

Mammals
Of the Douglas Lake Region
Summer 1949

E. R. Vandegrift

Additional records.

Vespertilionidae

About eleven individuals were seen flying singly or in threes in the aspen area back of the ball diamond shortly after moonrise on August 5 1949. The moon was nearly full, the evening warm, and the insects numerous.

Ursus americanus americanus Pallas

Trees scarred by bears were observed by the Herpetology-mammology Class in the Black Lake State Forest, Presque Isle Co. on July 29, 1949.

Mr. and Mrs. Burt Hill of Pellston reported to Wm O. Pruitt, Jr. the observing of a female black bear and cub crossing the county road to Pellston about 1/2-3/4 mile from the camp entrance. This observation was made during the summer of 1948.

Mustula frenata novaboracensis Emmons

An adult male, killed along the side of the road a mile west of Carp Lake was collected by Dr. Pettingill on July 7, 1949.

Mephitis mephitis Schreber

A young individual went down a drainpipe on the terrace in front of the dining hall on August 12, 1949.

Taxidea taxus taxus Schreber

One individual was seen crossing the road at Brutus on July 16.

Canis latrans latrans Say

A young coyote was seen in the gorge at close range by Florence Boynton on the afternoon of June 30, 1949.

Rattus norvegicus Berkenhout

Two adults were seen by Dr. Pettingill in the vicinity of the bird cage ^{in front of} Blanchard Laboratory summer 1949.

Two were published

Procyon lotor lotor Linnaeus

The last week in June, an adult coon was seen crossing the road shortly before midnight on the road between camp and Topinabee about three miles north east of camp. The next night, two adults were seen crossing in the same place together. This observation was made by Polly Cook.

An adult coon was seen eating mussels along the beach of South Fishtail Bay on the night of June 30, by Allan Tucker.

Unobserved racoon tracks along the west shore of South Fishtail Bay, at Grapevine Point and at Pine Point in the late morning after a 4 A.M. rain on July 12.

Three racoons were seen one at Gross Village, one at Cecil Bay, and one in between the two points from shortly after sundown on by William and Gloria Sheridan in a drive along U.S. 131 July 15. This was in Emmet Co.

Mrs. George Byers saw a large adult coming out of a tree at Grapevine point between 4 and 5 A.M. August 4.

Vulpes fulva Desmarest

A family of foxes, two adults and two young was seen by Miss Lucile Rice during the day the first week in July. She surprised the family in a gully which crosses the Bryant Bog road just beyond the camp area. Apparently they were sunning themselves or at least were lying down. When she approached, they jumped up and ran off down the gully.

An adult red fox was seen crossing the road where the Brutus road joins the county road to Pellston by Prof. O.W. Greaser about the third week in July.

Fox tracks were observed along the ridge which borders the camp side of the county road to Pellston. Aug. 5. This ridge is not far from the area where the fox family was seen by Miss Rice.

Citellus tridecemlineatus tridecemlineatus Mitchill

Food notes

A female, the mother of four young which had just left the burrow, was observed to eat old acorns and maple seeds. She also dug into the ground at intervals with a pawing motion and then pushed the debris together with her paws. The date of this observation was June 23, 1949.

On July 14, Miss Kathryn Ann Graves observed a *Citellus* eat a young *Peromyscus* which was badly infested with fleas and was paralyzed in the hind legs. The young mouse was sitting on a very low pile of wood that would have involved little or no climbing for the *Citellus*. The animal held the mouse in its front paws and ate the head first. The incident took place about 5:00 P.M.

An experiment was tried to determine the reaction of *Citellus* and *Tamias* to bird nests and eggs. A robin's nest and a fresh robin egg were used. The following trial and observation were made by Prof. C.W. Greaser. On July 24, the nest was placed on top of some sunflower seeds which a young *Citellus* had been eating. The young animal tried to get the seeds from under the nest. It stood up and looked into the nest but did nothing further. Later when the egg was placed on the ground, the youngster picked it up and rolled it about in its paws then laid it down and paid no more attention to it.

On July 25, I placed the nest and egg on the ground, level with the cement block which served as the back porch of the cabin and a feeding station for ~~ground squirrels~~ ^{ground squirrels} and chipmunks. The *Citellus* crawled down into the nest and out as it crossed to the porch but did not pay any attention to the egg. This individual was a very fat adult female. Later, a chipmunk (*Tamias striatus* Linnaeus) approached the nest and immediately showed interest in it by placing both fore-paws on the rim of the nest and looking into it. However, his attention was caught by a second chipmunk which approached the feeding station

The first chipmunk slapped away in the grass. The second chipmunk paid no attention to the nest. The nest with the egg in it remained in the mentioned position for over a week and was unmolested even through intervals of several hours when there was no food present at the station.

The very fat Citellus mentioned above seemed to be eating food as she found it and did not carry any of it away while the young Citellus was observed to carry food to his burrow on August 9. This may have been because of the number of people present at the time. Later observation by Mrs. Creaser established the fact that he carried food to his nest regularly.

Behavior near the burrow

A female with four young just out of the nest was seen to chase a young red squirrel (*Tamiasciurus hudsonicus*) which had come within thirty feet of the burrow and young. The squirrel ran up a small tree. The female Citellus jumped up the tree for about a foot or so and fell back. After several attempts to climb the tree, it wandered a little way off and then returned once. As it turned away a second time the squirrel descended and was rushed by the female. After this second rush the female lost interest in the squirrel and wandered down the length of two cabin lots. The squirrel left the area. This observation was made in the late morning on June 23, 1949.

I made a second observation the morning of June 27 at the woodpile in front of Creaser's Cabin. The porches in front and in back of the cabin had been used as feeding stations by several Citellus and *Tamias*. Female no. 1, the mother of five young out of the burrow one day, allowed the presence of a second female from the next cabin to approach the burrow and the young and to remain within one foot of herself without protest and reaction of any observable animosity. The second female would remain in the area for some time, would feed in the area and enter and depart without any reaction. The young however, were seen one to snarl as the second female approached and the other to be chased when it tried to approach the female.

Note on range and movements of animals.

This year two of the females of litters observed left the young about two days after the young had left the burrow. However, the females were retaken near the burrows several times while the young were still there and after they left.

One of the females was seen several times a distance of 324 feet (paced) from the burrow at which she had been taken the same morning. Several other times, she was sighted at least 70 feet beyond this point. These observations were made after the young had left the burrow and the area.

Observations by dates.

May 28-30--Adults were observed by Prof. G.W. Creaser. The young had apparently not been born yet.

June 20----An adult was sighted at Newcomb Laboratory.

June 22kkk-Young appeared around a burrow under the porch at faculty cabin #6 East State Street.

*Note - young
seemed to
remain around
the burrow
only about 4 days instead
of the 10 days noted
last year. This
seemed generally
true.*

June 23----The female was observed with the litter

June 24----The young were still around the burrow. The female was taken at the burrow but not observed with the young. A second adult was taken at the burrow entrance also.

June 25----One young only was observed at the first burrow. A family of young (5) left the burrow at cabin 30 ES.

June 26---Two young were seen around the woodpile at cabin 34 E.S.

June 27----Two more young were evident and the female was with them.

June 30----Five young and female appear at cabin 24 ES. Adult and one young marked, one young taken from burrow in the back of the cabin and marked.

July 2----A second young was marked from the hole at the side of the cabin.

July 4----Three young taken at side hole, and one at beach-edge area. A fifth young one was taken at a hole toward the rear of the cabin. Two young were seen at the beach edge burrow. Later one was marked black and picked half an hour later at the vacant lot opposite O Street a distance of over a hundred feet.

July 8----One young Citellus was seen with the female from cabin 24 at the cabin on the east corner of B Street. See note on range.

July 10---Adult Citellus was seen carrying bark strips from a (approx.) log walk to a hole near the large garage. The walk was at the camp end of cabin 46. The adult was not identified.

July 15---Two adult females under observation one by myself and the other by Mrs. Albert Weyer were noted to be getting very large. The female which I observed was caught often in the trap and appeared to be very fat all over the body.

July 25---Fat adult Citellus seem to be eating everything on the spot and are not carrying anything away.

July 30---A young Citellus smaller than the young observed earlier have grown to be was seen by Prof. C.W. Creaser.

Aug. 1st---A second small Citellus took up residence in front of cabin 36 ES.

Aug. 3---By this date or near it the large adult Citellus mentioned July 15, both of which had had litters earlier had disappeared and were not seen again.

Aug. 9---The smallest ^{ground squirrel} ~~gopher~~ at cabin 36 was carrying food from the back porch of cabin 34. It had become very tame and could be touched and handled somewhat while gathering food. This may account for the carrying of the food. It carried food regularly.

Remarks: The following data seems to hint at two early breeding seasons about two weeks in extent and at least two weeks apart. When the observation of Flexner of two young with a female on July 20, 1948 (Notes of 1948) is added to this years observations of two young smaller than the rest and taking up residence late in the season, the three would suggest at least a difference in ages of about two weeks. Whether these seasons are really separated or represent the beginning of a long breeding season can only be determined by a study of a larger number on litters in one season. There does not seem to be any second litter during the season. This finding agrees with Wade 1927 in his work with ground squirrels in Lincoln, Nebraska.

The carrying of bark in the middle of the summer might

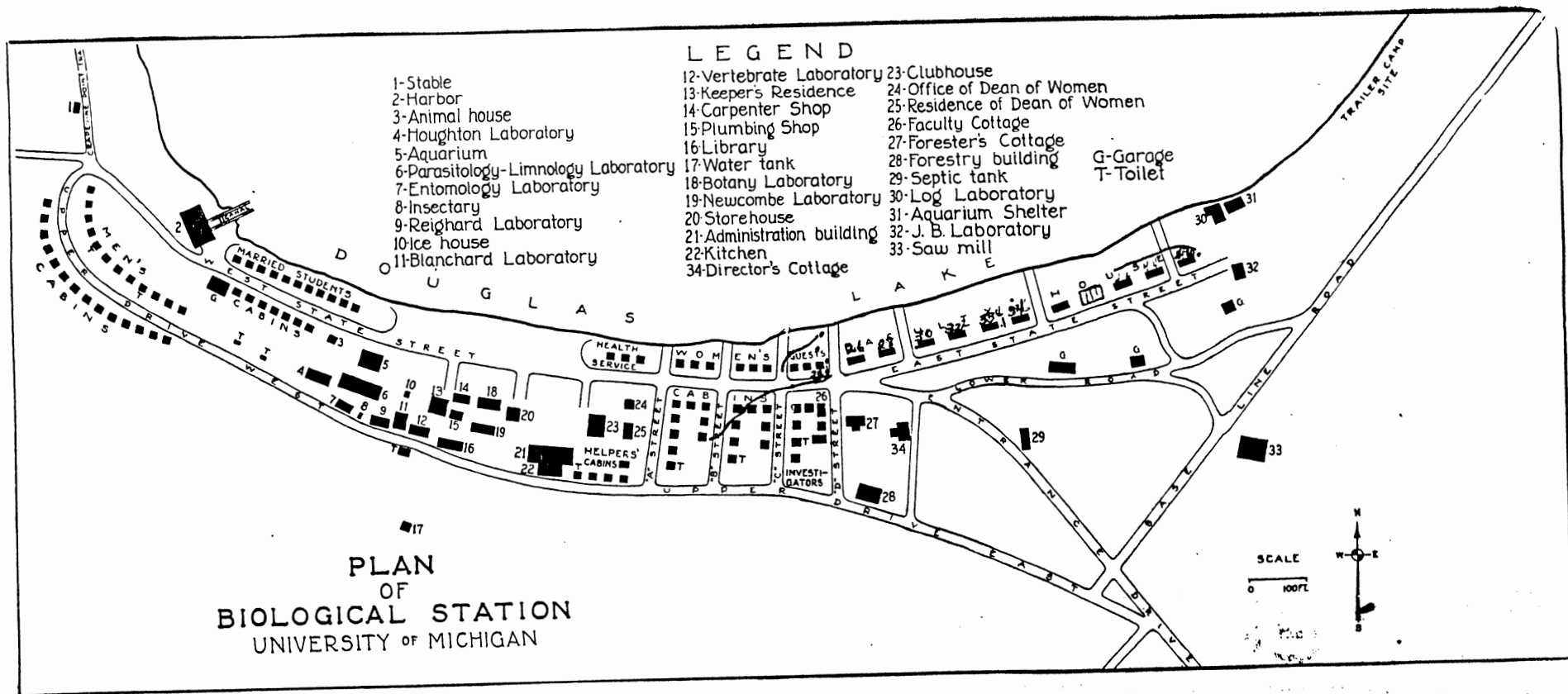
suggest that the adults build new nests after they leave the young. The fattening and disappearance suggests an aestivation period at least for the adults which have bred during the season. Pr Green in a note published in 1925 mentions capturing a male on July 18, 1925 in Montmorency Co. Michigan which was very fat.

It would also appear from the data that the female does not leave the area when she leaves the young but that she just no longer associated with them.

Much work remains to be done. More records on more individuals are needed to substantiate the findings of the last two summers. It will be noted that none of the individuals taken were identified as males. Also, we still know almost nothing of the movements of the young. From the record of a young establishing itself between the cabin and the lake and from the presence of many young in the one area observed, some I believe wandering rather than established or at home burrows, between cabin 24 and the lake, I would suggest that instead of the backward movement away from the lake the movement is a radiating one but is governed by the presence of the lake barrier on the one side.

Young Citellus were trapped by the Entomology Lab the first week in August. A second young one was seen behind Nichols Lab the same week.

A large Citellus was seen by C.W. Creaser Aug. 18. Perhaps the animals have come out of aestivation. However, from the size of the young we should try to trap this individual to be sure.



Numbers - Cabin numbers

• - represents holes

— - route taken by individuals

Tamias striatus Linnaeus

Food Notes.

On June 20, Prof. G.W. Creaser observed the chipmunks eating last years acorns and mapleseeds. About the first week in July, we observed the chipmunks climbing small cherry trees (*Prunus pennsylvanica*) and eating the green cherries. They also ate some of the green cherries which were placed on the doorstep. I did not notice whether they ate the whole cherry or just the pit. Later, when the cherries ripened and fell to the ground, the chipmunks peeled off the fruit and left it on the ground and ate only the stone.

The following notes were given to me by Theodore R. Merrell, Jr. An ovenbird's nest (*Seiurus aurocapillus*) was seen by Mr. Merrell on the road to the ball park in back of the men's cabins when the female flew from the nest. He went after camera equipment and returned a half hour later to find the nest occupied by a chipmunk. Two eggs lay on the ground in front of the nest. One egg was broken and the contents gone. Over half of the shell was in one piece and the rest in several pieces. The second egg was unbroken. When the chipmunk left the nest accompanied by a second chipmunk which was hiding in the brush beside the nest, a third unbroken egg was found in the nest. Two weeks later, the eggs were still there in that position. On August 12, I visited the nest again accompanied by Mr. Merrell. We found the two unbroken eggs missing and collected the shell of the broken egg which was all that remained.

Further Notes.

A chipmunk was seen rolling dry leaves and putting them into its mouth to carry away. This was on the afternoon of June 30.

Six chipmunks were collected near Munree Lake in 1948 and taken to New York City for research in parasitology by Mrs. Betie Farrell. The animals were kept in captivity all winter and then

shipped back to the Station by plane. Two of the pairs had been placed male and female in the same cage sometime in April. They lived together in these small cages from that time until their release on July 16, 1949. with out noticable antagonism. Two sleeping boxes had been provided in each cage but the two animals sometimes occupied the same box. Apparently, mating had not taken place. One pair of chipmunks were marked with Payson's Indelible Ink between the ears. The other two females were marked by clipping off the tip of the right ear. The males had their left ears clipped in the same manner. They were all released early in the afternoon in front of the Vertebrate Research Laboratory. No chasing or fighting was observed. On July 16, one of the first pair was seen at the the doorstep as was one of the other females. They were not seen again. I failed to capture any of them in the trap which was set at intervals to the end of the entomology laboratory and on both sides of the buildings and in traps set up the stairway beside the vertebrate laboratory.

Methods of marking animals tried this summer.

The following methods of marking were used on *Citellus tridecemlineatus* and *Tamias striatus*. Toe-nail clipping was used on the *Citellus* and proved quite successful in marking the animals. Ear clipping of the *Tamias* was also used and of course was successful.

Marking by means of color or black was also tried. In all cases the animals were marked by soaking the area colored with the dye or ink from a medicine and releasing after a few minutes drying period. Malachite Green, methylene blue, and methylene green, dissolved in alcohol and added to acetic acid to form a one percent solution was used. Other types of coloring materials used were Putnam dyes, india ink, and Payson's Indelible Ink.

One female *Citellus* was dyed with malachite green. Eight days later she was recovered and some of the green still showed,. However, most of the color had apparently worn off. The area marked was the rump and lower back to the base of the tail. No other animals taken in the area showed any of the color. Altogether, seven young *Citellus* were so marked, some on the head and some on the back and rump. None animal of the same size taken a few days later in the area or sighted in the area showed recognizable coloring. I doubt very much that all the later animals taken or seen were different individuals since they seemed to be around definite burrows and not wandering. A chipmunk marked with india ink was taken about a week later and showed no signs of the ink. Chipmunks dyed with Payson's Ink were seen two days later with the ink still on the head between the ears. The animal disappeared and was not taken again(see note on *Tamias*) so the reliability of this type of marking was neither proved nor disproved.

Tamiasciurus hudsonicus Erxleben

Occurance

On June 23, two red squirrels were seen playing about some trees and an old platform at the beach line in front of cabin 46. They were eating acorns and other material from the ground. The tree swallows nesting in a box near where the squirrels were playing kept diving at the youngsters which would duck behind the stump they were sitting on. A day later, three youngsters were seen in the same area. They were observed also in the early evening about seven o'clock. At various times, young red squirrels were seen in the yard of cabin 34. On June 21, Prof. C.W. Creaser reported an unusually tame individual playing in the woodpile. It is my opinion that the animals seen at cabin 34 were the same as those seen at cabin 46.

On July 6, two squirrels were seen copulating under the large red pine just west of the mess hall by Ann and Jerome Miller.

An albino red squirrel was seen in the woodlot on the Banwell farm at Alanson by Cecilia Banwell on July 17, 1949. An attempt to trap the animal the following Tuesday was unsuccessful. However, the sight record was a good one.

An adult was discovered in box 43 on the ball diamond. It was curled up on a thin bed of dead leaves about eight o'clock in the evening. The date was August 11, 1949.

Food note.

The following information was given to me by Miss Kathryn Ann Grave. The nest of a red-eyed vireo ((Vireo olivaceus) located 5' 10" from the ground in a young maple tree behind camp and containing two cowbird and one vireo nestling, was robbed of a cowbird and the vireo nestling before 10:30 A.M. on July 10, 1949. Later in the day, the remaining bird disappeared. A young least flycatcher was palced in the same nest on July 11. At 3:30 P.M., a red squirrel ran out

on the limb from which the nest was suspended. It seized the nestling, which immediatly ceased its calls and appeared limp, by the head and started back across the slender limb. It fell to the ground and ran off into the wood. The nest itself was not damaged.

Sciurus carolinensis Gmelin

A nest of a grey squirrel was found July 21, in a tall ^{white} pine (~~resinosa~~ ^{strepus}) about thirty feet from the ground. The tree was located about a quarter of a mile along the shore from the ^{old} aquarium shelter east of camp and in about sixty feet. The finders, ^{Phillip Humphreys and} William O. Fruit, Jr. reported seeing one young and one adult on that date. On June 24, the Herptology-mammology class saw the adult at the nest. An adult, presumably the same one, was seen the following week ^(June 29) a few feet east and south of the old aquarium shelter.

A black squirrel was seen at Munroe Lake hardwood on August 4 by William O. Fruit and another was seen on Pine Point on August 5.

Remarks

One of the fields of interest especially to the ornithologist was the problem of predators on birds and eggs. For two years now the tree swallows have suffered as well as other species. More careful study needs to be made and direct evidence obtained. From the notes gathered it appears that flying squirrels enter the nests, kill the adults and young, chew them up, and leave the dead bird on the nest. However, no one has produced direct evidence in this area that that work was done by flying squirrels. We know that they were in the vicinity and that the work was done at night or early morning. The actual incident observed by Miss Kathryn Grave suggests that red squirrels take the birds from the nest after they kill them. Whether or not the chipmunk always rolls the eggs out of the nest or not I think would be open to question since an oven birds nest has a side opening and the eggs may just have rolled out. However, it would appear from the note that the egg had been eaten outside the nest.

Applying these observations to the case of the crested flycatcher in box 33 where feathers only were left in the nest might lead to the conclusion that the work was done by red squirrel. It might also be pointed out that red squirrels can and do go into the nesting boxes.

Glaucomys sabrinus macrotis Mearns

A young flying squirrel with an injured leg was picked up along the beach by Frederick C. Dean on June 17, 1949. It was kept in captivity until fully recovered and was released on July 31. A second young flying squirrel was caught in a trap at the base of a white pine (*Pinus strobus*) at the edge of Bryants Bog on July 14. It was brought in and kept in a cage. It lost the lower part of the leg and managed to scramble and climb around the laboratory with the remaining three. Occasionally, it would lose its footing on an upward or downward climb but did not hesitate to climb up into the rafters.

Flying squirrels have been heard and seen many times this summer in and about an area at the head of B Street which is a large pit containing a locust grove. One individual was seen in the vicinity of the old camp site. It was on the ground at the base of a tree. Squirrels were also heard in a cherry tree and in ^{the} ~~that~~ vicinity of the garages. These observations were made on the night of August 8 when the moon was almost full and the northern lights were so bright that a light was not necessary to go through a thin wood. They were also heard on dark nights at the pit. Much of the time seems to be spent on the ground. This observation applies to feeding habits and from the notes on nesting materials collected in 1948, they also gather most of the nesting materials from the ground, except for the bark strips.

The following notes were taken from the field notes of Frederick C. Dean. Flying squirrel nests were found in boxes 15 and 17 beyond the old aquarium shelter the third week in June. They were removed from the boxes. None of them were in use. Boxes 18 and 22 were entered, the adults ^(tree swallows) killed and left on the nest and the eggs broken. These two boxes are located toward Pint Point from boxes 15 and 17. Boxes 52 and 55 on the ball diamond also contained flying squirrel

nests. In box 33, across the picnic grounds, a crested flycatcher was killed, the body removed from the box by the predator and only some of the feathers left. Eggs were also broken.

I examined some of the boxes again on August 11. Box 32 in front of the wellhouse at the top of the hill contained a very small nest made of a few leaves of Populus grandidentata, Quercus r. borealis, dead and from the ground as usual, strips of inner bark lined the nest. It was round with a side entrance. It had been built since June 26 which was the last time Mr. Dean examined the boxes. It looked too small to hold more than one squirrel.

Erithizon dorsatum dorsatum Linnaeus

One adult was seen in the morning on July 3, 1949 at the 1948 burn by William O. Pruitt, Jr. On July 19, an adult was seen crossing the road to Burt Lake about 9:30 in the evening by Wm. Pruitt and E.R. Vandegrift.

On July 31, an adult female was caught in the woman's lavatory in Blissville where it had been chewing on a large cylinder of cardboard used as a wastepaper basket. The animal was retained in a wastebasket over night. The next morning, she died without apparent cause. Dissection failed to reveal the cause of death.

Willard R. Tikkala reported the following observation. Two porcupines, one an adult probably male and the second a young one, together over on the Green Star Trail near the eastern boundry of the station property were seen on August 11, 1949. The young one which was captured and brought into camp was eating poplar. The adult animal was in a red pine (*Pinus resinosa*) about 60-70 feet tall. It was chewing the bark from a lateral 3" in diameter.

Lepus americanus Erxleben

Occurance

Five individuals were seen between Carp Lake Village and Cecil Bay on June 27 by Prof C.W. Creaser. On June 28, a young one was seen near Nigger Creek by Jerome Miller. Two were seen at Bryants Bog by Wm. O. Pruitt on June 29. A young snowshoe was brought in by the Herptology-Mammology Class from the Duncan Bay area on July 22. This animal was kept in captivity until the end of the session. On August 6, Jerome Miller saw a dead hare on the road 4 miles east of Brutus. He also saw an adult on the road to Topinabee on August 12 about eleven O'clock at night.

Food Habits Observed in the Captive Snowshoe

The young hare brought into camp by the class on July 22 was held in a cage with a wooden floor and top and wire front and back. The cage was 2'x11/2' x 10". The animal was allowed to run about the laboratory every few days. It would readily hop up onto a ledge a foot and a half high running around the Lab. From there it would jump up on the tables about eight inches higher. It would finally end up on the window sills. It did not hesitate much about jumping to the floor from the table.

It was covered with ticks when brought in. These pests were removed except for some small ones in the ears.

Fresh water was kept before the animal at all times. Once, the animal was observed to drink by lapping the water. Rolled oats were used to supplement the animals diet and were much relished. It was observed to eat them when there was green stuff in the cage. Lettuce was also relished.

The following native foods were eaten when offered.

Tsuga canadensis
Pinus strobus
Pinus resinosa

Populus grandidentata
Populus tremuloides
Vaccinium
Betula alba
Quercus rubra borealis

-Leaves of these plants.

Gaultheria procumbens
Blackberry Fruits

Trifolium pratense - Leaves stems and flowers

Melilotis Alba - Stems and leaves if not too old and woody.

Aescalapis syriacus

Prunus pennsylvanica

Lathyrus latifolia

Grapevine leaves and stems

Pteridium and Equisetum also grass was eaten.

Thuja occidentalis was refused several times

Arenopodium alba

Arctostaphalus uvaursi

Cladonia

Polytricum

all remained untouched even when
no other food was available.

Odocoileus virginianus borealis Miller

- June 28- Two does were seen between camp and Riggsville Corner.
- July 12-Deer tracks were seen at Grapevine Pt. and at Pine Pt.
It had rained at 4 A.M. that morning. The tracks were found late in the morning and seemed to have been made after the rain.
- July 17-Prof. C.W. Creaser observed that deer trails in the French Lake dunes area were worn like sheep paths. The animals had chosen the lowest ground and followed the depressions down to the lake.
- July 30-Two yearlings were seen crossing the road near Wilderness Park at 9 A.M.
- August 1.-Albert Weyer saw a doe and fawn on the road to Pellston.
- August 8-Jerome Miller saw an adult at the margin of a wood on the way to Cheboygan at 11 A.M. in the
- Deer tracks were numerous and seen throughout the area.

Remarks

Although no attempt was made to take a census of any of the species in the paper, it was quite evident that several species were more abundant than usual. Chipmunk were very numerous, I should think almost to the saturation point. I observed three individuals all within twenty feet of each other. Ranges seemed to overlap. There was no area in camp that did not seem to have at least one chipmunk. The thirteen-lined ground squirrels were also fairly abundant. Deer and fox were as abundant as last year or so it appeared. Porcupine seemed about the same. Red squirrels and snowshoe hare were certainly far more abundant than last year. Notes on flying squirrels were too sketchy last year to show much as to numbers however, I would not rate them as less abundant.

Raccoon were also seen in larger numbers. I believe they are more abundant.