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NATURE NOTES

from
ACADIA



*Flying
Squirrel*

ACADIA

NATIONAL PARK

NATIONAL
PARK
SERVICE

DEPARTMENT
OF THE
INTERIOR

BAR HARBOR, MAINE

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
ACADIA NATIONAL PARK
BAR HARBOR, MAINE

Volume 4

NATURE NOTES FROM ACADIA

Number 1

January-February, 1935

This bulletin is issued bimonthly by the Park Naturalist of Acadia National Park. Its purpose is to make those who are interested in Acadia better acquainted with its plant and animal life and with its geologic story. Publications wishing to use these notes should give credit to the writer and to "Nature Notes from Acadia."

George B. Dorr, Superintendent
B. L. Hadley, Asst. Supt.
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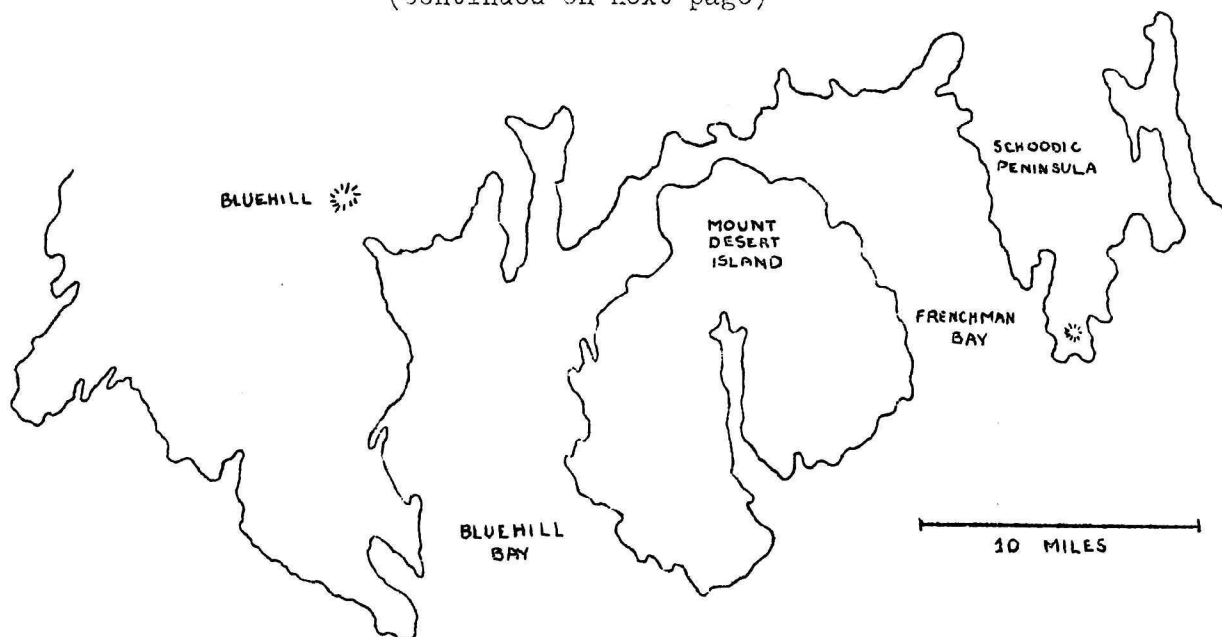
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SCHOODIC PENINSULA - A PART OF ACADIA NATIONAL PARK

Schoodic Peninsula points its long granite finger southward into the Gulf of Maine just west of 68° longitude. To the westward, and separated from it by the waters of Frenchman Bay, lies Mount Desert Island, "l'isle des Monts déserts" as Champlain called it; to the northeastward the Maine coast continues tattered and torn to and beyond the easternmost point of land in the United States. That portion of Schoodic which reaches farthest into the sea is a part of Acadia, the national park whose limits at present are confined largely within the chain of low round-topped granite mountains which constitute the outstanding features of the already-mentioned island to the westward. Little Schoodic Mountain, the highest land on the peninsula, lies entirely within the boundaries of the national park, its pine- and spruce-covered slopes rising 437 feet above that great expanse of southward-reaching sea which is Schoodic's chief claim for distinction.

Ribboned by slate-colored dikes, the pink frost-riven granite rocks, long since scoured by the passing of wide-spread glaciers, remain unmantled along a narrow continuous fringe of shore, a wasteland where the pounding waves and ever-moving tides are checked. Mewing gulls patrol the rocky sea-beaches where tangled mats of brown seaweeds, bleached remains of shell-fishes, crabs, and sea urchins, and a heterogeneous litter lies stranded marking the boundaries of the highest tides.

Beyond is an unbroken stretch of virgin realm which nothing bounds but the
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mythical line of the horizon - a flowing empire ruled by the wind and haunted by fogs.

"The wind of the land is a hindered thing,
But the ocean wind is free."

It is a region of heavy ocean swells and combing breakers, of tossing buoys and little fishing smacks which rise and fall on the heaving waters, of waves breaking white over scattered ledges, and of shadowy forms of sea birds which wing their way low over this turbulent domain.

In summer the long-winged fish-hawks hover screaming over their high-perched bulky nests close to the sea; swallow-like terns fly to and fro in small troops over the waves; little black and white "sea pigeons," with their bright coral-colored feet trailing behind, leave their nests in the crannies of high cliffs to seek food in the fertile ocean; ravens haunt the mountains and rocky shores; and a host of other birds find a summer home in this region of sea and isle and tattered coast.

Winter's icy seal completely transforms Schoodic's rock-littered strand. Glazed and re-glazed by wave and tide and frigid winds the coastal region becomes a heavily ice-armored desolation. Frozen are the coves and over them there broods a majestic stillness, a

"Silence more musical than any song."

Almost overpowering at times is this solemn peace of winter - not the deathlike quiet of the grave but the hushed and mysterious stillness which reigns over the dawn and the sunset, over the blooming of flowers, the growing of trees, the coloring of October's leaf, and the bejeweling of the spiders web in early morning. Nature's grandest doings appear to be wreathed in such a silence.

But if we were to go to the summit of Schoodic Mountain and look about at the panorama of far-flung coast and boundless sea we could not help but be impressed by how infinitesimal is winter's power over the ocean. Beyond the stillness of the ice-locked coves the wild chatter of the old squaws and the scream of the gulls comes from a domain which defies the fetters of the coldest winters. Here the funereal "shag" wings its way from ledge to sea and to ledge again, and many sea-fowl come and go, singly and in flocks of all sizes. Scoter, "whistler," bufflehead, "shelldrake," murre, "ice-bird," eider, grebe and loon - all these and others brave the sweep of frigid winds to garner a never-failing harvest from the fruitful sea.

"How is he like the seabirds that by night
Sleep on the dull dark ocean, and by day
Float on the sunny billows, and they see
Where'er they go the self-same images,
The sun's white glory far within the deep,
And the blue vale of water 'twixt the waves,
Ever the same, yet ever chang'd"

Faber: Sir Launcelot

THE NORTHERN FLYING SQUIRREL

(Number 1 of a series of articles about the fur-bearing animals of Acadia National Park)

The sunset colors faded from the western sky and the winter night settled over the snowy woodlands. Quiet reigned. The heavy snow-burdens which rested upon and weighed down the conifers, the dominant trees of our Acadian forest, acted the part of so many padded sound-absorbing curtains, thereby intensifying the stillness which pervaded this wintry grove. Already the full moon shone brightly over a cold world clad in ermine.

Quiet it was, but in the hollowed heart of the limbless old beech which leans over the frozen woodland brook like a spar buoy leans on the sea, life was stirring. At one of the woodpecker-drilled openings a small rounded head with large dark eyes put in its appearance, and soon the animal, the flying squirrel of our northern forests, emerged and commenced its nocturnal goings and comings. Rather clumsily it made its way to the top of the old beech and from this point launched out into space on a glide which took it perhaps 15 feet to the lower part of a slim straight spruce. Upon landing, another ascent and another glide took it well out of sight.

Knowing the secret which it holds, let us return to the beech during the daylight hours. There is no stir now, not even when one's ear is placed close to the dead lead-colored bark is there any sound. Seizing a short stout piece of a dead tree limb I commence to pound the shell of the old tree vigorously when, after the fourth or fifth blow our flying squirrel appears at the opening. Something is amiss! This is indeed a rude awakening, but it is the only way which enables us to become better acquainted with one of the most beautiful creatures of the forest. Hurrying to the upper reaches of the tree the squirrel stops as though to deliberate upon the course to follow, and in the meantime two more and finally a third make their way out of the same hole. All of them seem loathe to leave their nest, for it is probably true that no squirrels are more attached to their homes than this one. Backing slowly away from the fruitful beech I am enabled to observe the animals at close range with my binoculars.

Large dark eyes, a flattened appearance to the body, broad lateral skin folds which extend from the fore- to the hind legs, a well-haired flattened tail, and the softest kind of a silky coat - these characterize our Northern Flying Squirrel (*Glaucomys sabrinus macrotis*). Above its fur is a buffy-gray except for the regions of the nose and eyes, the tail, and the upper part of its feet which are a kind of smoky gray in color. The underparts are a soiled white. In total length the adult animal measures approximately 11 inches of which about 5 inches is tail. Its cousin the flying squirrel of the south (*Glaucomys volans*) is smaller while its closer relatives to the north are somewhat larger in size.

This fur-bearer is not a flyer in the true sense of the word. Like the flying lemur of the East Indies this arboreal squirrel progresses to large
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extent by gliding from tree to tree; on the ground it is the most helpless of our squirrels. Its gliding membranes and flattened body enable it to sail for a considerable number of feet through the air; in Ohio I have watched one of these creatures (*G. volans volans*) volplane from the upper part of one tree to another 42 feet away, and there are reports of individuals which have been observed travelling two and three times that distance. It goes without saying that the animal always lands at a point some distance below that from which it begins the glide. (Of all our fur-bearers, only the bats are capable of true flight).

As already stated, flying squirrels are active only at night. In certain wooded areas these mammals may be fairly common, but, due to their nocturnal habits, are rarely if ever seen.

To a large extent they are vegetarians, but are known to eat flesh and insects. Frequently they spring the traps intended for larger game. Dr. Vernon Bailey, recently retired from the U. S. Biological Survey, writes that some trappers have reported dozens and others hundreds of flying squirrels caught on their winter's trap line in the region near Glacier National Park. Early last September Dr. A. E. Brower, Entomologist for the Maine Forest Service, caught two of these animals near his laboratory at Bar Harbor; his traps were baited with moths.

Three of these squirrels have been brought in since the taking of Dr. Brower's specimens: one which was severely injured on October 5 when a CCC crew felled a dead tree south of the Tarn; another was presented to me on January 3, 1935, by a lady who found it in a weakened condition in a street in Bar Harbor; the third, with both its hind legs broken, was found dead on January 19, 1935, by another crew of CCC boys in the spruce woods near the Tarn. On August 31, 1932, I picked up a dead flying squirrel which lay beside the road near the Mount Desert Nurseries; apparently it had been struck by a passing car. Various CCC crews working in Acadia National Park have reported seeing these animals after disturbing the trees in which the squirrels spend the daylight hours.

Seton¹ says of this fur-bearer, "It is so nearly dependent on the woodpeckers for its tenement quarters that it will not be found where no woodpeckers are." The usual nest is such a one as has been described - in a hollowed, woodpecker-drilled tree. Outside nests of the Gray and the Red Squirrels are well known, and there are instances of the Southern Flying Squirrel occupying such a nest on rare occasions, but Seton writes,² "So far as recorded, the Northern Flying-squirrel does not make a dray or outside nest." Since various other authorities either agree with Seton or make no mention of the use of an outside nest by the species in question, I wish to record the finding of such a nest in Acadia National Park on December 19, 1934. The facts are as follows:

Two CCC supervisors, Mr. Lunt and Mr. Pinkham, working in a wooded region one-half mile south of the Tarn, came upon the outside nest that morning when

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¹"Lives of Game Animals." Vol. 4, part 1, 1929. p. 388.

²Ibid., p. 392.

their men disturbed the squirrels by felling a birch which grew close to the tree wherein the nest was saddled. Four flying squirrels which occupied the nest emerged, three of their number returning to it soon afterward. That afternoon I went to see the nest. It was about 20 feet from the ground in a small red spruce, and from it we frightened a lone flying squirrel. The animal took refuge in a maple whose arms extended above the nest-tree and there, head downward, it watched us for some time. Finally, when Mr. Lunt climbed into the spruce to collect the nest, the squirrel planed to a nearby tree and from there to a large arbor vitae whose outer bark had been stripped from it almost to the very top.

In shape the nest might be described as a flattened sphere whose greatest diameter was 10 or 11 inches. It appeared to be freshly made, consisting mostly of the bark of arbor vitae which, in the interior, was finely shredded. A few small pieces of the common gray-green *Usnea* lichen were incorporated within the structure. Slender spruce twigs were interlocked to form a kind of flimsy exterior about the entire affair. It had but one entrance. Lice proved to be numerous within.

Mr. Walter J. Clayton, taxidermist and naturalist living in Lincoln, Maine, tells me that he has seen a few outside nests of our Northern Flying Squirrel in his rambles in the forests of north-central Maine, his description of these being almost identical to the nest I have recorded. However I have yet to see a published account of similar observations.

Seton,³ commenting upon the fact that this squirrel is both sociable and gregarious, writes of finding nine adults living in one stub, while Witmer Stone and W. E. Cram⁴ state that "a dozen or more of them will occupy the same hollow tree and I have heard of as many as forty being driven from the same hole."

Occasionally these squirrels will nest in deserted or little-used buildings and in bird boxes. In late May, 1933, Mr. Clarence E. Dow, manager of the Mount Desert Nurseries, presented me with a female and three young of this species which had their nest in a dresser drawer in an unused bedroom of Mr. Dow's house. All that summer these youngsters amused our visitors, and in early September they were taken to the woods and liberated. Mrs. J. Franklin Anthony of Great Head tells me that these nocturnal animals frequently stuff her bird boxes with nesting material and also take great liberty with the seed which she supplies to her bird feeding stations. Every summer since 1921 a few flying squirrels pay frequent visits to the porch of the summer residence of the Misses Bodine and Lewis, next door to the Asticou Inn, at Northeast Harbor. Apparently well aware that they can rely on both food and safety here, they come and go and sometimes allow even the guests of the two kind ladies to feed them from the hand. Miss Bodine, an expert wildlife photographer, has taken a series of excellent movies of these attractive large-eyed subjects.

Flying squirrels remain active the year around. Their enemies, aside from man, include cats, owls (rare on Mount Desert Island), and, on rare occasions, foxes, minks and weasels.

-Arthur Stupka

³Ibid., p. 388.

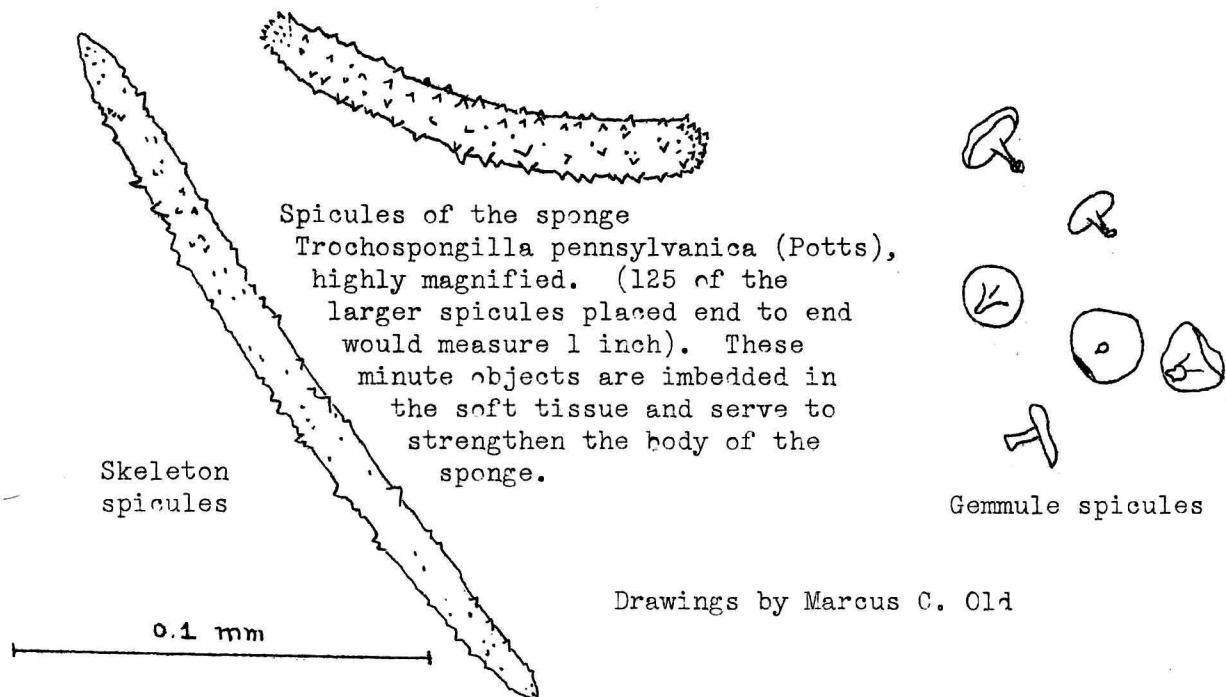
⁴"American Animals," 1902, p. 177.

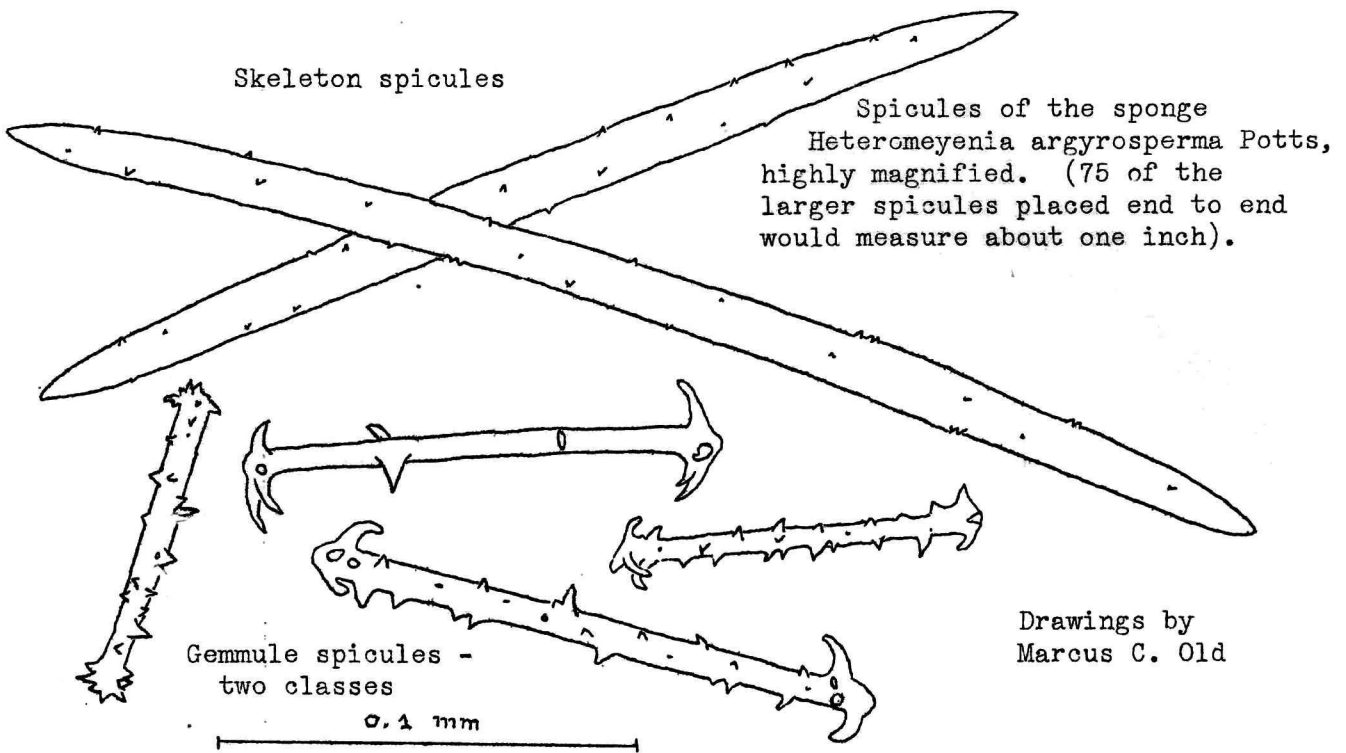
NOTES ON FRESH-WATER SPONGES IN ACADIA NATIONAL PARK

While visiting and camping in Acadia National Park, the latter part of August, 1934, I took advantage of a short respite before dinner one evening to wander about the soft margin of the small shallow Beaver Dam Pond alongside the camping area. Many small growing colonies of fresh-water sponges, dirty cream to green in color, were found on the underside of old timber and logs, and encircling roots and twigs submerged in the water. I collected only five of the best ones, those with gemmules, since the gemmules or reproductive buds are necessary for the identification of species.

The fresh-water sponges are usually small, thin incrustations on submerged rocks, wood, vegetation, etc., varying considerably in shape and external appearance. Their surface is invariably dotted with fine pores. The odor of the sponge is peculiar, much like that of garlic. Internally there is a framework of fascicled microscopic spicules of silica, needles of glass, with smooth or spined surface. These are termed skeleton spicules. In some species smaller spicules are present loosely scattered in the flesh of the sponge; these are called flesh spicules. The fresh-water sponges reproduce sexually and also asexually. By the latter method internal buds or gemmules are proliferated internally, arising first as a tiny spherical body which later gradually becomes covered with one or several layers of an additional kind of spicule also of silica. The spicules of the gemmules are so peculiar and constant that they must be considered in the proper identification of species.

Four of the sponges collected, I identified as Trachospongilla pennsylvanica. The skeleton spicules are covered abundantly with coarse spicules; and the
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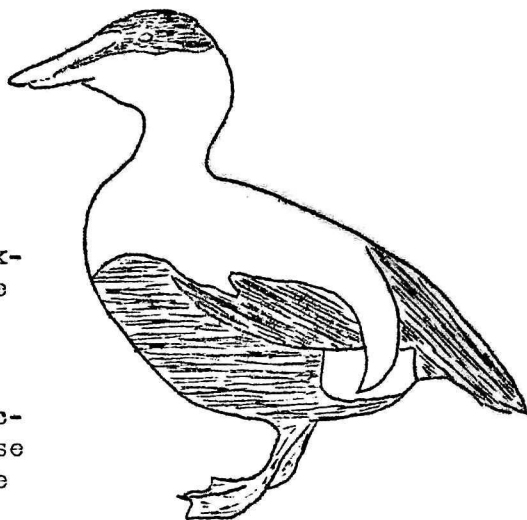


gemmule spicules are best described as unequal birotulates, reminding one strongly of a collar button. Flesh spicules are absent. The other sponge proved to be *Heteromeyenia argyrosperma*. This species is characterized by having sparsely spined skeleton spicules; no flesh spicules; and gemmule spicules of two classes. One class is robust with long shafts that possess long recurved spines; the shorter class is more abundantly spined, but not as long or robust.

It is of interest to report the findings of these two species because it represents the first collection from Maine. They have, however, been reported from adjoining states. These two species of fresh-water sponges together with three others - *Spongilla lacustris*, *S. fragilis*, and *Heteromeyenia ryderi* - reported by previous investigators make a total of five for Maine. The United States as a whole contains about twenty-eight species. An intensive survey of the fresh-waters of Maine, undoubtedly, would reveal many more species present.

Marcus C. Old
 Ursinus College
 Collegeville, Pa.

American Eider. - On February 10 in the immediate vicinity of the bell buoy which rings rising and falling on the sea just off Otter Cliffs, it was the good fortune of Mr. Vernon Lunt and I to see a great flock of American Eiders. These birds, among the largest of the northern sea-fowl which winter off the Maine coast, described a great living arc on the surface of the deep blue water. Looking them over with a telescope I estimated there must be approximately 5000 birds in the flock. The clean white upperparts and the black underplumage of the male birds contrasted with the plain brown of the females presented a gala spectacle, for few birds are more handsome than these big male eiders. Here, off Otter Cliffs, I have seen them time and again in the winter, but never in such numbers. In all probability they come to the ledges here and elsewhere to feed on mussels - a food which these birds appear to hold in great favor.



FROM MOUNTED SPECIMEN

Eiders are to be found in great flocks in the vicinity of Schoodic Peninsula, and here the fishermen call them "sea-ducks" and "ducks and drakes." I am told they are to be found as far out at sea as the fishermen venture with their little craft.

-A. S.

The Snow Moon. - With snow falling on at least 12 of the 31 days, January was indeed the "Snow Moon" - a name applied to the month by some of our American Indians. Following four consecutive days of thawing weather the mountains were practically clear of all snow and ice on January 9, but thereafter the month was very cold with temperatures dropping close to zero or below on 14 of the 31 days. Late in the month the coves and smaller harbors froze over and acres of "pancake ice" formed in the bay. Goldeneyes and huffleheads congregated in the open waters off Bar Harbor in abnormal numbers, and a flock of 15 scaup ducks put in their first appearance of the winter. Flocks of herring gulls invaded the island towns, alighting in the streets if food of any kind was to be had.

-A. S.

Donation. - Mounted specimens of the Canadian Spruce Grouse and Greater Yellowlegs were recently donated to Acadia National Park's natural history collection by Mr. and Mrs. George F. Berry of Bar Harbor. In former years the Spruce Grouse was a resident on Mount Desert Island, but since the latter part of the past century its occurrence here has been accidental. The Yellowlegs is to be expected as a regular migrant. We are very grateful for this donation.

-A. S.