

U. S. DEPARTMENT OF AGRICULTURE
BUREAU OF BIOLOGICAL SURVEY

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FIELD DIARY

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Washington, D.C.
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Period, *April 5-8* to *1929*

Virginia
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April 5, 1929

Left Washington D.C. for Hot Springs, Virginia to study the deer problem for the State Game Department.

On C & O. Ry. through Culpepper, Charlottesville, Staunton, and Covington, then up to Hot Springs and by auto across to Warm Springs where we arrived at 12 midnight and were taken to Hotel Warm Springs Inn by the Game warden Wm. A. Hill and District warden R. L. Seay

Along route from Washington
to Staunton the red bud was in
full flower until we crossed the
first range of mountains
Apple blossoms were just coming
out and the dogwood were a
greenish white. Peach orchards
were past flowering and the
trees showed much green new
foliage.

At Staunton it was too dark
to see except a tinge of white
to the apple orchards.

April 6, At Warm Springs Inn
we had a comfortable night
and woke up in a beautiful mountain
valley with steep hills running
around 500 or 600 feet above
us, a wooded country with
little farmsteads in the valleys.

The woods are mostly hemlock with
a little green on willows and alders.
Amelanchier in blossom but we
did not see dogwood out. A few little
prick trees in flower but apple trees
not yet out.

All transition zone except on
cold slopes and gulches where
hemlock & Rhododendron indicates
Canadian. Only a trace of Amelanchier
on low warm slopes where Sycamore,
Tulip,

Birds Warm Springs, Va

April 4 -

Melospiza	a few
Bonasa	com
Colinus	a few
Carpodacus	1 heard
Geothlypis	"
Sphyrapicus	" seen, com
Colaptes	com.
Corvus americanus	1 - com
Cyanocitta, purple,	com
Stragella	"
Carduelis	2, a few
Pipilo	1, 1, com.
Pooecetes	com
Junco	obs
Spizella socialis	com
Vilospiza	"
Regulus calendula	2, 3,
Cardinalis	3, others
Penthestes	2

Parus inornatus	1
Thryso philadelphia?	2, 1,
Melospiza migratoria	com
Sialia sialis	"
Phoebe	obs. nesting
Starling	2 at Monterey April 7, com
English sparrow	com " "
Cardinal	1
Kingfisher	3
Cowbirds	4
Redwings	2
Mourning doves	3
Bobwhites	1
Sparrows hawk	2
Falcons	4

Trees - bushes, Warm Springs, Virginia

- Apris le. " " "
Pinus strobus abn
" pungens "
" rigida "
" mitis-echinata "
" virginiana " low down
Juniper canadensis " on NE slopes.
Cercocarpus rubra
" alba
" foliata digitata
" prinoides
" aculeata nana
" turkey?
" coccinea,
Acer saccharum
" saccharinum
" rubra
" "
" spicatum
" pennsylvanicum
Ulmus americana
Ulmus pubescens

- Hicoria alba, shagbark
Carya ovata, shellbark
" lasciniosa
" corymbosa, pignut
Juglans alba cinerea
" nigra
Castanea dentata,
Nyssa sylvatica, black gum
Robernia pseudoacacia
Ostrya virginiana
Pyrus, Malus coronaria, crabapple
Corylus,
Prunus serotina, black cherry
Fraxinus
Salix 3.
Platanus, a little low down
Fagus " " "
Amelanchier alnifolia
" canadensis
Sassafras, a little low down.
Liquidambar " "
Cornus florida " "

Alnus incana

Berberis "little"

Viburnum lentum

Ilex

Hyemalis

Zinnia? Mercurialis peruviana

Vaccinium

Rubus

Vitis

Smilax

Baccharis "little low down"

Kalmia ~~latifolia~~

Rhododendron naime

Azalea "little"

Rhus hirta

" glabra

Sambucus

Sarcocolla, a little

Black birch

Basswood

Gaultheria

Arbutus

Bloodroot

Hepatica

Viola

Cowslip

Trillium

Mr. Gillett says Warm Springs is about 2500 feet, his place is 2200 feet, Bald Mountain near Hot Springs is 4300 feet and one other peak 4000 feet.

In P.M. of April 6 we went to the game refuge on Back Creek ridge ^{north} west of Warm Springs about 6 miles from Warm Springs. It was about 15000 acres and is partly fenced.

We found lots of deer tracks all along the woods and trails and I estimate tracks of 100 to 200 deer seen. Mr. Hill estimates 1500 deer to Bath Co. which seems to me a conservative estimate

Bath Co. W., April 4 - 1929.

Deer	1500
Fox squirrel	com
Gray squirrel	"
White Squirrel	a few
Red squirrel	1
Chipping woodchuck	
Thomomys	a few
Peromyscus	
Microtus	com
Sylvilagus	com
Sciurus harrisi	com.
Beaver	1 April 7.
Porcoons	a few
Skunk	"
Mephitic	"
Mustel	very scarce
Weasel	a few

In P.M. Went north 10 miles to place of M. J. Ed. Gillitt on Rocky Run, a branch of Judasaw River that joins the James farther down.

Found a fine modern house with an interesting couple, who took the best of care of us with all the comforts of home including a big fireplace and lots of wood.

Saw lots of wildcat tracks and sign, the sign made up of wood and deer hair and rabbit fur. There are probably 200 or maybe 400 bobcats in the Co. and if they take 10 deer each in a year it would take about all.

There are lots of gray foxes too and a few wild turkeys and lots of ruffed grouse. There is a big problem.

Otter - a few long ago
 Lynx rufus, com. fresh tracks
 Weasels " 50 caught last year ⁽¹⁹²⁷⁾
 Opposum " "
 Weasels a few red foxes.

April 7 Sunday, at Gillitts

2 deer in yard
 Eat laurel, Rhododendron, blackberry,
 Bongoin, wither hazel, alder, rubies,
 Red elm, -

Refused willow, sycamore.

Mr. Gillitt says a year ago last fall
 (1927) the trappers caught 50 gray foxes
 in this valley, along the Jackson River
 up Jackson River to head of
 Monterey at 3300 feet, county seat of
 Highland Co.

Narrow valley with good little farms,
 blue grass and stock. Mountains both sides
 Mainly Transition zone.

Canadian on cold slopes as
 shown by hemlock + Rhododendron, white
 pine and *Pinus pungens*.

From Monterey west to top of ridge
 at about 3700 feet where we look down
 over Crib-Bottoms, a fine high
 up farming country.

and west of the valley the main
range of the Alleghany Mts.

No green foliage in woods
but grass getting well up in open
Great Kentucky bluegrass
country.

Lunch at Monterey

Then east to Bull Pasture and
Cow pasture valleys and over the Stanwold
Ridge at W. G. Dowell's battle ground
& down to Calfpasture Creek & valley
down valley to Deepfield and thence
down to Thompson Creek, thence
over Warm Springs Mountain and
down to Warm Springs at 2:30 P.M.

Covered about 100 miles over
fair roads most of way.

Very warm and summer-like.

April 8 - Left Warm Springs at
9 AM and came back over the
Warm Springs mountain ed up
to lookout fire station, then down
to cavern Thompson Creek,
then over to Cowpasture River
to Blowing Cave near the
Windy Cove Church founded
in 1749, then across Stuart
Run and Lick Run, then
over the top of the ridge and
down to Millboro on the
railroad.

In the lowest part of Cowpasture
River found more red bud, purple
tuliptrees and a strong trace
of Carolinian on warm slopes.
Took train at 3:17 PM for
home, Due 10:40 PM.
Very warm and dry. like summer.

Over mountains at Mill House and
then all down grade to big open
farming & orchard valley at Europe
Strong element of Carolinian zone on S. slope
Stanton in bottom of valley,
at 1395 feet.

Warehous, Carolinian zone on
warm slopes.

Afton 1379, top of present range,
all Carolinian below.

Beth & Highland Cos., Va., April 4-8, 1927

1 rough

Bison bison pennsylvanicum

Buffalo are not remembered by the oldest inhabitants but are well known by tradition in the valleys of Bullpasture, Cow-pasture and Calfpasture creeks which are said to owe their names to these animals a hundred years ago or more.

The country is ~~too~~ mostly too rough and steep and heavily timbered and probably there were never many buffalo anywhere in this high region nor could they possibly last long before the sights of the early white settlers.

Cervus canadensis

Elk were known to be all through this region but they must have disappeared at an early day for Mr. Hitt whose father was a hunter here nearly a hundred years ago never heard of any elk being seen or killed by any of the old men he knows.

The old Windy Cove Church on Croquette River two miles north of Millsboro was built in 1749 which shows how far back the settlements go in these hills.

The country is fine for elk but most of their time would be spent in the valley fields or orchards and gardens had they could not be controlled or tolerated in any number.

Odocoileus virginianus

Deer are still fairly well represented in Bath and Highland Counties but not in half the numbers there should be. In Bath Co. Mr. Wm. A. Hite, the local warden very familiar with conditions, estimates 1500 deer and from the tracks and signs seen I should say this was a very conservative estimate.

In Highland Co. there may be as many but I should say certainly 1000 deer would be a safe guess.

Food and range are equally abundant and favorable for deer in the two counties which seem to be considered the best in the state for deer they are largely mountainous

2, and lie between 2000 and 4000 feet in elevation. They are made up of various mountain ranges with narrow stream valleys between and the valley bottoms all in grass and clover but the ridges, hills and mountains are forest, mainly second growth from cutting & burning in years past. All of the available land is ideal deer pasture said to be about 82 percent of the counties.

Mostly does & fawn tracks run on the Back Creek game refuge 10 miles south of Warm Springs but the old bucks are said to keep along the crests of the ridges north of the river.

Deer food is abundant and ideal for twice or probably four times the number of deer at present on the range and not more than half of the good range is occupied at all.

3. at least 6 species of oaks
bear acorns, some of them very good,
and generally in such abundance
that acorns still lie on the ground in
spring. The chestnuts still bear a lot
of nuts but all are dying out.
There are lots of hazel nuts and
small seeds & berries for deer
while the browse on almost every
kind of bush and shrub and tree
sprout seems inexhaustible.
The great abundance of blueberry
bushes of at least 3 or 4 species,
sassafras, maple of 5 species,
chestnut, willow, alder, wintergreen,
aspens, laurel and Rhododendron
afford favorite browse for winter,
while the clovers and vetches are
abundant summer food as well as
the leaves and flowers and buds
of a great number of shrubs.

4. At Mr. Gilllett's place on Jackson River he has a buck and doe fixed in and always hungry because there is nothing else in this yard except grass which they will not touch. They were eager for the leaves of laurel and Rhododendron, the young leaves of blackberry, flowers of spiceweed, buds of maple and red elm, but did not care for sycamore or mulberry twigs, not yet in leaf.

White clover grows abundantly on all old clearings or roads or fields not in use and a little red clover here and there. These are especially sought for every night by the does and fawns. Dandelions are generally scarce where there are any deer and so is the wild Vetch, but in places the woods are full of two species of it.

5. In no place could we find a trace of over grazing even in winter, and food supply need not be considered for many years yet.

Enemies are a serious menace to deer. In the Back Creek Game Refuge we saw fresh and old tracks of many bobcats and their droppings were seen ~~by~~ in abundance along the trails. In many cases these droppings contained deer hair, in others sheep's wool and in others rabbit fur.

From evidence noted I should say Bath Co. had 100 to 200 bobcats, and it would be strange if these did not average 10 deer or fawns a piece during the year. This is the most serious and immediate deer problem.

4. There are lots of gray foxes and a very few red foxes that way get a few fawns in summer but they are of much greater danger to wild turkeys and ruffed grouse & rabbits.

~~The sexes of deer~~ need not cause any worry for 2 or 3 years yet as there have been but 3 years of hunting bucks only and the bobcats have taken more does than the hunters have bucks.

Hunting should be curtailed as much as possible to allow increase for spreading out and restocking. In all seasons restrict it to bucks for two years yet, then consider opening on any kind of deer. Limit the season and allow but one buck to a hunter.

7. Moving deer from places where abundant to places where there are few or none should be done as fast as possible. Trapping and moving deer without injuring or frightening them should be a practical part of game management.

Licenses - More funds are ^{also needed} needed for increasing the game and making better hunting and these funds might be obtained by increasing amount of resident licenses. This could well be done by dividing the license on deer, turkeys, small game, fishing and trapping. The non resident license of 25 dollars seems high enough to keep out undesirable hunters.

Introduction of deer is not necessary or desirable as the native stock is better adapted

8. In our country and always from
any from outside, but if any
are introduced they should be
the larger deer from northern
New York or Michigan or Minnesota.
The one doe in Mr. Gillett's yard
is evidently the small, southern
deer, probably from North or
South Carolina stock.

Native stock has many advantages
over any from outside and there
is abundance here to replenish
the whole range if well managed.

Sylvilagus transitionalis

Two species of cottontails undoubtedly occur here. The big dark brown one high up and in the brushy woods is undoubtedly of this species. Signs were seen all through the woods along the crests of ridges clear up to the fire lookout on Warm Springs mountain. It is a distinct species and does not mix with the common cottontail of the valley country.

Sylvilagus valerius

Cottontails are common in all of the valleys and are a valuable game animal. Their greatest value is in their abundance and availability for every boy to hunt and get the training he needs for larger game and better marksmanship. The boy who can hit the head of a rabbit with his twenty two rifle will not cripple his deer when he gets up and he will not shoot at a quagga and kill another hunter.

Sciurus niger niger

Fax squirrels are scarce but generally distributed over this region. There are not one where there should be a dozen to utilize the ample food supply of ^{chestnuts} butternuts, hickory nuts, and bushels of acorns which still lie on the ground with sound sweet meats for last years crop. These squirrels are the finest small game animals we have and should be protected in ample numbers to stock this range. Hunters are their only enemy and they should be curbed.

The old hollow trees of the forest afford ideal homes and cover and the mountains should be a paradise for these splendid ~~big~~ squirrels.

Sciurus hudsonicus loquax

A few red squirrels are found over the mountains but so scarce that we have seen but one on the trip over two counties. The great abundance of pine and hemlock cones would furnish food for many of these squirrels besides all the nuts and acorns they could eat and they are one of the attractive forms of wild life of which this region is distressingly poor.

Sciurus carolinensis leucotis

We saw several gray squirrels and they are said to be fairly common and a few blacks among them. This would indicate the larger northern form rather than the Carolina gray squirrel and a better game animal.

There is ample food of the choicest nuts and acorns for a much larger squirrel population and the numerous old hollow trees afford the choicest homes and breeding places. If the full value of such small game were well appreciated a more vigorous effort to protect these animals and keep their numbers up to the limit would be made.

Lanius striatus -

Chipmunks are common but not often seen. They are interesting little animals and generally harmless but are probably kept scarce by the numbers of wild house-cats running all through the woods.

Marmota flaviventris

A few woodchucks were seen in some of the meadows and on the hillsides and occasionally a fresh burrow in the woods but in no place are the animals numerous enough to do any real damage and they do add an attractive element of wild life to the country that is of real value.

Neotoma floridana pennsylvanica

Woodrats are found in many of the caves, among the rocks and rarely around buildings. I saw tracks in the cave on Thompson Creek

Reithrodontomys norvegicus

House rats are common and troublesome around buildings generally all through the mountainous country.

Peromyscus leucopus

These are probably the common woods mice of the region.

Microtus pennsylvanicus

Runways or burrows were found under grass in all fields but none of the mice taken or identified.

Microtus pinetorum scalyptoides

A few burrows on ridges may have been of this species.

Microtus crataechinus

Some of the microtus signs may have been of this yellow nosed mouse but I could get no evidence if so. Still they should be searched for.

Evotomys gapperi

I found no evidence of these little red backed mice but saw lots of places under the laurel and Rhododendron and in rocks where I am sure I could catch them.

Fiber zibethicus -

A few muskrats are said to be found along the rivers and creek banks in the mountain valleys and near Staunton. I saw a muskrat sitting in a bunch of water cress in the creek.

panther

Many places still bear the names of Panther ridge or Panther Rocks and Panther Springs, and Mr. Hite says he has heard many stories of panthers hunted & killed, he thinks not later than 50 years ago. He showed me the Panther Rocks near the top of a great ridge on the east side of Callington Valley. There seems no possibility that any of these big cats remain and it is probably better so.

Lynx ruffus ruffus

Bobcats are far too numerous here at the present time, and their tracks and droppings are seen along many of the roads and trails in the mountains. I should estimate 100 to 200 of bobcats in each of the two Counties. They have ideal cover and dens in the numerous caves and hollow cliffs; and boulder piles along the ridges and seem to be little hunted or trapped.

On the Back Creek Game Refuge we saw numerous fresh and old tracks and dozens of droppings along the trail. Some of these were made up entirely of deer hair, others of sheep wool and other rabbit parts.

It seems highly probable that each fully grown bobcat kills ten or a dozen does and fawns a year. They are less likely to kill full grown ~~bucks~~ but are especially destructive to fawns in summer.

A good trapper with the right kind of bait ought to get most of the bobcats in one of these counties in a year, and in winter to pay his salary of \$100 a month from cat and fox skins, both of which should be kept down to the lowest possible number to protect both the deer and wild turkeys. In summer the fur would be worthless but we can afford to let these animals feed on venison even for the rest of this summer.

Canis laevis

Wolves were common in these mountains a hundred years ago and a few Mr. Hite thinks up to 50 years ago. Fortunately they are all gone but probably our dogs do almost as much harm as the wolves did in early days.

Vulpes fulvus -

A few red foxes are said to be rarely found in these mountains but they are very scarce, which is fortunate for the wild turkeys.

Urocyon onocrotatus

Gray foxes are said to be common all through the mountains but not so many last year as the year before. Mr. Gillett says about fifty were taken in the valley of the Jordan River in his vicinity in the fall of 1927. At this rate there should have been 500 in Highland County which is considered the best county in Virginia for wild turkeys, a county where Gov. Beard, Lyndberg, Haysler and such men go to hunt.

It is utterly impossible to maintain wild turkeys under any such conditions and proposes to attempt it

These gray foxes are usually
trapped as muskrats.

They are not cunning and
can not resist a properly
prepared scent. Scent bait.

It is often necessary
to catch them all out
of a region before any
wolves or coyotes can
be caught because they
insist on getting into a
well scented trap before
anything else can find it.

Our regular coyote bait
will get them every time.

Their skins are valuable
in winter but they should
not be allowed to feed as
wild hawks all summer.

Ursus americanus

Black bears are said to be fairly common in a few places in both counties but they are not well distributed nor highly appreciated as game animals. In this great forested area with abundance of acorns and nuts every year, vastly more blueberries, blackberries, elderberries, black haws, thornapples and wild fruit and green plants and roots and bulbs which they like they are not likely get the habit of killing stock and if they do they are easily trapped and moved to other places where stock is scarce and other food abundant.

In Pennsylvania the black bear is considered this best

Game animal and the highest
license is charged for hunting
them. They bring many
sportsmen into the state who
would rather get a bear than
any other game at any price
and the extra license plus
helps to pay for the job shops
and hogs killed before a
bear that gets the habit can
be captured and moved.

On the first complaint of
bear killing stock a warden
is sent to get him and
in half a day two men can
build and set a log bear trap
bait it with honey and usually
take the bear with them on a
truck the next day.

John J. Slauferbach of
The Game Department at Herkimer
Co., can employ a man to do it.

Bears ought to be well
protected, not allowed to be hunted
with dogs or trapped, to be
taken only in a late fall
sport open season, the
dies season generally,
and neither young bears nor
old females accompanied
by young should be killed.

A prime bear skin has
considerable value as fur or
more as a trophy while the
meat and oil are greatly
appreciated by many.
There is always the spice of
possible danger in killing a
bear though if not cornered
or wounded there is no more
harmless animal in the woods.

Procyon lotor

A few raccoons are found over these two quarters but they are not very common and evidently are too freely hunted. They are valuable game and fur animals in a region richly supplied with their choicest food, acorns, nuts and berries and a fair abundance should be maintained by regulation of hunting season and bag limit.

Mustela novboracensis

Weasels are not very common but probably occur over all of both counties. They need no control beyond what get into traps set for other fur animals each year. They would do considerable good in keeping down the numbers of mice and small rodents.

Lutriola vison

Mink occur along the streams and are a valuable fur bearer with no need of control beyond the regular trapping season. A careful record should be kept of their abundance and this can best be done by a good license system for all fur trapping and requiring a report on all animals taken.

Lutra canadensis

A few otters follow the streams but Mr. Gillett says he has not known one taken for 3 or 4 years back.

Mephitis mephitis nigra

Skunks are only moderately common but are probably the most common catch of the trapper. A trapping license requiring a report on all animals taken would be a great help in keeping track of abundance of each species.

Epilogall

Mr. Gillett tells me there are a few of these little spotted skunks, called Civets,

Peromyscus breweri

Mole runways and hills are seen in many places and most probably are of the hairy tailed mole although the common vole and pine nose mole should both be here.

Blarina brevicauda

Some very smooth holes in the ground suggest the short tailed shrew.

Sorex

Several species of small shrews certainly occur in the cold wet places but now was no collecting was done and none could be identified.

Eptesicus fuscus

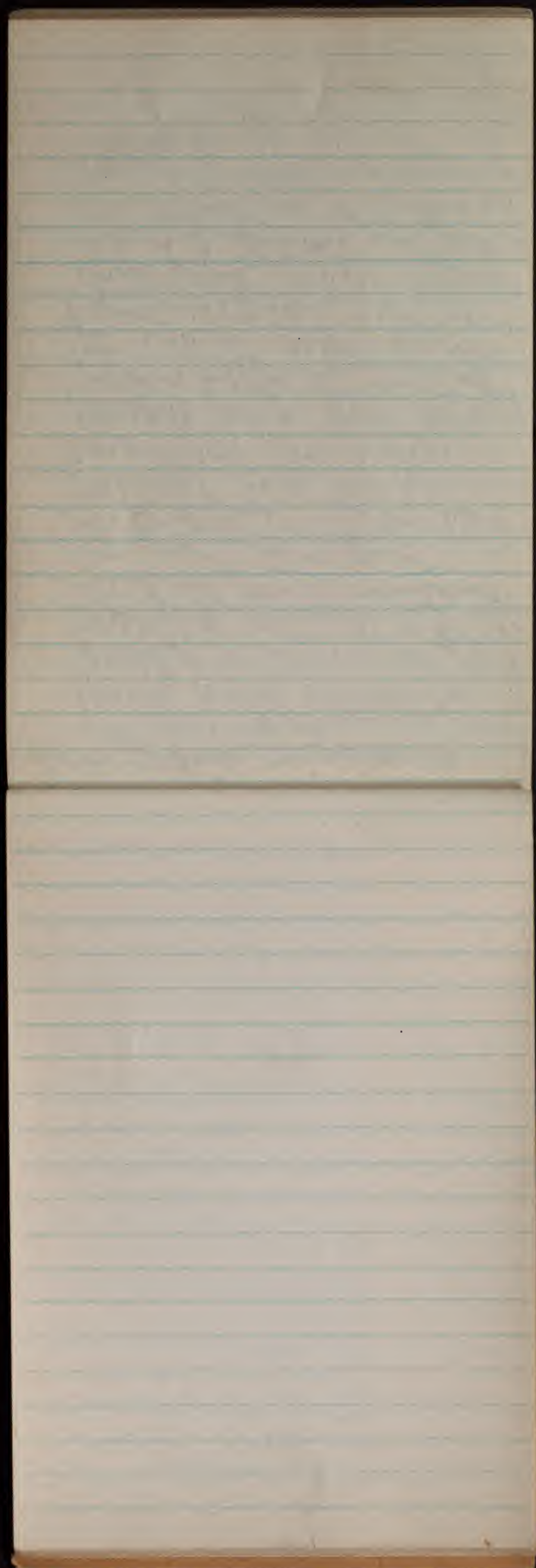
One bat seen flying about the Warm Springs area on the evening of April 7, appeared to be this species the big brown bat but I could be positive of it.

There are many caves in these two counties and some of them are said to contain many bats.

There should be a dozen or more species here and the caves should be carefully examined as well as the bats collected in evening when seen around the water, buildings or in the woods. They are among the most valuable animals and worthy of careful study.

Didelphis virginiana

A few specimens are found and should be counted as one of the fur bearing animals to be studied and maintained in not too great abundance. They have valuable fur and are considered by many people as a great delicacy when properly cooked. Too many such animals however would not be desirable where a good stand of grass and woods are nesting as they are fond of meat and eggs of many kind.



William A. Hite, Hail Springs, Va.

R. L. Seay, Buena Vista, Va.

J. Ed. Giblett, Hail Springs

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