turned quite black, and in low ground the white oak shoots, though they do not show black in drying. Also many ferns are withered and black and some *Prinos laevigatus* tips, etc.

I find a chewink's nest with four eggs (fresh) on the side-hill at Jarvis's wood-lot, twenty feet below wood-chuck's hole at canoe birch. The nest is first of withered leaves, then stubble, thickly lined with withered grass

and partly sheltered by dead leaves, shoved [?] up a huckleberry bush.

There was a slight sea-turn, the wind coming cool and easterly this morning, which at first I mistook for the newly leafing deciduous trees investing the evergreens, which is a kind of sea-turn in harmony with the other. I remember that the stage-drivers riding back and forth daily from Concord to Boston and becoming weather-wise perforce, often meeting the sea-breeze on its way into the country, were wont to show their weather wisdom by telling anxious travellers that it was nothing but a sea-turn.

At 5 p. m., go to see a gray squirrel's nest in the oak at the Island point. It is about fifteen feet from the ground, — the entrance, — where a limb has been broken off, and the tree is hollow above and below. One young one darted past downward under my face, with the speed of a bird. There is much short brown dung about, and a smell of urine, and the twigs around have been gnawed.

Does not the voice of the toad along the river sound differently now from what it did a month ago? I think it is much less sonorous and ringing, a more croaking and inquisitive or *qui vive* sound. Is it not less prolonged also?