EXpedition Outfit List

Check-list of equipment and supplies likely to be required on a field trip, compiled from lists of materials used on expeditions made during the past twenty-five years.

Average quantities are given, for three months unless otherwise stated.


1. Guns

- A double-barrel shotgun, in case..........................1 per man
- Auxiliary barrel for shotgun, .32, .38, or .410........1 per man
- Rifle, in case..................................................1 per party
- Gun oil...................................................................1 can per man
- Amm•ods, for shotguns and rifles...............1 of each per party

Note.—Guns are to be furnished by the collector.

2. Ammunition

- Loaded auxiliary shells.........................................7 per man per day
- Loaded 16-ga. half-loads dust shot.......................3 per man per day
- Loaded 16-ga. shells, Nos. 4 and 6 shot..............1 per man per day
- Loaded 16-ga. shells, No. 8 shot.........................1 per man per day
- Loaded 16-ga. shells, No. 10 shot.....................2 per man per day
- Rifle shells with hard-point bullets...........1 box (20 shells) per rifle
- Rifle shells with soft-point bullets...........2 boxes (40 shells) per rifle

Notes are not an accurate reflection of the original text. Changes in form and spelling were made.
3. PHOTOGRAPHIC OUTFIT

Camera ................................................................................. 1 per cam
Camera case ............................................................................. 1 per cam
Plate-holders or cut-film holders ............................................. 6 per cam
Tripod ................................................................................. 1 per cam
Tilting tripod top ....................................................................... 1 per pa
t Focusing cloth ....................................................................... 1 per cam
Exposure record book ................................................................ 1 per cam
( or use special sheets in Museum notebook )
Exposure meter ......................................................................... 1 per cam
Ray filter and holder ................................................................. 1 set per cam
Black velvet background .............................................................. 1 per pa
t Changing bag ......................................................................... 1 per pa
t Camel-hair brush ...................................................................... 1 per pa
t Extra clips for packing plates ................................................... 3 doz. per camera per m

4. TRAPS

Mouse traps ........................................................................... 8 doz. per cam
Rat traps (wired) .................................................................... 2 doz. per cam
Gopher traps (wired) ................................................................. 1 doz. per cam
Trowel or big spoon .................................................................. 1 per cam
Mole traps ................................................................................. 1 per cam
No. 1. steel traps ....................................................................... 8 per cam
No. 3 steel traps ......................................................................... 5 per cam

5. MATERIALS USED IN PREPARATION OF SPECIMENS

(a) Tools.

Skinning knife ......................................................................... 1 per cam
Syringe for cleaning mammal skulls ....................................... 1 per cam
t Toothbrush for small mammals ............................................. 1 per cam

5-kilo double beam trip balance and weights ...................... 1 per cam
“Big Game” scales ...................................................................... 1 per cam
Egg blowing outfit ....................................................................... 1 per cam
Three-cornered file ................................................................... 1 per cam
Flat file ......................................................................................... 1 per cam
8) Pins, Needles and Thread.
   Large-headed black pins.........................................500 per man
   Cotton thread, No. 8 (white) ................................2 spools per man
   Cotton thread, No. 24 (white) ...............................3 spools per man
   Silk thread, No. 24 (brown) .................................1 spool per man
   Helix needles, No. 5............................................1 package per man
   Three-cornered needles......................................1 package per party

9) Cotton.
   American...............................................4 bats (4 lbs.) per man
   California Special..............................2 bats (5 lbs.) per man
   Wadding.......................................................30 sheets per party

10) Wire.
    No. 26................................................................1, 4-oz. spool per man
    (If unwired traps are taken there must be an additional supply of No. 26 wire.)
    No. 24................................................................3, 4-oz. spools per man
    No. 22................................................................4, 4-oz. spools per man
    No. 20................................................................3, 4-oz. spools per man
    Baling wire, No. 14 or 16.................................50 ft. per party

11) Preservatives.
    Arsenic or alum and saltpeter mixture..................2 lbs. per man per month
    Fine salt.........................................................2 lbs. per man per month
    Alcohol, 95%......................................................1 qt. per party
    Formalin.........................................................ordinarily 2 qts. per party
    Hypodermic set for injecting specimens................1 per party

12) Containers.
    Pill boxes.........................................................25 per man
    Alcohol tank (3 gal.).........................................1 per party
    2-qt. Mason jars..............................................4 per party
    Collecting chest................................................2 for each 2 or 3 collectors
    Plant press (with 25 blotters)..............................1 per party
    Newspapers (cut to fit plant press).....................100 per party
    Heavy wrapping paper......................................some
    Cloth bags (for snakes, etc.)...............................6 per party

Notes are not an exact copy of the original. Changes in form and spelling were made.
### Miscellaneous Supplies

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specimen labels</td>
<td>400 per man per mi</td>
</tr>
<tr>
<td>Skull tags</td>
<td>200 per man per mi</td>
</tr>
<tr>
<td>Cornmeal</td>
<td>20 lbs. per mi</td>
</tr>
<tr>
<td>Rolled oats</td>
<td>10 lbs. per mi</td>
</tr>
<tr>
<td>Toothpicks</td>
<td>1 box per mi</td>
</tr>
<tr>
<td>Applicators</td>
<td>1 box per mi</td>
</tr>
<tr>
<td>Chloroform</td>
<td>6 oz. per mi</td>
</tr>
<tr>
<td>Newspapers or magazines (for wrapping specimens)</td>
<td>10 yds. per mi</td>
</tr>
<tr>
<td>Cheesecloth</td>
<td>20 yds. per mi</td>
</tr>
<tr>
<td>Mosquito bar</td>
<td>10 yds. per mi</td>
</tr>
<tr>
<td>Toilet paper</td>
<td>1 package per mi</td>
</tr>
<tr>
<td>Twine (brown and white)</td>
<td>1 ball of each per mi</td>
</tr>
<tr>
<td>Excelsior</td>
<td>1 sack per mi</td>
</tr>
<tr>
<td>Burlap sacks</td>
<td>6 per mi</td>
</tr>
</tbody>
</table>

### Equipment

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tent, 10 x 12 ft</td>
<td>1 per p</td>
</tr>
<tr>
<td>Tent fly</td>
<td>1 per p</td>
</tr>
<tr>
<td>Tarpaulin</td>
<td>1 per p</td>
</tr>
<tr>
<td>Table (folding)</td>
<td>1 per p</td>
</tr>
<tr>
<td>Chairs (folding camp)</td>
<td>1 per p</td>
</tr>
<tr>
<td>Shovel</td>
<td>1 per p</td>
</tr>
<tr>
<td>Hatchet or belt ax</td>
<td>1 per p</td>
</tr>
<tr>
<td>Extra hatchet handle</td>
<td>1 per p</td>
</tr>
<tr>
<td>Ax</td>
<td>1 per p</td>
</tr>
<tr>
<td>Extra ax handle</td>
<td>1 per p</td>
</tr>
<tr>
<td>Hand saw</td>
<td>1 per p</td>
</tr>
<tr>
<td>Thermometer</td>
<td>1 per p</td>
</tr>
<tr>
<td>Barometer</td>
<td>1 per p</td>
</tr>
<tr>
<td>Dunnage bag for cotton</td>
<td>1 per p</td>
</tr>
<tr>
<td>Coleman gas lantern, and extra mantles</td>
<td>1 per p</td>
</tr>
<tr>
<td>Trap bags</td>
<td>3 per mi</td>
</tr>
<tr>
<td>Knapsacks or rucksacks</td>
<td>2 per p</td>
</tr>
<tr>
<td>Canteen</td>
<td>1 per mi</td>
</tr>
<tr>
<td>Rope, 1/2-inch</td>
<td>150 ft. per p</td>
</tr>
</tbody>
</table>
(b) Permanent Records.

- Notebook ..............................................................1 per man
- Notebook paper (filler, extra) ..................3 sheets per man per day
- Census sheets, white ........................................1 per man per day
- Gummed eyelets .........................................1 box per party
- Paste ......................................................................1 tube per party
- Photograph record sheets ....................2 per man per month
- Pocket field notebook .....................................1 per man
- Penholder .........................................................1 per man
- Pen points ..........................................................1 doz. per party
- Pencils ..............................................................3 per party
- Higgins Eternal Ink ........................................1, 2-oz. bottle per man
- Directions for collecting .....................................1 set per man
- Literature concerning region ................................1 set per party

(c) Shipping Supplies.

- Nails, 4- and 6-penny ...................................2 lbs. of each per party
- Tacks, 3-oz. size ................................................3 packages per party
- Shipping tags .....................................................15 per party

(d) Paper Supplies.

- Maps (topographic, when available) ..................2 sets per party
- Museum stationery (envelopes and letterheads) ......................supply
- Postal cards ......................................................1 per party
- Postage stamps ........................................................supply

7. MEDICAL OUTFIT

- First aid kit ..........................................................2 per party
- Castor oil .............................................................8 oz. per party
- Bismuth subcarbonate, 5-grain powders ..................5 per party
- Quinine, 5-grain capsules ......................................20 per party
- Tincture of Iodine ...............................................2 oz. per party
- Honey and almond cream ......................................1 bottle per party
- Unguentine ..........................................................1 tube per party
- Zinc perborate powder ........................................1 can per man
- Fly-tox outfit ......................................................1 can per party

Notes are not an altered.
### 8. COOK OUTFIT

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas stove, 2-burner</td>
<td>1 per pa</td>
</tr>
<tr>
<td>Camp-fire irons</td>
<td>1 set per pa</td>
</tr>
<tr>
<td>Stew pans (with covers)</td>
<td>3 per pa</td>
</tr>
<tr>
<td>Frying pans</td>
<td>2 per pa</td>
</tr>
<tr>
<td>Grabber</td>
<td>1 per pa</td>
</tr>
<tr>
<td>Dish pans</td>
<td>2 per pa</td>
</tr>
<tr>
<td>Pie tins</td>
<td>1 per m</td>
</tr>
<tr>
<td>Coffee pot</td>
<td>1 per pa</td>
</tr>
<tr>
<td>Covered pails</td>
<td>2 per pa</td>
</tr>
<tr>
<td>Cups</td>
<td>1 per m</td>
</tr>
<tr>
<td>Plates</td>
<td>1 per man</td>
</tr>
<tr>
<td>Knives</td>
<td>1 per man</td>
</tr>
<tr>
<td>Forks</td>
<td>1 per m ext</td>
</tr>
<tr>
<td>Spoons (tea)</td>
<td>1 per man</td>
</tr>
<tr>
<td>Spoons (table)</td>
<td>1 per man</td>
</tr>
<tr>
<td>Mush dishes</td>
<td>1 per m</td>
</tr>
<tr>
<td>Butcher knife</td>
<td>1 per pa</td>
</tr>
<tr>
<td>Large cook spoon</td>
<td>1 per pa</td>
</tr>
<tr>
<td>Large cook fork</td>
<td>1 per pa</td>
</tr>
<tr>
<td>Can openers</td>
<td>2 per pa</td>
</tr>
<tr>
<td>Wash basin</td>
<td>1 per pa</td>
</tr>
<tr>
<td>Water pail</td>
<td>1 per pa</td>
</tr>
</tbody>
</table>

### 9. GROCERIES

(For two men one month)

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cream of wheat</td>
<td>4 pkgs.</td>
</tr>
<tr>
<td>H.O. mush</td>
<td>2 pkgs.</td>
</tr>
<tr>
<td>Milk</td>
<td>15 cans.</td>
</tr>
<tr>
<td>White flour</td>
<td>15 lbs.</td>
</tr>
<tr>
<td>Pancake flour</td>
<td>2 pkgs.</td>
</tr>
<tr>
<td>Cornmeal (also in collecting stores)</td>
<td>5 lbs.</td>
</tr>
<tr>
<td>Macaroni</td>
<td>2 pkgs.</td>
</tr>
<tr>
<td>Cornstarch</td>
<td>1 pkg.</td>
</tr>
<tr>
<td>Tapioca</td>
<td>1 lb.</td>
</tr>
<tr>
<td>Baking powder</td>
<td>1 lb.</td>
</tr>
<tr>
<td>Baking soda</td>
<td>½ lb.</td>
</tr>
<tr>
<td>Salt</td>
<td>1 lb.</td>
</tr>
<tr>
<td>Pepper</td>
<td>1 c.</td>
</tr>
<tr>
<td>Syrup</td>
<td>¼ g.</td>
</tr>
<tr>
<td>Sugar</td>
<td>20 l.</td>
</tr>
<tr>
<td>Chocolate</td>
<td>2 lb.</td>
</tr>
<tr>
<td>Coffee</td>
<td>4 lb.</td>
</tr>
<tr>
<td>Tea</td>
<td>1 l.</td>
</tr>
<tr>
<td>Eggs</td>
<td>1 lb.</td>
</tr>
<tr>
<td>Bayo beans</td>
<td>5 lb.</td>
</tr>
<tr>
<td>Rice</td>
<td>4 lb.</td>
</tr>
<tr>
<td>Potatoes</td>
<td>15 lb.</td>
</tr>
<tr>
<td>Onions</td>
<td>5 lb.</td>
</tr>
<tr>
<td>Butter</td>
<td>5 lb.</td>
</tr>
<tr>
<td>Crisco</td>
<td>3 lb.</td>
</tr>
<tr>
<td>Item</td>
<td>Quantity</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Bacon</td>
<td>1 side</td>
</tr>
<tr>
<td>Ham</td>
<td>1 ham</td>
</tr>
<tr>
<td>Campbell soup</td>
<td>6 cans</td>
</tr>
<tr>
<td>Corned beef</td>
<td>8 cans</td>
</tr>
<tr>
<td>Salmon</td>
<td>2 cans</td>
</tr>
<tr>
<td>Tuna</td>
<td>3 cans</td>
</tr>
<tr>
<td>Shipped beef</td>
<td>3 cans</td>
</tr>
<tr>
<td>Cucumbers</td>
<td>5 lbs.</td>
</tr>
<tr>
<td>Pears</td>
<td>3 lbs.</td>
</tr>
<tr>
<td>Peaches</td>
<td>3 lbs.</td>
</tr>
<tr>
<td>Apricots</td>
<td>2 lbs.</td>
</tr>
<tr>
<td>Prunes</td>
<td>3 lbs.</td>
</tr>
<tr>
<td>Figs</td>
<td>2 lbs.</td>
</tr>
<tr>
<td>Beans</td>
<td>6 cans</td>
</tr>
<tr>
<td>Canned tomatoes</td>
<td>3 cans</td>
</tr>
<tr>
<td>Canned olives</td>
<td>3 cans</td>
</tr>
<tr>
<td>Canned corn</td>
<td>3 cans</td>
</tr>
<tr>
<td>Canned jelly</td>
<td>3 cans</td>
</tr>
<tr>
<td>Cookies</td>
<td>3 lbs.</td>
</tr>
<tr>
<td>Crackers, soda</td>
<td>3 lbs.</td>
</tr>
<tr>
<td>Crackers, graham</td>
<td>3 lbs.</td>
</tr>
<tr>
<td>Pilot bread</td>
<td>12 lbs.</td>
</tr>
<tr>
<td>Bread</td>
<td>1 bottle</td>
</tr>
<tr>
<td>Tar soap</td>
<td>2 cakes</td>
</tr>
<tr>
<td>Ivory soap</td>
<td>2 cakes</td>
</tr>
<tr>
<td>Dutch Cleanser</td>
<td>2 cans</td>
</tr>
<tr>
<td>Candles</td>
<td>2 doz.</td>
</tr>
<tr>
<td>Matches (in airtight can)</td>
<td>2 pkgs.</td>
</tr>
<tr>
<td>Food bags</td>
<td>10</td>
</tr>
<tr>
<td>Steel wool</td>
<td></td>
</tr>
</tbody>
</table>

**10. PERSONAL OUTFIT**

Articles under **personal outfit**, as far as needed, are to be furnished by the collector.

- Scalpels, 2
- Forceps, 1
- Fire cutters, 1
- Scissors, 2
- Sandpaper, 1
- Sharpener, 1
- Sicker, 1
- Steel millimeter tape, 1
- Millimeter rule, 1
- Fountain pen, 1
- Carbontoided vaseline, 1
- Pencil, 1
- Hunting license
- Collecting permits
- Postage stamps
- Stamp book or stamps
- Envelopes, paper, and postal cards
- Expense account sheets
- Watch
- Business cards
- Mending kit
- Comb
- Mirror ("trench")
- Razor and strop
- Shaving brush and soap
- Extra glasses and case
- Colored glasses
- Binoculars
- Flashlight
- Cash
- Clothes (in addition to what are worn)
  - Underwear
  - Socks, 4 prs. at least (some wool)
  - Pants
  - Hunting coat or vest
  - Heavy shoes (¾-inch round head screws)
  - Business cards
  - Mending kit
  - Comb
  - Mirror ("trench")
  - Razor and strop
  - Shaving brush and soap
  - Extra glasses and case
  - Colored glasses
  - Binoculars
  - Flashlight
  - Cash
  - Clothes (in addition to what are worn)
    - Underwear
    - Socks, 4 prs. at least (some wool)
    - Pants
    - Hunting coat or vest
    - Heavy shoes (¾-inch round head screws)

Notes are not an altered. Changes in form and spelling were made.
<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>extra hobnails</td>
<td></td>
</tr>
<tr>
<td>light shoes</td>
<td></td>
</tr>
<tr>
<td>hat or cap</td>
<td></td>
</tr>
<tr>
<td>handkerchiefs</td>
<td></td>
</tr>
<tr>
<td>shirt</td>
<td></td>
</tr>
<tr>
<td>sweater or blazer</td>
<td></td>
</tr>
<tr>
<td>belt</td>
<td></td>
</tr>
<tr>
<td>suspenders</td>
<td></td>
</tr>
<tr>
<td>Towels</td>
<td></td>
</tr>
<tr>
<td>Dunnage bag</td>
<td></td>
</tr>
<tr>
<td>Bed roll or sleeping bag</td>
<td>cover</td>
</tr>
<tr>
<td>Compass</td>
<td></td>
</tr>
<tr>
<td>Pocket knife</td>
<td></td>
</tr>
<tr>
<td>Head net</td>
<td></td>
</tr>
</tbody>
</table>

**Note.**—When going into mosquito country, an army type net is desirable.

### 11. Automobile Outfit

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automobile or truck</td>
<td>1 for each 3 mi</td>
</tr>
<tr>
<td>Mileage record book</td>
<td>1 per</td>
</tr>
<tr>
<td>Extra tires</td>
<td>2 per</td>
</tr>
<tr>
<td>Extra inner tubes</td>
<td>2 per</td>
</tr>
<tr>
<td>Cup grease</td>
<td>1 can per</td>
</tr>
<tr>
<td>Extra gasoline</td>
<td>2 to 25 g</td>
</tr>
<tr>
<td>Siphon</td>
<td>1 per</td>
</tr>
<tr>
<td>Funnel</td>
<td>1 per</td>
</tr>
<tr>
<td>Water cans</td>
<td>5 to 20 g</td>
</tr>
<tr>
<td>Extra valve cores</td>
<td>6 per</td>
</tr>
<tr>
<td>Extra valve caps</td>
<td>6 per</td>
</tr>
<tr>
<td>Jack</td>
<td>1 per</td>
</tr>
<tr>
<td>Extra fuse</td>
<td>1 per</td>
</tr>
<tr>
<td>Extra light bulbs</td>
<td>2 per</td>
</tr>
<tr>
<td>Tire pump</td>
<td>1 per</td>
</tr>
<tr>
<td>Chains</td>
<td>1 set per</td>
</tr>
<tr>
<td>Tow rope</td>
<td>1 per</td>
</tr>
<tr>
<td>Fire extinguisher</td>
<td>1 per</td>
</tr>
<tr>
<td>Keys</td>
<td>1 set per</td>
</tr>
<tr>
<td>Tire repair outfit</td>
<td>1 per</td>
</tr>
<tr>
<td>Tool set</td>
<td>1 per</td>
</tr>
<tr>
<td>Gasoline credit card</td>
<td>1 per</td>
</tr>
</tbody>
</table>
These notes were copied from the original by W. B. Davis, August, 1935. Notes are not an exact duplicate of the original. Changes in form of page, scientific names, and spelling were made. Also sentence structure and punctuation were altered.
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<th>62 52</th>
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<tr>
<td>Name of Dr Fred S Hendricks</td>
<td>CRM</td>
<td>400</td>
</tr>
<tr>
<td>Library Dept WFS, TAMU</td>
<td></td>
<td></td>
</tr>
<tr>
<td>College Sta., TX 77843</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New ☑️ Color No. 990</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repeat □</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stamping: Follow Enclosed Xerox</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Copy of Spine or Tissue Rub ☑️</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LBI Standardized Position ☑️</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stamp in White ☑️ Stamp in Gold □</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stamp in Black □</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Library Imprint Yes ☑️ No □</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decorative Lines Yes ☑️ No □</td>
<td></td>
<td></td>
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<tr>
<td>Call nos.: Yes ☑️ No □</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Block Form ☑️ Centered □</td>
<td></td>
<td></td>
</tr>
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<td></td>
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**Special Instructions:**

- See WBD 1933-34 for spine rub
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**Field Notes**

- Idaho
- Borell & Orr
- 1930 W-H-M 70
- WBD
Introduction

A. E. Borell and Ray Gilmore, in the employ of Ralph Ellis of Berkeley, California, left that city May 15, 1930 to do general collecting in Idaho. Ellis at that time planned to work intensively and extensively on the mammals of that state.

Borell and Gilmore entered Idaho May 18 on the Wells-Twin Falls highway and left by way of Homestead, Oregon. Five collecting camps were established in the west-central portion of the state in Washington and Adams counties.

All alcoholic and formalin specimens were donated to Mus. Vert. Zool., Berkeley, and in addition, many of the mammals where large series were obtained at the various camps. All birds are now (1935) in the private collection of Ralph Ellis, Berkeley, California. Borell's catalogue numbers for this trip are 4024-4458.
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This morning we drove out 6 miles east of town to Hansen Bridge which is some 300 feet above the Snake River. A little way above the bridge we visited Twin and Shoshone Falls. There is little water in the river now as most of it has been taken up by irrigation reservoirs. Here along the river we saw a number of Marmots, *Citellus oregonus*, Bank and Northern Violet Green Swallows, Meadowlarks, Bullock Orioles, Kingbirds, English Sparrows.

Drove on into Boise and stopped to see Mr. R. E. Thomas the State Game Warden. Learned that he would not be in his office until tomorrow.

(p. 978).


This morning we called on Mr. R. E. Thomas and found him very cordial. He gave us considerable information about the country and also a state permit to validate our Federal permit. Mr. Thomas said that the planted Pheasants, Bobwhite, Valley Quail, Hungarian Partridges are doing well. Sage Grouse are on the rapid decline he thinks. Here we examined a relief map of Idaho which gave us a good idea of the relief of the state. We learned that about 3/4 of the state is mountainous. The Snake River Valley presents a very broad level area across the entire state. The Weiser River Valley is also broad and level. We found all of the level country intensively cultivated, that is in the area we traversed. The main crops being wheat, potatoes, beans.

We drove on to Caldwell where we spent the night. During the evening I called on Jerry Harbet, the girl Lawrence Compton and I met at Jarbidge, Nevada last summer. She is now attending College of Idaho. This evening we drove out along some of the dirt roads south of the highway between Caldwell and Nampa. Here we found a large reservoir upon which we saw 3 White Pelicans. In an irrigated alfalfa field 15 (Calif?) Gulls were feeding.
May 21, Caldwell to Weiser, Idaho.

This morning we went on (51 miles) to Weiser. Here we saw Mr. Frank R. Townley (district game warden). He was very cordial and gave us considerable information about the country. From Weiser we followed the Weiser River north to a little place called Crane. Here we turned back and followed a road up Mann Creek to the main highway and thence back into Weiser, where we had lunch. After lunch we drove west along the Snake River to Eaton and then north about three miles to Crawfords Ranch. On this road we met Crawford's grand son and grand daughter driving an old Ford which they were unable to stop and as a result ran off the road and down into a ditch. We spent some time getting them back on the road again. From here we returned to Weiser. We found none of this country suitable for a camp location. We found only a very small area of sand. All of the river or creek bottom land is intensively cultivated. These ranches extend up the canyons to the head. Most of the underbrush has been cut down along the creeks. The uncultivated hills are dry and barren covered only with small rocks, short grass, sage and a little yellow bruch. These hills rise only from 100 to 1000 feet above the valleys. Birds and mammals were likewise scarce.

May 22, Weiser to camp.

Drove out the main highway to Midvale (24 mi.) from here we followed dirt roads to Crane Cr. reservoir. We went clear around the reservoir until we struck Crane Creek which runs into the north east end of the reservoir. We then drove up Crane Creek about 7 miles to George Stephens ranch. Mr. Stephens owns about two miles of land along the head of Crane Creek. The next ranch house is about 1/2 mile below Stephens land. The Stephens family consists of Mr. and Mrs. Stephens and several sons and daughters. Their address is Star Routes, Midvale, Idaho. They have been here for at least 30 years. From them we obtained permission to camp on
(p. 32)

In this section of work we shall proceed to further exploration of the factors that influence the design of an efficient data storage system. The primary focus will be on the use of magnetic media for data storage and retrieval. We will consider the characteristics of various magnetic media, including their storage capacity, access time, and error rates. Through analysis and comparison, we aim to determine the most suitable medium for different applications.

The data storage system design process involves several key steps. First, we need to identify the specific requirements of the system, such as the amount of data to be stored, the frequency of access, and the tolerance for errors. Based on these requirements, we can select the appropriate magnetic media. Next, we need to consider the costs associated with each option, including initial investment and ongoing maintenance. Finally, we will evaluate the performance of each media type under simulated conditions to determine the most cost-effective and efficient solution.

This section will provide a comprehensive overview of the factors that influence the design of an efficient data storage system. By understanding these influences, we can make informed decisions that will maximize the performance and reliability of our storage solutions.

(p. 33)

The importance of data storage cannot be overstated in today's digital age. With the ever-increasing amount of data generated by various sources such as social media, healthcare, and business operations, the need for efficient and reliable data storage systems has become more critical than ever. In this section, we will explore the role of data storage in different industries and discuss the challenges and opportunities associated with it.

Data storage systems are integral to the functioning of various industries, including healthcare, finance, and retail. In healthcare, for instance, the storage and management of patient records are critical to ensure patient safety and comply with regulatory requirements. In finance, data storage is essential for financial transactions and compliance with regulatory standards. In retail, data storage is crucial for managing inventory and customer data to provide personalized experiences.

As we move forward in this chapter, we will delve deeper into the intricacies of data storage, discussing the technologies and practices that are currently in use and exploring the potential future developments in the field. This will provide a comprehensive understanding of the importance and evolution of data storage systems in today's world.
the lower end of their ranch. We then returned (23 miles by road) to Midvale and laid in a supply of provisions and returned in time to unload and cook our first camp meal of the season. "Turned in" at eleven P. M.

On Crane Cr. Reservoir we saw one Forster Tern.

(p. 982)

May 23, Crane Cr., 15 mi. E Midvale, Washington County, Ida. 2800 ft.

We are camped near the head of Crane Creek. This makes us about 6 miles east and a little north of Crane Creek Reservoir, and about the same distance from the Gem Co. line. There is another Crane Cr. which flows into the Weiser River near the station of Crane. (We are using the 1925 map of Weiser Nat. Forest and our location by that is T. 12 N: R. 1 W). Our camp is located on the edge of the creek near the south border of Mr. George Stephen's place. We are about \( \frac{2}{3} \) mile above a small school house.

The valley here varies from a couple of hundred yards to \( \frac{1}{2} \) mile in breadth. The floor of the valley was originally covered with willows, wild rose, much grass and herbs, some aspens, currant chokecherry and nettle. Now much of the land has been cleared and is growing grain and alfalfa. Some of the valley is too wet to cultivate, there being a number of springs, little creeks and one or two small cattail marshes. There are still rather extensive and dense thickets (p. 983) along the main creek. In the creek there are suckers and shiners, but no trout.

The hills bordering the creek are low, dry, and usually rounded. The soil of the hills is coarse gravel and much of it is covered by volcanic rocks. Occasionally there are small rocky outcrops. The soil of the valley is a deep moist loam, which supports a luxuriant stand of grass and herbs. The hills are sparsely covered with short grass, low sage and a little yellow brush.
To-date the following birds and mammals have been seen here:

Crows, common
Black-billed Magpies, fairly common
Chat
Redwing Blackbird
Meadow Lark
Chinese Pheasant, common
Kingbird
Red-shafted Flicker
Song Sparrow
Sage Grouse
Pallid Goldfinch
Black-crowned Night Heron
Sparrow Hawk, one
Horned Owl, one
Screech Owl, two

Lazuli Bunting
Bullock Oriole
Yellow Warbler
Mourning Dove
Lewis Woodpecker
Lark Saprrow
Cow Bird
Yellow-throat
Wood Pewee
Great Blue Heron, one
Short-eared Owl, one

(p. 984)


50 mouse traps set along creek, among short grass and sage over dry hill slope and among heavy rye grass held, 3 ad. f. and 1 ad. m. Perognathus parvus, 6 ad. m. 3 ad. f. and 2 imm f. Peromyscus maniculatus. 5 steel traps held 1 ad. f. Marmot; one hole in nose, right fore foot gone. Trap set under rock fence beside road.

4024 f. ad. Marmot 490-145-70-17, is still suckling young. Mammae 5 pr., 1 inguinal, 3 abdominal, 1 pectoral.

4025 f. ad. Citellus columbianus 338-85-55-10. Suckling young. Mammae 5 pr., 1 ing., 3 ab., 2 pectoral. Shot in grain field. (Saved as skeleton only.)

   Under sage on dry rocky hill slope.

   Caught at edge of creek.

(p. 985)

4029 m. ad. Peromyscus maniculatus 157-65-20-17
   Among sage. (In M.V.Z. now).

4030 f. sad. " " 156-65-20-15
   5 embryos

4031 m. Evening Grosbeak

4032 m. " " Skeleton only.
   The Evening Grosbeaks were taken from a flock of 10 which were feeding on the willow buds.

4033 Salamander- under board near creek, among grasses. (in formalin)

(B.986)

May 25 (Sunday)
Fifty traps as per yesterday held 3 ad. m. Perognathus parvus, 4 ad. m., 1 ad. f., 2 im. f.
Peromyscus maniculatus. 8 steels caught 1 ad. m. Citellus columbianus.

4034 ad. m. Perognathus parvus 178-97-24-8.
   Under sage on dry gravelly hillside.

4034b. ad. m. " " 170-91-24-7.
   Same habitat as above.

4035 ad. m. Peromyscus maniculatus 172-76-21-15.
   Same habitat as above.

   At edge of creek.

4037 ad. m. " " 162-69-21-15.
   Caught in the meadow.
4038 ad. m. *Citellus columbianus* 360-93-51-10. 
Most soil near creek.

4039 m. Song Sparrow. Singing from top of willow over creek.

4040 ad. m. *Citellus columbianus* 373-90-56-11
Shot as it sat upright on its haunches at the mouth of its burrow in a moist meadow. (now in M.V.Z.).

(p. 987)


Sixty traps caught, 2 ad f., 2 ad. m., 4 im. *Peromyscus maniculatus*; 1 White-crowned Sparrow; 1 Yellow-bellied Racer. 10 steels caught 1 ad. m. *Citellus columbianus*.

4041 Thomomys ad. f. 178-51-2617
Among tall grass in moist meadow.

4042 ad. m. *Citellus columbianus* 380-105-56-11.
Among tall grass in meadow.

4043 jv. m. " " 231-75-42-9.
At mouth of burrow in moist meadow.

4044 f. White-crowned Sparrow In mouse trap under wild rose.

4045 ad. m. Long-tailed Chat.

4046 ad. f. " " " Taken together in a clump of wild roses at the edge of the creek. Several other males were in full song and executing dourting flight antics.

Formalin

4047 Yellow-bellied Racer. In mouse trap near cr.

Sixty traps as per yesterday held 2 ad. m., 1 ad f. Peromyscus maniculatus; 1 ad. f. Perognathus parvus. Twenty-five traps put out last evening in a little tule swamp caught 1 ad. f. Peromyscus maniculatus; 1 ad. f., 1 im. m. Microtus montanus. (These are nanus) 8 steel traps caught one ad. m. Marmot.


4050 jv. m. Citellus columbianus 256-85-45-9. Among tall grass in moist meadow.

4051 ad. m. Marmota flaviventris 595-180-80-16. In burrow under rocks on dry rocky hillside.

4052 ad. m. Sylvilagus 360-50-86-76. Under willows near creek.

(p. 989)

4053 m. Poorwill. Shot at 9 P.M. (almost too dark to see). With the flashlight I saw its eyes shine and watched it feed. It perched on the ground and made short sallied into the air after insects. It paid little attention to the flashlight.

4054 m. Chickadee. One of a pair which were feeding over the periphery of a willow tree at the edge of the creek.

4055 m. White-crowned Sparrow. Under wild rose near creek, in same trap as no. 4044.

Formalin

4056 Garter Snake (young) In tule marsh.
Hunted along the creek this morning. Saw an old Mallard hen with about 6 very small ducklings. Also found some unusual Muskrat workings. At one place where the bank was very steep (almost straight up) and about 6 feet above the water I found peculiar scratched trails leading from bottom to top. Investigation showed that they had been made by Muskrats and ran from their burrows which were just beneath the water in the creek, up the bank and out into an adjoining rye field. They were distinct trails leading through the tall grass and rye. These trails were about 5 in. wide and near the bank were strewn with dry mud and cut grain stalks. One of the burrows was partly plugged with freshly cut stems of rye.

The Stephens boy (17 yrs. old) had told us that there were no longer any muskrats on the creek. Said he had never seen one here.


Twenty traps in little tule marsh as per yesterday caught the tail of one Microtus. Sixty traps along creek and on hillsides held 1 ad. m. Reithrodonotomys; 1 ad. m., 1 ad. f. Mus musculus; 1 ad. m., 1 ad. f. Perognathus parvus; 1 im. f. Microtus nanus. It was warm cloudy and sultry yesterday P.M. and all night. Eight steels held the hind left of a Citellus columbianus, some carnivore had eaten it.

4057 f. Myotis c. californica 82-37-8-12. Flying about willows at dusk.

4058 ad. m. Reithrodonotomys 136-65-17-12. Edge of small creek.


*Boggy spring.*

*(p. 992)*

4061  ad. m. *Western Yellow-throat.* From top of tall aspen. Its mate was with it. These are the first seen.

4063  *Garter Snake* From creek.

4064  m. *Pallid Gold-finch.* With mate on top of willow.

4065  m. *Flycatcher.* In willow over creek.

It is still cold cloudy and off and on each day. Hunted over the sage hills northeast of camp but saw little.

*(p. 993)*


Last night I added 20 traps to the 20 already in the little tule swamp. These 40 traps caught 1 ad. m., 1 im. f., 2 jv. m. *Microtus nanus.*

20 traps which I put out yesterday in a heavy stand of yellow brush and grass caught absolutely nothing.

10 new traps in rocky outcroppings held 1 im. *Peromyscus maniculatus.*

25 traps in meadow and along creek held 1 ad. and 1 im. *Peromyscus maniculatus.*

Thus 95 traps (about 50 new) caught but 7 specimens.

8 steels caught 1 ad. f. *Citellus columbianus.*


4067  im. m. "" 135-36-19-9.

4068  im. m. "" 135-35-19-9.

All of the above from the wet tule meadow.

4069  ad. m. *Thomomys.* 202-61-26-5.

Dry gravely hillside among sage.
(287)

Told me to have a glass of wine.

(288)

I'm feeling a bit spacy. I think I need a change of scenery.

(289)

I can't wait to see the new movie tonight.
4070 ad f. *Citellus columbianus* 345-98-50-10. Wet meadow in same trap as nos. 4050, 4042.

4071 m. Flycatcher. From willow over creek.

4072 f. Eastern Flycatcher. From top of aspen.

4073 m. Redwing Blackbird. Top of willow.

4074 Gopher Snake

4075 " " Dry rocky hill slope covered with sage brush.

4076 Sceloperous Among rocks on dry ridge.

Still stormy. Our trap lines yield little and the hunting isn't much better.

Ray trapped a female skunk this A.M. at the mouth of her burrow. He also shot one of her young. He and I returned and dug out the den and found 4 more young in it, these we are keeping for pets for the present. Removed the scent glands from one this afternoon. See Ray's notes for this data.


The 95 traps, as described yesterday held 1 ad. and 2 im. *Peromyscus maniculatus*; 1 ad. and 2 im. *Microtus nanus*.

8 steels caught 1 ad. f. Marmot and 2 ad. and 1 im. *Citellus columbianus*.


4078 ad. m. *Citellus columbianus* 380-102-55-10.

4079 ad. f. " " 360-100-54-10. Mammae 5 pr.; 1 ing., 2 ab., 2 pect. Has suckled young this year.
4080 jv. m. *Citellus columbianus* 255-82-47-10. All of the *Citellus* were taken among tall grass in wet meadow.


4083 m. *Western Tanager*. Willows along creek.

4084 m. " " (p. 996)

4085 f. *Chat*. Condition of breast indicates that she was incubating. Her mate was with her in a dense thicket of willow and rose.

We hunt for bats, owls and poorwills every evening but as it has been cold and stormy lately we have had poor results. There being little life abroad in the evening. A few nights ago we had a sunny afternoon which faded into a warm evening. On that evening there was considerable activity in the animal world. Horned and Screech Owls were heard. Three Bats and several Night Herons were seen. The cock Pheasants were actively crowing and flapping their wings and did not cease their challenges until 9 P.M. The Doves were cooing until about the same time. The Chats sang until 8:50 P.M. Several (2 0& 3) Poorwills were heard.

(p. 997)


The same line of traps as described yesterday caught 2 ad. and 1 im. *Peromyscus maniculatus;* 2 ad. *Perognathus parvus;* 1 ad. *Microtus nanus* and 1 *Yellow Warbler.*
6. embryos. Wet bog.

5 embs. High dry hillside among yellow brush.

4088 m. Song Saprrow. Edge of creek among willows.

4089 Bufo. Wet bog.

Took in all of my traps which were set on the dry sage ridge. It is still cold and rainy and the catch was poor.

Helped Ray remove the scent gland from a second Skunk today.

This evening we saw our first Pacific Nighthawk.

Hunted this evening but saw no Bats, heard no owls or Night Herons; saw and shot 1 poorwill.

(p. 998)


40 traps in old sets caught 1 Microtus and 2 Peromyscus maniculatus.

4090 Microtus nanus ad. m. 138-39-21-9.  
Bog beside creek.

4091 ad. f. Poorwill. Shot at dusk as it flew over grain field. Contained egg almost ready to be deposited.

At 10:30 Ray, Bill (Magpie) Stephens and I left for Squaw Creek which lies about 5 miles east of camp. It is about 10 miles over a rough rocky road. We drove on up the creek about 3 miles to the end of the road. Squaw Creek is a good sized stream (1 ft. deep, 10 ft. wide where it flows rapidly over the rocks). There is considerable Yellow Pine and a little fir higher up on the creek. This brought us in the Payette National Forest and to an elevation of about 4000 ft.

Many of the local ranches go to Squaw Creek to cut their fence ...
posts and farm wood. There are a few ranches along the creek. At one place just above Mr. Ewing's house we found a Beaver house and dam. There were also cut trees, ditches and bank burrows as evidence of the presence of Beaver. Some cottonwoods 2 ft. in diameter had been cut. Beavers have been at work here within the last few months but I believe there are no Beaver here now. Their workings were in a little side stream off the main creek.

*Citellus columbianus* were common. Two *Eutamias* and 5 *Pine Squirrels* were seen.

Birds seen:
- Sparrow Hawk - 2
- Magpie - 4
- Kingbird - 2
- Pewee - 2
- Brewer Blackbird - 1
- Crow - 6
- Robin - 2
- Lewis Woodpecker - 2
- Black-headed Grosbeak - 2

Reptiles: 2 Garter Snakes and 1 Sceloperous.

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Cold and rainy last night and today.
40 traps in old sets held 1 ad. *f. Microtus nanus*; 1 *Perognathus parvus*; 1 *Peromyscus maniculatus*


4093 ad. m. *Sylvilagus* 340-36-88-20. Thicket beside creek.

4094 ad. m. *Citellus columbianus* 370-100-54-11. Among tall cultivated rye grass.

4095 Garter Snake Grass near creek.

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Eighty traps (one half were new sets) held 2

4096 ad. f. Reithrodontomys. 140-62-16-12. Tall grass under willows near creek.

4097 ad. m. Mus musculus. 165-83-20-11. Under rose bushes under aspens.


(p. 1002)


Mammals found at this camp.

1. Sorex. Although we trapped intensively and extensively in the little marshes, bogs and along the creeks, no Sorex were found.

2. Bats. Usually 1 or 2 bats were seen each evening, on cold evenings none at all and on warm evenings only 3 or 4. Two were taken, one Myotis and one Lasionycteris.

3. Coyote. Two were seen the day we moved into camp, but none have been seen or heard since.

4. Spilogale. I saw the remains of one which the Stephen's dog had killed the week before we encamped.

5. Mephitis. Ray trapped one female and we dug 5 young out of her burrow. The Stephens say there are quite a few here.

6. Reithrodontomys. Extensive trapping yielded only 7 or 8. These were taken in a rather limited area among willows.....
and grass along a little creek which ran into the main creek. 2 or 3 were taken at the water's edge.

7. **Peromyscus maniculatus.** Common every place from the wet bogs, and stream sides, up through the sage to the highest rocky peaks. No other Peromyscus could be located although we trapped among the rocky ledges and in every other association within reach.

8. **Neotoma.** None seen or taken, but the residents report them.

9. **Microtus nana.** Quite common in bogs, marshes, and along the creek among tall grass. About a dozen were taken and most of these were in the little tule marsh. The majority of those taken were either juveniles or immature.

10. **Microtus mordax.** Near old haystack in grass and rye.

11. **Mus musculus.** Six taken, all about old hay stacks. These stacks are about a mile from the nearest buildings.

(p. 1004)

12. **Lagurus.** There is no sage here suitable for Lagurus. Trapping among the heaviest sage produced none.

13. **Thomomys.** Uncommon and widely scattered from the meadows to the dry rocky hill tops. On the dry hill tops their burrows are usually beneath sage or yellow brush. Only one species found.

14. **Perognathus parvus.** Common and rather widely distributed. Some were taken under tall wet grass along the creek or in the marsh and others were taken near the tops of the hills among sage brush.

15. **Dipodomys and Zapus.** No evidence of either.
16. **Erethizon.** Fresh tracks of one seen in road.

17. **Marmota f. avara.** Common everywhere among the rocks. They are often seen among the rocks which are used in making the road. We have seen Marmots every place we have gone here in Idaho. Many young are in evidence.

18. **Citellus** (mollis?) Few along the road below camp.

19. **Citellus columbianus.** Common everywhere in the meadows and grain fields. We did not see any until after we left Midvale. Their burrows and runways are conspicuous in the grainfield and meadows. Many young are about now.

20. **Eutamias.** None seen here, but 2 seen at Squaw Creek.

21. **Sciurus hudsonius.** None seen here, but 6 seen at Squaw Creek.

22. **Castor.** None here now. Old gnawings give evidence of their former presence. Still a few on Squaw Creek.

23. **Lepus.** None seen but the Stephens say that there are both white-tailed and black-tailed here but both are scarce.

24. **Sylvilagus nuttalli.** Few in thicket along cr.

25. **Ondatra.** Evidence of Muskrats was found on the creek near camp. They live in holes in the bank and forage on the cultivated rye grass.

Birds noted at this camp

1. **Mallard.** Two hens, one with small ducklings, were seen on the creek.
The letter (written) you spoke the other day again:

Dear [Name],

I hope this letter finds you well. I've been thinking a lot about our conversation the other day. I wanted to express my appreciation for your kind words and your support.

I've been reflecting on the past few months, and I feel a little more confident about my decision to pursue a new career path in [Field]. I'm excited about the possibilities and the challenges that lie ahead.

Thank you for being such a great listener and for your encouragement. I know I can rely on you for advice and guidance.

Looking forward to our next meeting.

Best wishes,

[Your Name]
2. Virginia Rail. Birds heard and feathers seen in small tule marsh.

3. Night Heron. Each morning and evening from 1 to 9 were seen flying up and down the creek. They were usually in pairs or 3 together.

4. Blue Heron. One seen on several occasions along the creek.

5. Forster Tern. One seen on Crane Creek Reservoir.


7. Chinese Pheasant. (Introduced). Common. Several cocks were seen or heard every day. Only 2 hens were seen, they are probably all incubating. The females make a crowing noise which is accompanied by a flapping of the wings. They pay little attention to a machine and one can drive to within 15 yds. of them but when on foot they are extremely shy usually flying before one is within shotgun range. When flushed they take refuge in the creek bottom thickets. They usually forage in the grain and alfalfa fields but are occasionally seen among sage and yellow brush.

(p. 1008)

8. Sharp-tailed Grouse. Two seen among sage brush on dry hill. (I question this observation: WBD)

9. Sage Grouse. 3 flocks, one of 5, another of 7, and another of 2, seen among sage brush.


11. Western Redtail. One seen two or three times.

12. Short-eared Owl. One pair seen at dusk among willows along creek. Were not seen during the day. (Must be Long-eared Owls WBD).
13. **Screech Owl.** 1 pair seen the first night in camp. Heard on two or three other nights.

14. **Horned Owl.** Heard several times.

15. **Kingfisher.** One seen several times along the creek.

16. **Lewis Woodpecker.** 2 pairs nesting in large aspen near camp. 2 other pairs nesting in school house below camp.

17. **Red-shafted Flicker.** Few, one has young in large aspen.

18. **Poorwill.** 2 taken, one or two others heard.

19. **Pacific Nighthawk.** First one seen on the night of June 1. 2 others the next night.

20. **Hummingbird.** One seen, species unknown.

21. **Eastern Kingbird.** 2 taken, 2 others seen.

22. **Western Kingbird.** Quite common.

(p. 1010)

23. **Wood Pewee.** Few along creek.

24. **Flycatcher sp.** Few along creek.

25. **Black-billed Magpie.** Common. 5 young found on June 2 as they were ready to leave the nest.

26. **Crow.** Common.

27. **Cowbird.** Few along creek.

28. **Redwing.** Common about the little tule marshes. Believe they have not begun nesting as yet.
29. **Meadowlark.** Quite common.

30. **Bullock Oriole.** Common, not nesting as yet.

31. **Evening Grosbeak.** One flock of about 12 seen.

32. **Willow Goldfinch.** Few along creek. (Listed as Pallid previously WBD).

33. **English Sparrow.** Common about all the ranches.

34. **Lark Sparrow.** Few in sage.

35. **White-crowned Sparrow.** Few along creek.

36. **Chipping Sparrow.** Few in sage.

37. **Song Sparrow.** Few along creek.

38. **Black-headed Grosbeak.** Few along creek.

39. **Lazuli Bunting.** Common along creek.

40. **Western Tanager.** Few along creek.

41. **Barn Swallow.** Two seen.

42. **Violet-green Swallow.** Few seen.

43. **Rough-winged Swallow.** Few seen.

44. **Warbling Vireo.** Few seen among willows.

45. **Yellow Warbler.** Common among willows.

(p. 1012)

46. **Audubon Warbler.** One seen.

47. **Tomie Warbler.** Few.

48. **Western Yellow-throat.** Several seen along creek bottom in thickets.

49. **Long-tailed Chat.** Common along creek.
50. **Catbird.** Few along creek.

51. **Chickadee.** Few along creek.

52. **Robin.** Few.

53. **Golden Eagle.** One seen.

**Amphibians noted**

1. **Hyla.** common.

2. **Rana.** Scarce.

3. **Bufo.** "

4. **Newt sp.** "

*(p. 1013)*

**Reptiles noted**

1. **Gopher Snake.** Few.

2. **Garter Snake.** "

3. **Yellow-bellied Racer.** Few.

4. **Sceloperous.** Few.

**General Notes**

When we first reached camp it was cold and rainy. The first couple mornings there was some ice on the water bucket. Then it turned warm and for a few days it was bright and sunny and the nights were warm. The last 4 or 5 days it has been cold and rainy again. We are told that they had a light wither and early spring. They have had more rain here during May than they have had for several years.

As a result of these recent heavy rains and early spring everything is green and the grass is from 8 to 12 inches high while rye is almost waist high in some place. The ground is moist or wet.
in all of the level or low lying country.

This makes the trapping for *Microtus* and *Shrews* difficult as the grass has grown so rapidly that they have had little chance to make trails. They are also widely scattered throughout the grass covered fields. Later on when it is drier they will be concentrated in the wetter places.

There has been some wind but not severe. All of the level land along the whole creek that is not too boggy is cultivated. The rest of the creek bottom and the dry hills is pastured with cattle, sheep and hogs.

Much of the willow thickets has been burned and cleared along the creek and each year more is cleared.

June 4. Crane Cr. to Weiser.

Packed up our equipment and drove back through Midvale to Weiser. In Weiser we finally persuaded Mr. Williams (chasier) at the Weiser Nat. Bank to cash our expense check (250.00). We then proceeded to buy up a good supply of provisions and a little equipment and had the oil changed in the Reo.

June 5. Weiser to Cuddy Mt.

Loaded up our provisions and started out to locate a new camp. We drove to Cambridge along the Weiser River. From Cambridge we travelled NW to Brownlee Ranger Station and stopped to see Mr. Burr the ranger but he was not home. We then drove on up the road about a mile and camped for the night. From Cambridge to Brownlee R. S. we drove along Pine Cr. The road runs along the creek in the bottom of a narrow canyon most of the way. The surrounding hills are more -------

or less dry and barren, covered only with a sparse low growth of *Artemisia*. Along the creek there is a rather dense growth of cottonwood, aspen, choke-
To Mr. X:

In the event that you feel dissatisfied with the services provided, please feel free to express your concerns to me. I assure you that I will do my best to address any issues you may have.

Yours sincerely,

[Signature]
cherry, Service berry, wild rose and here and there a lone pine. As we entered the Weiser National Forest which is only about a mile wide where the road crosses (Between Cuddy and Hitt Mt.) we found a fair stand of yellow pine. This being a mature open stand. Along Pine Creek at about 3000 ft. el. we saw several Marmots, and numerous Columbian Ground Squirrels, one Sparrow Hawk, 1 Swainson Hawk, 4 Black-billed Magpies, 4 Lewis Woodpeckers, 6 Eastern Kingbirds, 4 Western Kingbirds.

Just after we passed the P. O. at Heath which is about 1 mi. above Brownlee R. S. we found a female Ruffed Grouse with a flock of 6 or 8 young. The young grouse did not "freeze" but ran about among the brakes and grass peeping much like little domestic chicks. The female spread her tail, raised her crest, drooped her wings and fluffed her feathers, made a clucking or "burring" alarm note and ran about close to us. At times she would run directly toward us. Sometimes she made short running flights striking the ground every 5 or 6 feet. Sometimes she hopped upon a rock, stump or log and continued her "clucking"; again she hid at the base of some saplings and attempted to go unobserved. We caught two of the chicks, they were dark brown above and Buffy below. Just back of each eye was a black spot or stripe. Although very tiny their wing feathers were prominent.

At camp we saw one adult Goshawk.

(p. 1017)

June 6. 1 mi. NE Heath, SW slope Cuddy Mt., Washington Co. Idaho.

Spent the morning exploring the country for a suitable camp site. A mile above the Ranger Station is a ranch house which is the Post Office known as Heath. 1 mile above Heath is an old miners bunk house occupied by Mr. Mepheney who operates his own "diggings" on the mountain.
There is a wagon road running on up the creek for about a mile more but the road is bad so after hiking up the various logging roads we decided to camp just across the creek from the old miner's cabin. \( \frac{1}{2} \) mi. above camp is a salt cabin. We are on the east fork of Brownlee Creek about 3 mi. up the creek from the road which goes from Cambridge (over the pass between Cuddy and Hitt Mts.) to Brownlee Ferry. We are on the SW slope of Cuddy Mountain about 3 mi. from the summit.

(p. 1018c)

Our camp is about two miles from the head of the east fork of Brownlee Cr. The creek forks just below our camp leaving a rather dry flat on which we are camped. This flat is covered with scattered Yellow Pine, Douglas Fir, Hemlock, clumps of Service Berry, herbs and grass. On either side of the canyon are high ridges covered with a heavy stand of timber, that on the north slope is heavier than that on the south slope. Along the creek bottom there is a heavy growth of willow, cotton wood, aspen, choke cherry, currant, and nettle.

There is little second growth timber. Most of the timber here is mature.

(p. p. 1019)

June 7. 1 mi. NE Heath, SW slope Cuddy Mt., Washington Co., Idaho. 4000 ft.

Sixty mouse and rat traps set along creek bottom held 27 *Peromyscus maniculatus* (23 ad., 14 ad. f. which contained the following number of embryos: 6-6-6-5-4-3. ave. 5, and 9 ad. m. Four steels held 1 ad. f. *Neotoma cinerea*; 1 ad. f. *Citellus columbianus*; 1 *Sciurus hudsonius*.


(Cont.)

... and the camp is now where you leave from or park.

The black bear is in the camp, and it is a sight to see...

(Cont.)

... for a moment to enjoy the scenery before you leave.
4103 ad. f. Peromyscus maniculatus 175-77-21-16.
  4 emb. Mammae, 4-inguinal. In deserted cabin. 3 pr. 2 ing., 1 pect.

  4 emb. Suckling young. Mammae, 4 ing. In deserted cabin.

4104 ad. f. Peromyscus maniculatus 170-75-20-16.
  4 embs. Mammae 3 pr.; 2 ing., 1 pect.

( p. 1020)


4106 ad m. " " 162-68-20-14.

4107 ad. m. Macgillivray Warbler

4108 ad. f. " " Breeding pair taken together in low brush.

Birds seen to date: 1 Blackheaded Grosbeak, 8 Western Tanagers, 20 Chipping Sparrows, 6 Olive backed Thrush, 1 Lazuli Bunting, 4 Flycatchers sp?, 2 Warbling Vireos, 4 Macgillivray Warblers, 2 Robins, 1 Goshawk.

It was warm, cloudy and sultry all day.

(p. 1021)

June 8. 1 mi. NE Heath, SW slope Cuddy Mt., Washington Co., Idaho. 4000 ft.

Last evening I added 50 traps to my line, most of these on a steep moist north slope.

110 mouse and rat traps caught 1 ad. m. Sorex amoenus, 1 ad. m. Evotomys, 2 ad. m., 2 im. m. Microtus mordax; 1 ad. m., 1 ad. f. Eutamias; 15 ad. m., 8 ad. f., 1 im. f., 5 im. m. Peromyscus maniculatus; 2 f. contained 3 and 4 embs. respect.


4110 ad. m. Microtus mordax 165-59-21-10.
Edge of creek.
4111 ad. m. Microtus mordax 166-58-21-10.
4112 im. m. " " 140-46-21-10. Both under moss on steep moist N slope.
4113 ad. m. Sorex amoenus 104-43-13-5. Under rotten log on moist north slope.
(p. 1022)
4114 ad. m. Eutamias 210-88-32-12. On log.
4116 ad. f. Peromyscus maniculatus 175-78-21-14.
4117 ad. m. " " 162-73-21-16.
4118 ad. m. " " 175-82-22-16.
4119 im. m. " " 160-75-21-15.
4120 ad. m. Western Tanager.
4121 ad. f. " " Together in big pine 30 ft. from ground (both skeletons only).
(p. 1023)

June 9. 1 mi. NE Heath, SW slope Cuddy Mt., Washington Co., Idaho. 4000 ft.

Added 50 traps to my old line, these along a north slope and along the creek. 160 traps caught 8 ad. m, 8 ad. f. and 3 im. Peromyscus maniculatus (f's. contained embs. as follows: 6-6-5); 1 ad. f. Zapus; 1 ad. f. Eutamias; 1 ad. f. Citellus columbianus; 1 ad. m. Neotoma cinerea; 1 ad. f., 1 im. f. Thomomys; 2 ad. f., 1 ad. m, 5 jv. Microtus mordax; 2 Sorex palustris; 5 Sorex vagrans.

4124 ad. m. " " 102-38-12-3. Skel. only.
June 9. 1 mi. NE Heath, SW slope Cuddy Mt.,
Washington Co., Idaho. 4000 ft.

4126 ad. m. Sorex palustris 148-73-21-4.
   Edge of small spring beside creek.

4127 ad. f. " " 142-68-21-4.

(p. 1024)

June 9. 1 mi. NE Heath, SW slope Cuddy Mt.,
Washington Co., Idaho. 4000 ft.


4130 ad. f. Microtus mordax 175-57-21-11. 4 emb.
   Under pines and grass on moist N slope.

4131 ad. m. " " 179-65-21-10. Same.

4132 ad. f. " " 175-55-20-10. 5 emb.
   Same habitat as above.


   These two were taken not with the other Microtus
   but within 6 ft. of the trap in which I
   caught the ad. Evotomys yesterday.

   among pines and firs.

4136 ad. m. Neotoma cinerea 470-200-49-28. In
   old cabin.

4137 ad. m. Snowshoe Rabbit 410-30-125-90. Shot
   at dusk under pines near creek.

(p. 1025)

June 10. 1 mi. NE Heath, SW slope Cuddy Mt.,
Washington Co., Idaho. 4000 ft.

130 traps held, 1 ad. m. Lepus bairdi, 2 ad.
   f., 1 ad. m., 2 im. Peromyscus maniculatus; 2 ad.
   m., 1 ad. f. Zapus; 3 im. Microtus mordax; 1 ad.
   m. Eutamias.
4138 ad. f. *Snowshoe Rabbit* 480-35-140-93. In steel trap under salt cabin. It appeared as though it were going in after salt. It is suckling young.


4140 ad. m. " 243-142-33-13. Both caught in moist creek bottom.

4141 ad. m. " 249-148-34-13. Steep moist N sèpe

4142 ad m. *Erithizon* 760-235-105-20. Shot at dusk by Mr. near his cabin.

4143 ad. m. *Blue-fronted Jay* In willow at edge of creek with mate.

4144 *Hyla* Rotten log.

(p. 1026)

June 11. 1 mi. NE Heath, SW slope Cuddy Mt., Washington Co., Idaho. 4000 ft.

120 traps caught 1 *Eutamias*; 1 *Sorex*; 2 *Sorex palustris*; 1 *Zapus*; 1 *Microtus mordax*; 5 *Peromyscus maniculatus*.


4146 ad. m. *Sorex palustris* 157-75-21-4. Edge of creek.

4147 ad. f. " " 154-70-21-4. in bog.


4150 m. *Golden-crowned Kinglet*. From dead willow.

4151 f. *Flycatcher* " " " .

4152 f. *Chickadee* " " " .
June 12. 1 mi. NE Heath, SW slope Cuddy Mountain, Washington Co., Idaho. 4000 ft.

140 traps held 1 ad. f. Glaucomys; 1 ad., 1 im. Thomomys; 2 ad., 2 im. Microtus mordax; 15 ad., 6 im. Peromyscus maniculatus.

4153 ad. f. Glaucomys. 318-146-40-20. Taken in rat trap which was baited with a dried prune and rolled oats, set on a rotten log which was lying among currant bushes on north slope. The trees about were spruce? Is suckling young. Mammae 4 prs., 1 ing., 2 ab., 1 pect.

4154 ad. f. Thomomys 183-59-25-5. Creek bottom (moist loam) among pines and firs.

4155 im. m. " 161-53-23-4. Same association as the above.

4156 ad. m. Microtus mordax 163-53-23-4. Edge of creek.


4158 jv. m. Peromyscus maniculatus 142-64-20-13. Edge of creek.

(p. 1028)

4159 m. Blue-fronted Jay Thicket of secondgrowth pines. I was attracted to it by the alarm notes of several birds; 1 pr. Warbling Vireos, 1 p. West. Tanagers; 1 pr. Chipping Sparrows; 1 Flycatcher; 1 Thrush.

4160 im. f. Water Ouzel.

4161 Garter Snake In mouse trap set in bog.

(p. 1029)
(2.10a)

I said, "I'll be back in a few minutes to talk to you about the recipe."

"Alright," she said, "I'll wait for you."
June 13. 1 mi. NE Heath, SW slope Cuddy Mt.,
Washington Co., Idaho. 4000 ft.

160 traps caught 2 ad., 1 im. *Evotomys*; 1 ad.


4163 ad. m. *Sorex palustris* 160-74-21-4. Edge of creek.

4164 jv. m. *Evotomys* 120-34-19-10.


4166 ad. m. " 153-44-20-12.

These three were taken under logs, among green grass on a moist north slope. One just above the creek bed, the others only a short distance above. Over a small slope (very steep) there is a fair stand of fir and spruce and many down logs and limbs.


4168 ad. m. " 197-68-22-11. Edge of creek under logs.

(p. 1030)


4172 m. Audubon Warbler. From Service Berry.

4173 m. Flycatcher. 4 ft. from ground; Service berry
4174 m. Olive-backed Thrush. 4 ft. from ground in Service Berry.

4175 Garter Snake In mouse trap at edge of creek

(p. 1031)

June 14. 1 mi. NE Heath, SW slope Cuddy Mt., Washington Co., Idaho. 4000 ft.

190 traps held 2 im., 1 ad. Evotomys; 6 ad. Microtus mordax; 1 ad. m. Neosorex; 1 ad. Sorex vagrans; 10 ad., 4 im. Peromyscus maniculatus.

4176 im. m. Evotomys 138-36-20-11.


4178 jv. m. " 118-34-19-10.

In same association as those taken yesterday.

4179 ad. m. Neosorex 147-64-20-4. Edge of creek.

4180 ad. f. Sorex vagrans 112-45-13-4. under log.


4183 ad. m. " " 155-48-20-9.

4184 ad. m. " " 174-63-23-9.

4185 ad. m. " " 168-54-22-10.

Taken under wet logs on north slope and at edge of creek.

(p. 1032)

June 15. 1 mi. NE Heath, SW slope Cuddy Mt., Washington Co., Idaho. 4000 ft.

100 traps caught 3 ad., 2 im. Evotomys; 3 Sorex; 1 Microtus mordax; 1 Eutamias.
THE HISTOLOGY OF Poultry

I. INTRODUCTION

THE HISTOLOGY OF poultry provides a wealth of insights into the internal and functional aspects of these birds. Understanding the histology of poultry is essential for veterinarians, researchers, and poultry farmers alike. It allows for a deeper comprehension of how different tissues and organs interact and function within the body.

A. General Considerations

In poultry histology, several key points are worth noting. Firstly, the tissue architecture can vary significantly between different types of poultry. For example, chickens have a more fibrous skeletal system compared to ducks, which have a more cartilaginous one.

B. Histological Techniques

To study the histology of poultry, various techniques are employed. Light microscopy remains a primary tool, allowing for detailed examination of tissue samples. Immunohistochemistry is another technique used to identify specific proteins and their distribution within the tissue.

C. Functional Aspects

Understanding the functional aspects of poultry histology is crucial. For instance, the liver plays a vital role in detoxification and nutrient metabolism, while the kidneys are critical for waste removal and regulation of fluid balance.

D. Future Directions

As research in poultry histology continues, there are several areas of potential advancement. The integration of digital pathology and artificial intelligence promises to revolutionize the analysis of tissue samples, making it faster and more accurate.

In conclusion, the histology of poultry offers a rich field of study with implications for both veterinary practice and poultry production. Continued research in this area will undoubtedly lead to improved health outcomes and more efficient poultry farming practices.
4186 ad. m. *Sorex vagrans* 117-45-13-4.
4187 " " 115-43-13-3.
    All three caught under log on moist N slope. Last two in formalin.
4189 ad. m. *Evotomys* 158-46-19-12.
4192 jv. m. " 128-33-19-10.
4193 ad. m. " 144-42-19-11.
    Same association as those taken yesterday. 4192 in formalin; 4193 caught in trap set for *Neosorex* at edge of creek under driftwood.
    (p. 1033)
4195 ad. m. *Sciurus hudsonius* 300-105-51-18. Shot top of cottonwood in creek bottom.
4197 jv. f. *Glaucomys* 158-68-24-10. As I passed a hollow stump I pounded upon it and at once an ad. f. Flying Squirrel ran out of a hole near my hand. I grabbed and caught her by the tail. At first she was dazed by the light and made no attempt to bite but she soon recovered and before I could get a good hold on her she bit me rather fiercely and I had some difficulty in getting her teeth out of my finger. I then tied her up in a handkerchief. Her skin being very loose it was difficult to hold her as she could almost turn around in her skin. I then examined the stump from which she came. It is 7 ft. high,
and ten inches in diameter. The stump is very rotten and I could easily push it over. One foot from the top of

(p. 1034)

the stump there was a hole 2 in. in diameter which led into the nest cavity. The nest cavity was 9 in. by 9 in. In the bottom of the cavity was a nest made of dry bark fibers. In this nest there were three small young with their eyes still closed. The stump stood on a north slope. Immediately surrounding the nest stump were a number of dead trees, stumps and down logs. The hill slope in general was covered with a fair stand of fir. I have had a steel set 50 yds. below and a rat trap set 50 yds above this stump. These traps are set on logs and have been there for 5 days baited with apples, prunes, rolled oats and peanut butter.

Upon reaching camp I put the female with two of her young into a box. She claimed her young at once and took hold of them with her "hands" and mouth. She again bit me severely during the transfer from handkerchief to box. She has remained quiet during the day but now (9 p.m.) is trying to gnaw out.

(p. 1034b)

August 25. 1 mi. NE Heath, SW slope Cuddy Mt., Washington Co., Idaho. 4000 ft.

4197b. Glaucomys ad. f. 340-167-42-21. See notes on no. 4197 and no. 4241. This is the female taken June 15 with the two here mentioned juveniles. During the two months and ten days which we have had this female with her one remaining young she has been healthy but has remained very wild. She ate readily of bacon, rolled oats, dried prunes. Also ate some fresh fruit, vegetables (potato, carrot) and dried pears and sunflower seed. She did not take readily to sunflower or other coarse bird seed but did eat them when hungry. She built a globular nest of cotton and the remains of her old nest and remained in her nest all during the daytime and until it was quite dark. At first
she was very restless and made a great deal of noise at night. Later she made very little noise at night. Her third young (Jerrikins) is now about 3/4 grown. He is quite tame but has a combative instinct and comes out of his nest to jump at the screen when we scratch our finger over the wire. He also jumps and strikes with his two fore paws when I put my hand inside the cage but he does not seem to bite at the same time. This female has been shedding while in captivity and a molt line was conspicuous over her head. This line is now not in evidence. The molt line seemed to travel forward.

It was quite hot today and the three chipmunks in the adjoining cage also died today and I believe that all of them were killed by the sun. Their cages had little shade.

Nov. 17. Berkeley, California.

The Glaucomys which we captured on June 15 (pp.1033-1034c and 1044, 1055) is still healthy and thriving. It eats readily and does not object to handling. When it is hungry it comes out of its globular cotton nest and runs about the cage in the daytime but when fed it returns to its nest and does not appear again until after dark. When it is well fed it is difficult to tempt or drive it from its nest.

Its fall molt is now completed and it has its full new coat which is long soft and evenly colored.

It still "strikes" with its fore paws when disturbed but seldom attempts to bite.

It is very active at night and spends much time running about its cage.

So far I have never heard it make a vocal sound, neither did its mother which died on Aug. 25.
in 1038 (c)

in 1038 (d)

in 1038 (e)

It's not a form of output, it's a form of correction.
June 16. 1 mi. NE Heath, SW slope Cuddy Mt.,
Washington Co., Idaho. 4000 ft.

100 traps caught 2 ad. Neosorex; 1 ad. Zapus;
1 im. Sorex; 1 ad., 3 im. Evotomys.

4198 im. m. Neosorex 150-69-21-4.
4199 im. m. " 152-71-20-4.
Both caught in boggy spring.

4200 ad. m. Evotomys 148-42-19-11.
Association same as those taken yesterday.
No. 4202 in formalin.

4203 ad. m. Zapus 225-127-32-12. Under log on
bank of creek.

4204 ad. m. Myotis 82-35-7-11. Shot at dusk
(9 p.m.) as it was flying (20 ft. from
ground) over creek.

4206 m. Olive-backed Thrush (Skel. only) Bush
over creek.

(p. 1036)

June 17. 1 mi. NE Heath, SW slope Cuddy Mt.,
Washington Co., Idaho. 4000 ft.

My trap line is about caught out. 100 traps
held 1 ad. f. Eutamias; 2 ad. m., 3 im. Microtus
mordax; 1 im. Sorex; 1 ad. m. Glaucomys; 6 ad.,
3 im. Peromyscus maniculatus; 1 ad. m. Western
Tanager.

4207 ad. m. Glaucomys 295-135-40-20. Yesterday
I set a steel trap in the nest cavity from
which I removed the female and three young on June
15. The side of the nest cavity was broken out in removing the young. I also baited the set with dried apple and peanut butter. This a.m. the trap held the above ad. male. For the past 5 days I have had a rat trap set on a log 50 yds. above this nest tree and a steel trap on another log 50 yds. below this tree. Both of these traps are baited with prunes, peanut butter, rolled oats and dried apples and are set on top of logs which lie across other logs so that the traps are about 4 ft. above the ground. Neither of these traps caught Glaucousmys although this pair lived just half way between the two. This would indicate that they do not

(p. 1037)

forage or run about on top of logs to any extent. This male is smaller and lighter colored than either the females which I have taken. Its testes are large.


4209 ad. m. Microtus mordax 180-62-20-10. Under log in moist creek bottom.

4210 ad. m. Chickadee. Taken together from periphery of willows
4211 ad. f. " along creek.

4212 f. Western Tanager (Skel. only.) In mouse trap on ground at base of tree. Contained egg about to be deposited.

4213 Rana (formalin) From spring.

(p. 1038)

June 18. 1 mi. NE Heath, SW slope Cuddy Mt., Washington Co., Idaho. 4000 ft.

70 traps in the old line along the creek and under logs held 1 ad. m. Evotomys; 2 im. Microtus
mordax; 2 ad. m. Sorex; 2 ad., 2 im. Peromyscus maniculatus; 1 im. Eutamias; 1 Macgillivray Warbler.

65 new traps set on a dry south slope, which is covered with rye grass, bunch sunflower, and a few rocks held only 3 ad., 3 im. Peromyscus maniculatus. I had hoped to catch Lagurus here.

4214 ad. m. Glaucomys 280-110-40-18. Tail defective in same trap as No. 4207.

4215 ad. m. Evotomys 154-45-20-11. Same association as those taken on June 16. This is the fourth which I have taken under one log.


4217 m. Spurred Towhee

4218 m. " " These two and the two on the following page were all taken on a brushy ridge above camp. Five other adult and one other jv. were seen. None have been seen along the creek. Two of these were taken from fir trees, the others from ceanothus. Several were heard singing from fir trees or from brush patches.

4219 f. Spotted Towhee

4220 jv. f. " "

4221 ad. f. Clark Crow. (crop in formalin.

Contains Cicadas; throat held 6 Cicadas)

Shot with aux from the top of a small fir tree. The immature was taken first and the adult came down to investigate.

4222 im. m. Clark Crow.

4223 m. Macgillivray Warbler. In mouse trap under log in brush patch. (skel. only)
4224 m. *Sorex vagrans* 110-43-14-3.

4225 m " " 108-42-14-4.  
Under logs on north slope. (Formalin)  
(p. 1040)

June 18. 1 mi. NE Heath, SW slope Cuddy Mt., Washington Co., Idaho.

Examined 4 bird nests today. The first, that of a *Western Chipping Sparrow*, which was built 2½ ft. from the ground in a small Douglas fir (4 ft high). It was made of dry grass stems, lined with hair and held 4 eggs (dark blue with black markings). Eggs were opaque and apparently far advanced in incubation.

A second was the nest of a *Lazuli Bunting* which was built 3 ft. from the ground in a small choke cherry bush which grew near the top of a steep, comparatively dry ridge. There were 4 small (unfeathered) young in the nest.

A third was the nest of a *Macgillivray Warbler* built in the same type of place & a the Bunting's nest and held 4 eggs.

A fourth, that of a *Calaveras Warbler*, built 2 ft. from ground in dogwood which grows in thicket in the bottom of the creek. It contained 4 buffy eggs with brownish spots. Nest of dry grass stems lined with hair.

(p 1041)

After dark Ray and I took the flashlight and went hunting for *Glaucomys*, Owls and other night prowlers. We left camp at 9 and returned at 11:30. We went up the road about 1 mile to the place where I caught the 3 adult Flying Squirrels. Here we sat for almost an hour (silent) turning the flashlight on the surrounding trees occasionally. The result of the evening was that we saw several bats but not an owl or any other living beast.

(p. 1042)

June 19. 1 mi. NE Heath, SW slope Cuddy Mt., Washington Co., Idaho. 4000 ft.
Yesterday I took in all of the (65) traps which I had set the day before on the dry grassy hill.

Seventy traps, most of them in old locations held 1 ad., 2 im. Zapus; 1 ad. Microtus mordax; 3 ad., 2 im. Peromyscus maniculatus; 2 ad., 1 im. Eutamias.

Found an Olive-backed Thrush's nest, 5 ft. from ground in willow near creek. The nest is just completed and one of the birds was sitting on it. However there are no eggs in the nest as yet.

4226 ad. m. Zapus 236-143-32-12. Under log near creek.

4227 ad. m. Eutamias 222-193-34-13.


4229 ad. m. Citellus columbianus 380-104-52-12. Shot among service berry on dry flat near creek.

(p. 1043)

June 20. 1 mi. NE Heath, SW slope Cuddy Mt., Washington Co., Idaho. 4000 ft.

120 traps held 2 ad., 2 im. Microtus mordax; 2 ad., 2 im. Evotomys; 2 im. Zapus; 1 ad., 1 im. Sorex; 1 ad. m. Macgillivray Warbler; 2 Eutamias; 5 ad., 3 im. Peromyscus maniculatus.


4232 im. m. " 125-35-18-10. These three along with one other im. (with a broken skull) were taken from a line of 25 traps which I put out yesterday and the day before. The old traps have produced nothing for the past three
Katherine I loved to sit on the 100th toon of the 1/4th line
in the sun and see the galloping on the city street
It was very free, too, and from it I used to

Chairman of the Communications Interchange, a men
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that I have a New York office. The New York office

That's right. The mayor in town was million

New York office

(T. Tanger)
nights. This would indicate that this colony is entirely trapped out. The new line was set in a similar association, continuing on up the creek from the old colony. Their runways are conspicuous under logs and heavy prostrate brush. They resemble the runways of _Microtus_. In some cases both _Microtus_ and _Evotomys_ were taken in the same runways.

(p. 1044)

4233 ad. f. _Eutamias_ 228-100-33-13. In steel trap set in cavity in hollow stump from which I removed the _Glaucomyas_. She is suckling young. Mammae 4 pr., 1 ing., 2 ab., 1 pect.

4234 im. m. __Zapus (formalin) 211-125-33-13. Under log near creek.


It rained all of last night; some thunder and lightning, and it is still cloudy, cold and some rain. In spite of the rain the Microtines seem to be out in full force. As a matter of fact our catches were almost as large as usual. However most of our traps are under logs.

(p. 1044b)

June 22. 1 mi. NE Heath, SW slope Cuddy Mt., Washington Co., Idaho. 4000 ft.

Last evening I put out 47 traps for _Evotomys_. Most of these traps were set in new places but over the same general areas as I have trapped in the last two evenings and caught _Evotomys_.

These traps held 3 ad. _Sorex_ (2 m., 1 f.); 1 jv. _Evotomys_; 1 jv. _Microtus mordax_; 2 ad.; 2 jv. _Peromyscus maniculatus_.

4236 jv. f. _Evotomys_ 125-36-18-10.

4237 ad. m. _Sorex vagrans_ 105-33-13-4. Caught at
6:15 p.m., before sun down. Heard trap snap a few minutes after I had set it.

4238 ad. m. Sorex vagrans 105-40-13-4. (formalin)

4239 ad. f. " " 111-43-13-4. "
All of these Sorex were taken under logs or brush on a moist steep north slope just above the creek bottom where I was trapping for Evotomys.

4240 ad. m. Sciurus hudsonius 330-126-50-20. Shot from log in creek bottom.

(p. 1044c)

4241 jv. f. Glaucomys 152-70-24-8. Today we opened the cage in which we had put the mother, one brother and one sister of Glaucomys no. 4197. We found the female in fine shape and much tamer and also that she had eaten a large amount of food (rolled oats, dried pears, apples, prunes and cots, bacon rind.) One of the young (the male) was in seemingly perfect health and much larger than when it was taken on June 15. The other (the one listed above) was dead, apparently it has never eaten since it was put with its mother and died of starvation.

4242. m. Sharp-shinned Hawk. Shot from top of a tall dead pine.

4243 ad. m. Junco. Taken among firs in creek bottom. Their mates were not seen.

It is clear and warm again today. The storm is over at least for today.

(p. 1045)

June 21. 1 mi. NE Heath, SW slope Cuddy Mt., Washington Co., Idaho.

Mammals found at this camp.

June 60-222.
1. **Sorex vagrans**  
Shrews are more common here than they usually are in most localities. We have taken from two to six almost every day. Many of these are immature and the majority were taken under logs on moist hill sides rather than along the creek. Some were taken in wet bogs. We used bacon grease for bait and many of them were caught in the act of eating rather than just running over the treddle as is usually the case when rolled oats are used. A few were taken in the day time. None contained embryos.

2. **Sorex palustris** (Neosorex)  
Almost as common as the above but not quite. About \( \frac{3}{4} \) as many were taken. Most of these were trapped in the little boggy springs or along the boggy trickles which flow from these into the main creeks. These bogs are overgrown with moss, grass, dog wood, currant, and willow.

(p. 1046)

Some were taken along the edge of the main creeks. A couple were trapped after 9 a.m. and before dusk in the evening. Both adults and immatures were taken. No embryos were found. Most of the immature specimens were about the same size, this along with the lack of embryos indicates that both of these species of **Sorex** have a very definite breeding season.

3. **Myotis**  
One taken. Bats of all kinds were scarce. One or two seen on warm evenings. Several were seen on one evening (9 -11 p.m.) among the tall firs and pines when we were hunting **Glaucomys**.

4. **Peromyscus maniculatus**  
Numerous in every habitat from wet bog to dry rocky ridges. Several were taken in traps set in mud and shallow water for **Sorex**. They are most numerous about old cabins (15 taken in one) and about old logs. Old and young of the year were taken. Many of the females contained embryos indicating several litters per season.
(b) 1946

...
5. Neotoma cinerea  Few among rocks and about old cabins. One adult male and 1 adult female were taken in an old cabin. There are few rocks in the vicinity but in one or two places we saw sign.

6. Evotomys  A series of old and young were taken on a steep moist north slope about a mile above camp. 16 of the 18 were taken in a continuous area. One adult male was taken 1/4 mile below and another adult male was taken about 1 1/2 miles below (down creek) the main colony. Along the creek there is more or less of a flat creek bed. The slope where the Red-backs were taken extended up steeply from the creek bed. Along the lower edge of this steep slope is a dense growth of Douglas Fir, dogwood, currant, alder; also many down logs. Here most of the Evotomys were taken. A few were taken as much as two hundred feet up the steep slope, and a few were taken in the creek bottom; one at the very edge of the creek. But most of them were taken at the very base of this steep slope. Sorex vagrans and Microtus mordax and Peromyscus maniculatus were taken in the same traps.

7. Microtus mordax  Common but not numerous. Were taken in several different habitats. They were most numerous about the bogs and on moist slopes but a few were taken at the water's edge, and others under logs on the slopes and a few among the sage and grass on high dry ridges.

8. Thomomys  Widely scattered from the wet creek bottom to the high dry rocky ridges. They are most numerous about the cultivated gardens. Ray took 14 in Mr. Raymond's garden at Heath.

9. Zapus  A series of adults and young were taken but they are nowhere common. 150 traps in the creek bottom sometimes caught no Zapus and never more than 3 or 4. All of those taken were
caught in the flat (moist to boggy) along the creek, under Yellow Pines, Douglas fir, Service berries, willows, alders, dogwood and currant.

10. **Marmota**  Several seen along the road which follows Pine Cr. out of Cambridge. These were seen in the creek (p. 1049)

bottom at about 2500-3000 feet. Those seen took refuge in rocky outcrops. None were seen here. Residents say there are none here or higher on the mountain.

11. **Citellus columbianus** Found in every habitat from the wet creek bottom to the tops of the dry ridges. Most abundant in the creek bottom. Often seen on rocks, stumps or logs, but not seen in trees. They sit up on their haunches and bark when disturbed. At each bark they jerk their short (white bordered) tails which I suppose serves as an alarm flash to their kind.

12. **Eutamias** Common but not numerous. Always seen on ground or on logs or on stumps. None seen in trees, more than 6 ft. from the ground. When we first arrived no young were in sight and adults were scarce. On June 18 I saw a female with 3 young, apparently their first trip away from the nest. These were the first I have seen although I have watched up and down this same trail to my trap line every day for 10 days. Since (p. 1050)

the 18th I have seen these and a number of other young (about the same size) all along the road. They, I believe, are just leaving their nests and the females are also more in evidence. They are most common along the creek bottom although a few are seen on the ridges and slopes.

13. **Sciurus hudsonicus** Several pairs seen, mainly along creek. They are often seen in the large cottonwoods, along the creek.
Females taken were suckling young. No immatures seen as yet. They are usually in pairs.

14. Glaucomys 4 adults and 3 juveniles taken. Residents report that they are scarce but are occasionally found in the houses where they rob stores. 18 rat and steel traps set on logs, stumps, in an attic of a log cabin and on the roof of another, baited with peanut butter, rolled oats, bacon grease and dried fruit yielded only 1 adult female. These traps were out for 10 days. Other notes with the specimens. One female with two young taken June 15 (by hand) is still thriving in captivity.

(P. 1051)

She was at first very wild and jumped about the cage when ever disturbed. She is now much tamer. At first she made no attempt to build a nest of the cotton and the remains of her own nest which I removed from the stump. Now she rebuilds the nest every time it is disturbed, making a globular nest with an opening on one side only. She eats dried prunes and bacon rind very readily; also eats dried pears, apples, raisins and rolled oats. One evening I gave her a dozen Cicadas and these were all gone the next morning. She comes out of her nest of her own accord only well after dark. She makes a great deal of noise jumping about and gnawing at the boards and screen.

15. Lepus bairdi One adult male shot at dusk; 1 adult female (suckling young) trapped under old cabin. Very little other sign seen. These were both found in the creek bottom. Residents say there are some about but not common.

(P. 1052)

16. Odocoileus hemionus Tracks seen on several occasions, mainly on the brushy slopes which are interspersed with timber. We did not see any. Reports of the residents and tracks indicate that there are only a few deer in the canyon. Mr. McPhoney said there were more last year than he had seen for several years.
I'm assuming that the topic is weather. The sentence is incomplete.

In my opinion, the weather has been really nice. I think we should spend the day outside. What do you think?
17. **Bear** Reported by the residents but no direct evidence found.

18. **Erethizon** Three taken along the creek. Gnawings seen about all old buildings. We cooked one and found it quite palatable.

(p. 1053)

Birds seen at this camp.

June 6-22.

1. **Franklin Grouse** I saw only one female (June 9) on a steep hill slope among the firs. Her actions indicated that she had young nearby. Ray Gilmore saw several adults and two flocks of half grown young. Only 3 or 4 young were seen on each occasion. These were all seen among sage and yellow brush near the edge of timber. These birds allowed us to approach to within 10 ft. of them. The female I saw ran (rather crawled) about with neck outstretched, wings drooping and tail spread. At times she raised her head and crest.

2. **Ruffed Grouse** One female seen on June 6 with several young (see notes of that date, both Borell and Gilmore). One young caught in mouse trap by Gilmore.

3. **Sage Hens; Sharp-tailed Grouse** Residents report them from the surrounding sage brush hill slopes.

(p. 1054)

4. **Sharp-shinned Hawk** 3 seen; one taken.

5. **Goshawk** 5 seen or at least one seen on 5 occasions, all in the "blue". None taken.

6. **Western Red-tail** One pair seen circling and screaming over high ridge.
(1923)

Time was of the essence.

June 1923

I thought it would be a good idea to try out a few of the methods that had been suggested. I purchased a few specimens of the plants and began to experiment. The results were encouraging. The plants showed signs of improvement. However, I realized that more research was needed.

I decided to approach the problem from a different angle. I began to study the behavior of the plants under various conditions. I observed that the plants seemed to respond differently under certain conditions. I concluded that the key to the problem was the interaction between the plants and their environment.

I continued my experiments and made significant progress. I developed a new method that greatly improved the growth of the plants. I presented my findings to the scientific community and received widespread recognition.

Through my research, I have come to appreciate the importance of understanding the complex interactions between living organisms and their environment. I believe that this understanding is crucial for the future of our planet.

I look forward to continuing my work in this field and making further contributions to the scientific community.
7. **Eagle (bald?)** One seen flying over high ridge.

8. **Sparrow Hawk** 4 or 5 seen.

9. **Horned Owl** One seen just at dark (9:15 p.m.) at it lit on a horizontal branch of a (green) fir tree. Others (1 or 2) hears almost every night, especially just before day break. One heard at 6 p.m.

10. **Lewis Woodpecker** A colony of 3 or 4 pairs was living among scattered pines and firs on dry ridge which was covered (largely) with sage and yellow brush. None seen along creek. (p. 1055)

11. **Hairy Woodpecker** 3 or 4 seen among pines and firs and along creek in cottonwoods.

12. **Red-shafted Flicker** Several seen.

13. **Hummingbird** (sp?) Only 3 or 4 seen.

14. **Flycatcher** (sp?) Two species were common here both along the creek and on the hill slopes.

15. **Black-headed Jay** Only 6 seen; usually in paird.

16. **Clark Nutcracker** Seen on 3 occasions. In each case a family group of 4 or 5.

17. **Chipping Sparrow** The most numerous bird about this camp. Found from edge of creek to the tops of the high ridges. Usually seen in pairs. One nest which had 4 eggs in it the day we reached camp hatched out a couple days later and the young flew out of the nest when we looked at them the day we left; thus they grew up ready to leave the nest in a little less than two weeks. After the young were once disturbed we were unable to get them to remain in the nest. When the young were disturbed the
parents fluttering about on the ground within a few feet of us. Both parents assisted with the feeding, bringing their bills full of small hairless caterpillars and insects. The nest was 6 ft. from the ground in a small fir sapling.

18. Lazuli Bunting Common, especially along creek bottom. The males are singing a great deal. One nest found on brushy hill slope.

19. Western Warbling Vireo Common, usually in pairs along creek; males singing.


21. Macgillivray Warbler Not uncommon along creek or on brushy slopes.

22. Water Ouzel One adult and two immatures seen along creek.

23. House Wren One had a nest with young (June 22) under the eaves of Mr. McPheney's log cabin. Also saw one on the roof of the Brownlee Ranger Station.

24. Creeper 2 pairs seen among firs.

25. Chickadee Only 8 or 10 pairs seen.

26. Golden-crowned Kinglet 2 or 3 pairs seen.

27. Olive-backed Thrush Common all along the creek. Males singing. One nest containing 3 eggs found June 22. It was made of dry grass stems and bark fibers and lined with rootlets and horse hair. It was situated 5 ft. from the ground in a 7 ft. fir tree.

28. Robin Found along the creek but not common.
General Notes.

June 6 - 22  1 mi. NE Heath, SW slope Cuddy Mt.,
Washington Co., Idaho. 4000 ft.

It was sunny from 6 a.m. until 8 p.m. every
day from the 6th to 19th. Frost only on two nights,
rest of nights cool to mild. Warm in the sun but
cool in the shade. The last few days it has been
rainy, cold and cloudy.

We trapped extensively for Lagurus on the
grassy ridges and among sage without results. Long
lines of traps through suitable areas and in likely
places produced no Phenacomys or Neurotrichis. No
sign of Moles located.

Birds were very scarce both as to numbers of
individuals and species, although there is apparently
plenty of food and shelter.

(p. 1059)

June 23. Cuddy Mt. camp to Weiser.

Packed the outfit and drove 20 miles into
Cambridge where we had lunch at 3 p.m. We then
drove 38 miles to Weiser. In the brushy canyon
(Pine Creek) which we came down from Heath to
Cambridge we recorded the following: Many Chats;
few Eastern Kingbirds; Bullock Orioles, Brewer Black
birds; Meadow Larks; Crows; Black-billed Magpies;
2 Lewis Woodpeckers; 2 Brewer Sparrows; 2 Catbirds;
1 Sparrow Hawk; 4 Western Kingbirds; 1 Purple Finch.
Numerous Citellus columbianus.

June 24. Weiser to Smith Mt.

Bought up some supplies and gasoline and oil;
had lunch in Weiser at 12 n. and drove through
Midvale, Cambridge to Council. From Council we
took a dirt (but good) road along Hornet Creek,
through Hornet Cr. R.S., Kramer, Crooked River R.S.,
Bear P.O., Bear R.S. and on (45 mi.) to the summit
June 8 - Yes I do RE Receipt on 500 bu. Corn

For the period from 0.00 Midnight 8/6 to 0.00 Midnight 9/6.

If the buyer fails to deliver within the time limit of 9/6, then the seller of the elevator is entitled to write the forfeit in the time limit of 9/6, which is the delivery time.

Letter to dad and mother for thanking you for the good plan of using the elevator in the future and in future places of food storage spaces, please be informed and in future please keep in your mind to use the elevator in good faith.

(d) 1080

From the above mentioned MC and to report

Comments about the plant and the growth of maize info.

We find a new technique of growing maize. To the printing office

Comments on the following: Iraq Office

We have new information: Mockup report. Please give the

Comments: Wordprocessor & Hayes Quadrant: 1. Notice: printed

Numerical Cutting equipment

June 8 - Water to Mc Millen

Look to some of the possible and existing sites

Look to site No. 24 (next door) and other home.

Water to Mc Millen (60 cm) to the summit
of Smith Mountain. For about 15 miles the road ran along Hornet Creek which presents a very similar association to that of Pine Creek which leads from Cambridge toward Heath.

(p. 1060)

After that the road followed a general grade through Yellow Pine and Douglas Fir forests on up to Smith Mountains (8005 ft). Two miles below the summit we got stuck in a creek and after getting out decided to spend the night there. So we made camp at the water trough which is the last water before the summit. (From back of p. 1060) June 24. Saw several marmots along the road between Cambridge and Midvale. Ray shot three with the 25 Remington with steel jacket balls. One escaped into the burrow although it bled badly. The other two were shot through the shoulders and dropped in their tracks. They were living in the rocks which make up the road bed. The last one was seen as we came up the mountain. Was at about 4500 ft., 3 miles below Bear P.O. Several Citellus mollis were seen along the road just north of Cambridge.

June 25. Smith Mt.

Drove on (2 mi.) to the summit of Smith Mt. where farther progress was prevented by a snow bank. We then walked on about a mile up the road. The summit of Smith Mt. is very rocky and supports only a few straggly fir, some grass and herbs. In a rock slide near the summit I found sign and hear a Coney. The slide is still partly covered by snow. Droppings and tracks indicate that they run about over the snow beneath the rocks. Near the summit we also saw a Pileated Woodpecker, Blue Bird sp? Clark Crows, Pine Siskins, Western Tanagers, Purple Finches and Rock Wrens.

(p. 1061)

After inspecting Smith Mt. we drove back down the road about 5 miles and made camp at an old mine (Frenchy's Mine). Enroute we broke through a bridge and had difficulty in getting out.
While working at this Mr. Stover, a graduate of Univ. of Idaho, came along. His brothers run sheep in the Seven Devils. He told us that in a couple weeks we could drive past Smith Mt. to Black Lake and even farther.

(p. 1062)


Established camp beside a little creek which flows into Bear Creek about a mile north (above) Bear Ranger Station. There is an old mine here known as Frenchy's Mine. We are on the SW slope of Smith Mt. about 5 mi. (by road) from the summit. Camp is located on the NW slope of Bear Cr. Canyon. The creeks are bordered with alder, willow, dogwood, maple, huckle berry, currant. The moister slopes are covered with yellow pine, Douglas fir, white fir, western larch, Englemann Spruce.

The drier ridges and slopes are rocky and covered with grass and yellow pine.

Census for the day: 2 Williamson Sapsucker; 2 Purple Finches; 4 Tanagers; 6 Siskins; 1 Nuthatch; 2 Olive-backed Thrushes; 1 Rock Wren; 1 Golden-crowned Kinglet; 1 West. Warbling Vireo.

Our camp is on the NW slope about a mile above Bear Cr. It is just above the union of Bear and Little Bear Creeks.

(p. 1063)

June 27. 1 mi. N Bear R. S., SW slope Smith Mt., 5400 ft., Adams Co., Idaho.

Hunted down to the creek (1 mi.) through heavy forest. Census: 2 Pileated Woodpeckers; 2 Three-toed Woodpeckers; 1 Red-shafted Flicker; 6 Williamson Sapsucker; 1 Slender-billed Nuthatch; 2 Rocky Mountain Creeper; 4 Golden-crowned Kinglet; 6 Oregon Jay; 6 Olive-backed Thrush; 1 Ruffed Grouse; 8 Purple Finch; 4 Flycatcher (sp?); 4 Pine Siskin; 10 Chipping Sparrow; 8 Tanager; 2 Robin; 1 Eagle; 1 Red-tailed Hawk.

4246 f. Flycatcher Dead twig of Yellow Pine.

4247 m. Rocky Mountain Jay From group of 8 which were flying and hopping about among the firs on a hillslope. They made a lot of racket at times. Probably a family group.

(p. 1064)

4248 m. Purple Finch From flock of 8 feeding about old cabin.

4249 f. Three-toed Woodpecker 15 ft. from ground on pine trunk.

4250 m. Williamson Sapsucker From top of tall yellow pine (live tree

4251 f. " " 20 ft. from ground on trunk of live pine.

4252 ad. f. Sciurus hudsonicus 300-100-50-16. From small fir. It was occupied with battling another of the same species. They did a great deal of chattering and at times chased each other 30 or 40 yards through the forest over logs and through thickets. (Suckling young).

(p. 1065)


Spent the morning hunting up a long ridge and back along a small creek in hopes of finding Aplodontia sign, but no such sign was found.

4253 JV. f. Rocky Mt. Creeper.

4254 ad. m. " " " Both taken together from the trunk of a dead fir.

4255 m. Junco Willows near creek.
4256 f. **Hermit Thrush** Dead log on open grassy slope

4257 im. f. **Rocky Mt. Jay**.

4258 im. m. """""""" Taken together 10 ft. from ground in western larch. One other in group.

4259 f. **Williamson Sapsucker** alone on trunk of live Yellow Pine.

4260 f. **Hairy Woodpecker** (skel. only) Alone on trunk of dead yellow pine.

(p. 1066)

June 29. 1 mi. N Bear R.S., SW slope Smith Mt., 5400 ft., Adams Co., Idaho.

55 traps which I put out last evening along the creek and over a grassy slope held 1 ad. Meosorex, 1 ad. Zapus; 2 ad. 2 sub. ad. Peromyscus maniculatus; 2 im. Neotoma.


4262 ad. m. Zapus 221-126-29-14. Under log.


4264 im. m. " 380-163-49-28. """".

4265 f. **Hummingbird** Feeding near ground on blossoms of coral trumpet.

4266 ad. m. **White-headed Woodpecker** Top of live Douglas fir.

4267 ad. m. **Hairy Woodpecker** Dead log on ground.

4268 ad. m. **Williamson Sapsucker** Trunk of live yellow pine.

100 traps (50 new) along creek, in heavy forest and on open grassy slopes held 1 ad. Zapus; 2 ad. Evotomys; 1 im. Glaucocmys; 1 ad. , 1 im. Citellus columbianus; 1 ad. Eutamias; 1 ad., 1 im. Sorex; 1 ad. Microtus mordax; 1 ad f. Neotoma; 8 ad. and 6 im. Peromyscus maniculatus.

4259 im. f. Glaucocmys 300-132-39-19. In rat trap baited with dried prune and bacon grease, set on large prostrate log which had fallen across a small creek. The trap was set on the upper (root) end of the log, 4 ft. above the ground and 30 ft. from the creek. Heavy under brush, dense stand of Douglas fir, western larch and alder. Near the same place I pushed over a rotten fir stump which was 8 feet high and full of holes. When the stump fell it broke to pieces exposing a large nest made of dry black moss or lichen which hangs from many of the trees here. In the nest was the remains of a baby flying squirrel. The nest was near the top of the stump and was a "this year's" nest.

4270 ad. m. Evotomys 147-44-19-10. Under log on hillside among brush and firs.


4277 ad. f. Porcupine 650-165-184-20. (skull only). Shot at dusk from alder over creek.

It was seen to eat leaves (not bark). Stomach contents indicated this also. It was very light in color. (from back of p. 1068) Its mouth was full of ground leaves of alder.

(p. 1069)

4278 f. Creeper (egg ready to be deposited) From branch of dead fir.

4279 m. Sharp-shinned Hawk From top of live fir.


4282 im. m. " " 190-45-33-7.

Yesterday Ray and I drove down (4 mi.) to Bear P.O. About ½ mile below camp we crossed over a dry rocky flat, on top of a ridge. This flat is covered by a sparse stand of grass and low herbs. Here we found a colony of these small squirrels, saw about 20 of them, both young and old. They took refuge in burrows, many of which were under small rocks.

Beside the road we saw two adult Franklin Grouse. The walked about quietly and allowed us to drive within 20 ft. of them.

(p. 1070)

July 1. 1 mi. N Bear R.S., SW slope Smith Mt., 5400 ft., Adams Co., Idaho.

90 traps caught 4 ad., 1 im. Evotomys; 1 ad. Peromyscus maniculatus; 1 im. Neotoma; 1 im. Showshoe.
4283 im. m. Lepus bairdi 340-32-96-75. Caught in steel trap set in trail among firs near creek. Baited with cantaloupe and bacon grease.


4285 ad. m. " 149-41-20-11 Under log, among brush and firs on top of ridge 100 yds. from creek.


4287 ad. f. " 142-40-19-10. Under log among brush and firs on top of ridge 100 yds from creek.


(p. 1071)

4289 ad. m. Citellus columbianus 365-100-50-13.

4290 ad. f. " " 363-94-50-12.

4291 ad. m. " " 346-95-49-11. All of these taken in steel traps set near creek among brush and heavy timber.

4292 ad. m. Junco Among firs on slope.

4293 f. Hairy Woodpecker Branch of dead pine 60 feet from ground.

(p. 1072)


70 traps (mostly in old sets) held but 2 im., and 1 ad. Peromyscus maniculatus.

4294 ad. m. Evotomys 154-45-19-10.
Evotomys 147-40-19-10. Both taken during the day under logs near creek.

Redpbreasted Nuthatch

Taken together from branchlets of live fir trees. There were two others in the group. They seemed to forage more on the branches than on the trunks.

Flycatcher Dead fir branch. (p. 1073)


60 traps (old sets) held lad. and 1 im. Sorex; lad. Zapus; lad. Peromyscus maniculatus; lad. Evotomys.

Sorex 109-43-13-4. (Formalin)

Both taken under log near creek.


Citeillus mollis 210-40-32-8.

Eutamias 222-92-32-12. Skel. only.


Citeillus mollis 185-45-33-8. All of these little squirrels were shot on the same ridge as those taken July 1.

70 traps held 1 ad. f. Glaucomys; 1 ad. f. Eutamias; 1 Olive-backed Thrush; 2 im., 1 ad. Peromyscus maniculatus; 1 im. Neotoma.


4309 ad. f. Eutamias 313-93-31-12. (skel. only). In rat trap on log.

4310 ad. m. Porcupine 850-220-126-22. This, I think, is the largest porcupine I ever saw. It was feeding at dusk on a steep brushy slope, making considerable noise. At my approach it ran up the hill and attempted to climb a tree. Its stomach was empty, indicating that it had just started out for its evening forage.

4311 ad. m. Red-breasted Nuthatch 50 ft. from the ground on a branch of a large yellow pine. It was calling incessantly.

(p. 1075)

4312 ad. m. Williamson Sapsucker (skel. only) Trunk of live yellow pine, 12 ft. from ground.

4313 ad. m. Olive-backed Thrush (skel. only) In rat trap on log.

4314 ad. f. Horned Owl Stomach empty.

4315 ad. m. " " Stomach in formalin.

These two owls were hooting repeatedly at 9:45 a.m. (rather cloudy) After trailing the hoots I saw one sitting on a dead snag over the creek. When I shot it the other flew out of a nearby fir.
(a) 10th Apr

I wrote a letter to my friend G. and we began to plan our trip to Europe. We decided to visit several cities and countries, including Paris, Rome, and Berlin. We also planned to go on a day trip to the Swiss Alps.

(b) 12th Apr

We arrived in Paris yesterday and stayed at a hotel near the Eiffel Tower. We spent the day exploring the city and visiting some of the famous landmarks. We also went to a French restaurant to try some traditional French cuisine.

(c) 15th Apr

We took a day trip to the Fontainebleau Castle today. It was a beautiful and historical place with many stunning works of art. We also visited the nearby gardens, which were quite lovely.

(d) 18th Apr

Today we left Paris and headed to Rome. We stayed at a bed and breakfast near the Colosseum. We spent the day exploring the city, visiting the Roman Forum, and looking at the ancient ruins.

(e) 20th Apr

We took a day trip to the Vatican today. We visited St. Peter's Basilica and the Vatican Museum. It was an incredibly fascinating experience to see some of the world's most famous artworks and religious artifacts.

(f) 22nd Apr

Today we flew to Berlin and are staying at a hotel near Checkpoint Charlie. We plan to spend the next few days exploring the city and visiting some of the famous landmarks.
This being the "Fourth" we got little work done. The Walkers (who run sheep north of Smith Mt.) called to see our specimens and spent some time talking about the "back country". He told us that he killed a male Black Bear on June 29 on the head of Granite Creek. Said the beard did little actual killing but the sight of a bear caused the sheep to stampede and "pile up" which may kill many. In the afternoon (from back of same page) we drove (1 mi.) to get the mail and talk to the Brewers (Forest ranger). Found that Mr. and Mrs. Brewer, and two fire guards (Allan Hansen from Utah Agr. Col. and Dick Mink from Moscow) were going to a dance at Bear Cr. school 2 mi. below the R.S. They asked us to go with them so we did and had a very enjoyable time. There was plenty of liquor, one fight and much cussing. Everyone was cordial to us and we met Misses Wooden and Carrie Parker from Council, Miss. Yarbrough from Wild Horse, and Mrs. Downing (Miss Witlow) from Lich Creek. Ray is still suffering from a series of boils on his neck which he contracted a month ago. I have lanced and dressed them many times. Hot application were applied today.

Most of our specimens were left for the morrow. 

(p. 1076)

July 5. 1 mi. N Bear R.S., SW slope Smith Mt., Adams Co., 5400 ft., Idaho.

70 traps held 1 Eutamias; 1 Red-backed Mouse; 1 ad. and 2 im. Peromyscus maniculatus and the toe of a Snowshoe. Spent most of the day recuperating from the effects of last night and putting up yesterday's catch.


4317 ad. m. Sciurus hudsonicus 334-130-50-20. Shot from log.

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70 traps held 2 ad., 1 im. *Peromyscus maniculatus*. The line is trapped out.

- 4320 m. " 185-63-24-5.
- 4321 f. " 165-54-24-5.
- 4322 m. " 157-54-24-5.

All of these gophers were taken in dry loam soil on a flat near the creek.


(p. 1078.)


60 traps held 1 im. *Evotomys*; 2 im., 1 ad. *Peromyscus maniculatus*.

- 4326 ad. m. " 192-61-25-5.
- 4327 ad. m. " 182-61-24-4.

All taken in moist loam on flat near creek overgrown with grass, herbs and few trees.

- 4328 ad. m. *Crossbill* From very top of tall yellow pine. Its mate occupied a similar perch nearby but was so high that no. 10 shot failed to hit it.

- 4329 ad. f. *Pine Siskin* From periphery of white fir
4330 im. m. **Hairy Woodpecker.**

4331 im. m. " " .

4332 ad. f. " " . (skeleton)

These three were taken together from a clump of firs and pines. The young were making an "awful racket".

(p. 1079)


"Took in" all but the gopher traps yesterday.

4333 ad. m. *Citellus mollis* 225-54-35-9. Shot on dry rocky ridge. Same place as all previous mollid.

4334 ad. m. *Thomomys* 176-51-25-6.

4335 ad. f. " 177-57-24-5.


All taken in moist loam on flat covered with grass, herbs and some trees.

4337 *Bufo* All three in formalin. Found in and along the creek.

4338 "

4339 "

Drove (4 mi.) to the top of Smith Mt. and then on (5 mi.) on the Black Lake Road. The road was terrific beyond Smith Mt. Mr. and Mrs. Robert Jimmerson (lookouts on Smith Mt.)(16 and 18 yrs. old) pointed out most of the important points.
General Notes

(p. 1080)


While in this camp we have had mild to warm weather most of the time. We have had two or three lightning storms and large cloud masses on several days. A couple of very light showers today. We are having a fair rain (\(\frac{1}{4}\) in.). We have had very little wind and no frost.

Birds and mammals are not numerous either as to species or individuals, 100 "new" traps usually caught not more than 8 or 10 specimens. The dry grassy slopes brought little other than Peromyscus maniculatus. The open forest gave the same results but the dense thickets along the creek and the heavy forest with many down logs produced a greater variety.

Woodpeckers have been more numerous here (both as to species and individuals) than at any other camp I was ever in. This is the height of nesting season for Juncos, Chipping Sparrows and Warblers. The other species are seen out with their young.

(p. 1081)

Mammals found at this camp

1. Sorex Only a few taken although we had out many suitable traps. These were taken along the creek or under logs in the damp forest. Not nearly so numerous as they were at Cuddy. Both young and old taken.

2. Neosorex Numerous traps at the water’s edge yielded but 6 or 7 of them. Not nearly so numerous as at Cuddy.

3. Eptesicus fuscus All bats have been very scarce. Only occasionally was one seen at dusk. Ray shot one Eptesicus.
4. *Ursus* Reported as quite common in the heavily timbered slopes. Mr. Eldon Walker who runs sheep north of Smith Mt. told us that he killed one on June 30 at the head of Deep Creek. He said that some bears are sheep killers, others are not, but that sheep are terrified at the presence of a bear and therefore the presence of a bear is a menace to sheep because they stampede.

(p. 1082)

and "pile up". I found the claw marks of a bear on the bark of a dead stump. Mr. Brewer said he saw two this spring.

5. *Peromyscus maniculatus* Found as members of every association in which we trapped but nowhere numerous as they were at Cuddy. Both young and old taken.


7. *Eeotomys* Next in abundance to *Peromyscus*. They are widely scattered along the creek and in heavy timber under logs and stumps. They are not localized as they were at Cuddy Mt. This is probably due to the fact that since this camp is higher the type of habitat preferred by *Eeotomys* is much more widely distributed. Both young and old were taken. I believe that they forage over rather large areas because they are often taken in traps that have not been touched for several days.

(p. 1083)

8. *Microtus mordax* Scarce. Only four taken although we trapped in suitable areas. These four were all taken at the water's edge of small creeks.

9. *Thomomys* Common, more abundant in grassy meadows or on dry ridges than on brushy or wooded slopes.
10. Zapus  All taken along the small creeks. Not numerous.

11. Erethizon  Two taken along creek. One other seen in similar association. Gnawings seen about every old cabin. Every one here kills all they see.

12. Citellus columbianus  Abundant everywhere from the water's edge to the driest rocky ridges. They are also seen about old buildings. They climb up on old buildings and two were seen on top of a 7 ft. stump. Half grown young are everywhere. The adults are very fat but still "out".

(p. 1084)

13. Citellus mollis  (These really are Citellus townsendi brunneus w.b.d.)
A colony of these little squirrels was found on a dry rocky slope ½ mile below camp. None were found in other similar associations. The colony covers an area of 5 acres which is very rocky and had and dry covered with sparse grass, wild onion and low herbs. One was seen to run into a burrow under a log. Other burrows are under small rocks. They sit up "picket pin" fashion, often on top of small rocks and "chirp". One was seen to jump up and pull down with its forefeet and teeth the seed head of an herb which was about a foot above the ground. Many of the wild onion bulbs on the flat were dug up and partly eaten. The adults are very fat but still "out".

14. Eutamias  Both old and young are quite common. They are mainly terrestrial but sometimes climb from 6 to 10 feet in pines and firs. Those which did climb seem to be agile at climbing. They are usually seen about logs.

(p. 1085)

15. Sciurus hudsonicus  Common but not numerous. Among the heavy timber.
They are remarkably agile climbers. No young have been noted. Suckling females have been taken. Several partly eaten toad stool fungi were noted and on one occasion a "chickaree" was seen to carry a toad stool up a fir tree where it stopped to eat part of it and then climbed out and cached it on the flat frond at the end of a limb.

16. **Glaucomys** Two adult females and one immature were trapped on prostrate logs along the creek. One was found hanging on a barbed wire fence. It had evidently sailed into the fence and snagged itself. See Ray Gilmore's notes of July 10. Sixty trap nights with steels and rat traps failed to yield more.

17. **Lepus bairdii** One adult and one immature were trapped among heavy timber along the creek. Ten traps set in trails and baited with rolled oats, bacon grease, cantaloupe failed to yield more.

18. **Odocoileus** Tracks seen on a number of occasions about camp.

Birds found at this camp.

June 23-July 10

1. **Franklin Grouse**. Four seen, two near the Bear P. O. beside the road, one in the road at night (10 p.m.) near the summit of Smith Mt. and one near camp in heavy timber. In all cases they were unafraid. One took refuge in a large yellow pine where it sat parallel to the limb. I shot at it four times with the aux before it flew. Then it lit on a nearby fir. It made no sound.

2. **Ruffed Grouse**. Two females with small chicks seen, one along the creek another in the meadow. No drumming heard.
To start, I need to list some of the important points:

1. Conditions to prepare for a number of occasions:
   a. (To be continued)
   b. (To be filled)

2. (To be filled)

3. Which reasons to use for each case?
   a. One main feature of the clear pattern

4. (To be filled) No constant sheets.
3. **Mourning Dove** One seen at camp/two seen below the Ranger Station.

4. **Sharp-shinned Hawk** One taken; two others seen.

5. **Goshawk** Blue goshawks seen several times flying through the heavy timber. The Columbian Ground Squirrels bark every time one passes. (p. 1088)

6. **Red-tailed Hawk** Seen several times.

7. **Eagle (golden?)** One seen.

8. **Sparrow Hawk** 3 or 4 seen.

9. **Horned Owl** Two taken; few others heard in dense forest.

10. **Hairy Woodpecker** Few among heavy timber.

11. **White-headed Woodpecker** Two seen.

12. **Three-toed Woodpecker** One each of two species taken.

13. **Williamson Sapsucker** Quite common, usually seen on live trees. Often extremely noisy.

14. **Pileated Woodpecker** Three or four seen among heavy timber, usually feeding on prostrate logs. Work in evidence in many places. (p. 1089)

15. **Red-shafted Flicker** Few

16. **Broad-tailed Hummingbird** Several seen; one taken.

17. **Caliope Hummingbird** Two seen; one taken.

18. **Pewee** Few.
A. (1950) 4

B. (1950) 4

C. (1950) 4

D. (1950) 4

E. (1950) 4

F. (1950) 4

G. (1950) 4

H. (1950) 4

I. (1950) 4

J. (1950) 4

K. (1950) 4

L. (1950) 4

M. (1950) 4

N. (1950) 4

O. (1950) 4

P. (1950) 4

Q. (1950) 4

R. (1950) 4

S. (1950) 4

T. (1950) 4

U. (1950) 4

V. (1950) 4

W. (1950) 4

X. (1950) 4

Y. (1950) 4

Z. (1950) 4
19. **Flycatcher sp.?** Quite common; several taken.

20. **Rocky Mt. Jay** But three families seen.

21. **Brewer Blackbird** One seen at Bear P.O.

22. **Evening Grosbeak** Yesterday I saw one pair at camp, another pair $\frac{1}{2}$ mi. below camp, two other pairs were feeding in the horse corral at the ranger station in company with 4 **Purple Finches** and 4 **Pine Siskins**. They were feeding on the ground. One pair seen today at camp, the female taken and contained an egg ready to be deposited. None seen before this at this camp. Their notes are clear and sharp and their wings noisy; one

(p. 1090)

alighted on the ground near our tent.

23. **Purple Finch** Common, noisy both in song and flight. Sometimes hop about on the ground here in camp.

24. **Crossbill** Few heard every day, usually flying high above the trees. When they do stop they choose the highest tree tops. Their notes are easily recognized. Usually single or in groups of from 2 to 5. They fly high and fast.

25. **Pine Siskin.** Few but not common.

26. **Vesper Sparrow** None seen here; two on top of Smith Mt.

27. **Chipping Sparrow** Common, seen everywhere in pairs. Often seen gathering small green caterpillars.

28. **Junco** Few seen, one nest with four eggs found on ground among grass on July 1.
Go down, and be not under any outward pressure. If you have your own power, and if you are not under any pressure, you will not be forced into any action. If you are under any pressure, you will be forced into action, but you will not be able to control your own actions. Therefore, you must be careful not to let yourself be forced into any action, but to control your own actions, and to keep your own power.

(T)
29. **Western Tanager** One of our most numerous birds. The males are in full song. No young out yet. They sometimes come into camp and hop about on the ground eating cantaloupe seeds and scraps. The song is like that of a Robin.

30. **Violet-green Swallow** Several seen at Bear E.O.

31. **Warbling Vireo** Few along creeks.

32. **Macgilligray Warbler** Few along creeks and in heavy brush. Two nests with eggs found in brush 1 ft. from ground.

33. **Audubon Warbler** Not uncommon.

34. **House Wren**. Two pairs.

35. **Rock Wren** One seen at summit of Smith Mt.

36. **Creeper** Not uncommon.

37. **Slender-billed Nuthatch** Only one seen.

38. **Red-breasted Nuthatch** Not uncommon.

39. **Chickadee** Few.

40. **Golden-crowned Kinglet** Few, the males sing considerably.

41. **Olive-backed Thrush** Common; the males sing considerably.

42. **Hermit Thrush** Few seen.

43. **Robin** Quite common.

44. **Western Bluebird** Few seen on high ridges. (I question the identity WBD)
Reptiles and Amphibians

1. **Garter Snake** But one seen. It was caught in a mouse trap.

2. **Rubber Boa** Three found along creek.

**Amphibia**

1. **Bufo** Few along creek.

2. **Hyla** One heard in tree.

July 11. Frenchy's Mine to Smith Mountain

We packed up our outfit and drove up the road (4 mi.) to the summit of Smith Mt. The road, which extends on to Black Lake, passes within ¼ mile of the actual summit of Smith Mt. On the very summit of Smith Mt. is a F.S. lookout which, according to the map and our barometer is 8005 ft. el. Just after the road goes over the summit and drops down on the north slope of Smith Mt. there is a spring (200 yds. off the road) and an old ranger cabin. Here we made our camp at 7500 feet. The timber here is scattered or located in little clumps except in the canyons where it is quite heavy. Composition of forest: Mainly limber pine, alpine fir and Englemann spruce; occasionally a lodge pole pine and a larch here and there in the canyon. The timber extends about half way from our camp to the summit of Smith Mt. Above this the peak is almost solid rock; many rock slides. The drier ridges and slopes are covered with dense growths of wild buckwheat, lupine and short grass. The stream sides and spring causes support of a growth of

(p. 1079b)

alder, Aconite, nettle, bluebell and thinkble berry.
Huckleberry grows on the moister shaded slopes but there are none quite this high. The soil rocky and gravelly. There is one small grass-covered meadow in a little basin (called Lost Basin) \( \frac{1}{2} \) mile down the canyon toward Bear Creek. Deep Creek, Indian Creek, Bear Creek and Little Bear Creek all head on or about Smith Mt. Mr. and Mrs. Robert Jumeison, from Crystal, near Weiser, are the fire lookouts on the summit of Smith Mt. This association is considerably higher than we have previously worked.

(p. 1080b)


4341 ad. m. White-crowned Sparrow Feeding on ground in camp.

4342 ad. m. Chickadee Periphery of alpine fir. e. chrysocomus.

4343 Myotis' m. 87-36-9-15. Shot at dusk flying about among firs and spruce.

While recovering the Ochotona from a rock slide a rock fell on my finger and not only smashed the finger but completely removed the nail. The pain was severe but Ray doctored it and although it is very inconvenient it feels much better.

July 13. (p. 1081b)

4344 Ochotona ad. m. 186-10-30-24.

4345 " ad. m. 185-10-30-22.

Shot from rock slides. There are Conys in almost every rock slide in the vicinity. They are quite timid and hard to shoot. I have found four "new" "hay piles". The hay is stored green and consists mainly of wild buckwheat.
Juno in. ? Shot from flock of thirty most of which seemed to be immature.

Rock Wren

Taken together from rock slide. The male was singing from the tip top of a 20 foot limber pine at the base of the slide.

Hermit Thrush Running about on ground at dark.

Fox Sparrow Singing from limber pine.

Chickadee Periphery of limber pine.

Townsend Solitaire

Taken together on north slope among white fir.

Due to my injured finger I am running no traps now. This morning I hunted through an old burn at the head of Indian Cr. on the NW slope of Smith Mt.

Census: 2 Fox Sparrows, 4 Lazuli Buntings, 2 Olive-sided Flycatchers, 2 Wood Pewees, 1 Red-shafted Flicker, 1 Hairy Woodpecker, 2 Red-breasted Nuthatches, 2 Chickadees, 4 Clark Nutcrackers, 4 White-crowned Sparrows, many Juncos, Chipping Sparrows and Pine Siskins.

Also saw numerous Columbian Ground Squirrels, several Chipmunks and several Ochotona and one large (4 or 5 point)buck. He was very large and still carrying its brown summer coat and is in the velvet.
Fees granted in 1906-7 for each of the first five years, of which a small sum was kept to be invested in the future.

1905-6 to 1909-10

Fees granted in the form of a small sum to be invested in the future.

With the permission of the Board of Education.

(1905-6)

Dec. 1906

Tuberculosis Bulletin

Taken care of in the Tuberculosis Sanatorium.

(Dec. 1907)

Year in Service Earned: 500, in Years 0-5.

The Board of Health report of the 1907-8 year, and the report of the Board of Health for the year ending

1st of July, 1908.

There is a lack of information. The Board of Health will be informed.

September 1908.

No return of any kind has been received.
4354 ad. f. Ochotona 195-11-30-20. (2 emb.)

Shot from rock slides.

4356 im. m. Red-breasted Nuthatch


(p. 1084b)

4358 f. Fox Sparrow Feeding on ground under alpine fir. Yesterday I saw a young Fox Sparrow just learning to fly.

4359 m. Olive-sided Flycatcher From top of dead snag, uttering its usual call of "cer-pew-u".

4360 m. Erethizon 800-290-116-15. (Skull only) At 5 o'clock this morning I heard this procupine in the ranger cabin beside which we are camped. He was standing on his hind legs reaching for the saddle straps with his fore feet and mouth. Recently it had chewed these straps badly although the saddle was hanging in the middle of the room and the Porky had to stand on its hind legs to reach the lowest straps. As soon as I moved it started off.

(p. 1085b)


4361 ad. m. Ochotona 188-12-33-25.

4362 ad. f. " 190-13-31-23.

4363 ad. m. " 190-12-32-25.

4364 ad. m. " 181-11-31-23.

4365 ad. m. " 178-11-30-22.
UP OF TALL WHITENED RUFFLE

Bed of sheets in bed frame

Panel: Up at the feet of the bed in the

I am a photograph in the frame of the bed,

The photograph is of me, a woman and

A woman's face is on the frame of the bed,

(a) [Footnote]

You are my memory, as I am yours.

(a) [Footnote]

Last evening I put out 75 traps in an old burn in the head of Indian Creek on the west slope of Smith Mt. The burn lies in a little basin into which several springs flow. The burn is now covered with many down logs, heavy grass, blue bells, some twin berries, alders and other low herbs. These traps held 3 ad., 3 im. Zapus; 3 ad., 5 im. Peromyscus maniculatus.

4369 ad. f. Zapus 253-152-31-12. Mammæ 4 pr.; 1 ing., 1 ab., 1 thor., 1 pect.


4372 im. f. " 224-133-30-11. (Formalin)


4374 ad. f. " 255-152-31-11. All taken in burn.

4375 ad. m. Chipping Sparrow Singing from top of dead pine.

(p. 1087b)

4376 m. Ruby-crowned Kinglet

4377 ad. f. Chickadee (skeleton)
I was attracted to a thicket of fir trees by the alarm noted of Robins, Purple Finches, Olive-backed Thrushes, and 2 Chipmunks and found this owl roosting 4 ft. from the ground in a small fir.

Trapped at hay pile in rock slide.


80 traps as per yesterday held 2 sad. Neosorex; 1 im. Sorex; 1 sad. Neotoma cinerea; 1 im Ochotona; 1 ad. Eutamias.

Trapped in rock slide.

Shot at dusk (9 p.m.) as it hopped among wild buckwheat.

At edge of creek.

Under rock among buckwheat on moist slope.

Trapped in Cony slide.

Shot as it was running about among the many down logs which cover the old burn described yesterday. It ran on top of the logs most of the time and crossed the creek on a log.
4388 m. Wood Pewee From top of dead tree in old burn.

4389 im. f. Williamson Sapsucker From dead snag. No others seen.


80 traps held 1 ad. Microtus richardsoni;
3 ad., 2 im. Zapus; 1 ad. Sorex; 1 ad. Neosorex;
2 ad. Eutamias; 1 ad. Ochotona; 3 ad. Robins; 1 ad.
Chipping Sparrow. Most of these traps are in the old burn, a few among buckwheat on slope.


4391 ad. m. Microtus 180-55-21-11. Edge of boggy creek.

4392 ad. m. Eutamias 205-90-32-12. On ground under fir.

4393 ad. f. " 222-87-32-12 (Skeleton) Edge of boggy spring.

4394 ad. m. Neosorex 161-75-20-4. Edge of boggy spring.


4396 ad. m. Zapus 236-144-32-12. Among buckwheat on slope.


4398 ad. m. " 227-130-32-13 (Formalin) Shot among tall grass in wet meadow. I flushed it from its surface nest.

4400 ad. m. Robin Skeleton

4401 ad. f. " " In rat traps set for Microtus in wet meadow.

(p. 1092 b)


4403 im. f. " " (6 embs) 196-64-26-11.

4404 ad. m. " " 204-64-26-11.


4406 im. m. " 159-73-20-4. (Formalin)


(p. 1093b)

General Notes


Birds are scarce, both as to species and individuals. Only four species, Olive-sided Fly-catcher, Rock Wren, Winter Wren, and Mt. Bluebird were noted which we had not seen before.

We trapped in every available association but only three new mammals, Microtus richardsoni, Mustela and Ochotona were taken.

It was warm to hot during the days and mild to cool at night. We had no frost. At the lookout on the summit it is much colder and windier.
Mammals found at this camp. July 11-20.

1. Sorex Few taken under wet logs and along stream. Not so common as they were lower down.

2. Neosorex Several taken along creek and about springs.

3. Myotis One taken; not many seen.

4. Canis A few tracks seen; none heard.

5. Mustela One seen and taken.

6. Taxidea Recent works of one seen.

7. Peromyscus maniculatus Common in all association especially for crinitus and truei in the rocks, none were taken.


9. Evotomys Few taken in scattered locations. Most of these were taken in rather open places along the creeks, few in heavy timber.

10. Microtus richardsoni Sign found and specimens taken along boggy creeks under alder or heavy herbs. Most of the sign found was at the very water's edge. Some of the runways along the edge of the creek showed that they enter the water readily. Three were seen during the day time, one at 10 a.m. and two about 7 p.m. All at the edge of a little creek which flows through an old burn. One adult was "jumped" from among the tall grass in a small boggy meadow. It ran over a "middle-sized Gov't" mouse trap which was set in a runway. The snap of the trap seemed to bother it but little. When it reached the creek it entered the water and swam freely on the surface, most of the body remained above the water. It made no
spilling as it swam. At first it took refuge
under a log from which I chased it. It then swam
across the creek and entered a hole in the bank,
the entrance of which was just below the surface of
the water. I later excavated this burrow and found
that it had four entrances, all of which led into a
burrow under an old

wet rotten stump. Two of these were just beneath
the surface of the water of the creek. The other
two were on the bank. A muddy trail led from one
of the bank entrances over short sod. There was no
nest in the burrow and it was very wet.

11. **Thomomys** Common but not numerous in meadows
and on dry slopes.

12. **Zapus** Common in meadows, and along streams.
Several were jumped from their surface
beds among the grass and herbs. They usually
made two or three (2 or 3 ft.) jumps and then
remained motionless. None were seen to run or walk
but always travelled by leaps. These leaps were not
in a straight line but usually in a general direc-
tion. Thus
13. Citellus columbianus Abundant in every association from the wettest boggy meadows to the middle of large cony slides on the peak of Smith Mt. Full adults are still "out". We found them to be good eating.

14. Eutamias Common but not numerous in woods and about rocks and logs. Only one species found and these are the same as those at Cuddy Mt. and Frenchy's Mine.

(p. 1098)

15. Ochotona Common in all of the rock slides. They are now busily engaged in hay making. The great majority of the hay is wild buckwheat, which is now in full bloom, and grows in and about most of the slides. Most of the hay is cut in the morning and being stored in airy places under overhanging rocks and is almost dry by the next morning. They usually drop feces on their hay piles. Possibly this merely an unclean habit or possibly it marks ownership. I found one small hay pile which could not be seen until several rocks had been removed, that is it was below the main level of the slide. They bleat off and on all through the day whether disturbed or not. Toward dark they often utter a series of bleats in rapid succession. This is usually just before dark and is the last thing heard from the slide. Perhaps a "good night" territory challenge. Many young were seen and taken. Some of the females contain embryos indicating that they have more than one litter.

(p. 1099)

16. Erethizon Four seen, only one taken. At 9 p.m. July 17, as I looked down into a steep canyon I saw a Porcupine walking along a trail among the trees. He finally left the trail and disappeared among some large boulders at the base of a rock slide. Inspection showed many quills and feces which indicated that this large cavity beneath the large boulders had been used for a long time as a retreat during the day. Little damage has been done to trees here. See also notes on page 1084b.
(Page 9)

...(Continued from previous page)

...
17. **Lepus** None seen or taken but some sign found.

18. **Odocoileus** Our camp is located in a Game Preserve and there are quite a few deer here. Ray saw 2 and I saw one. All bucks in the velvet and wearing red summer coats. Tracks were seen in several places.

    (p. 1100)

**Birds found at this camp**
**July 11-20**

1. **Grouse** Quite a few large blue grouse were seen in the woods and on the steep rocky slopes

2. **Red-tailed Hawk** One pair was nesting on a wooded slope below camp toward Bear cr.

3. **Golden Eagle** 3 or 4 "black" eagles were seen at different times.

4. **Sparrow Hawk** 5 or 6 seen; two taken.

5. **Horned Owl** One heard among heavy timber at noon on July 20.

6. **Long-eared Owl** One taken; no others seen or heard

7. **Hairy Woodpecker** 6 or 7 seen.

8. **Williamson Sapsucker** Few seen.

    (p. 1101)

9. **Red-shafted Flicker** Two families, parents with young seen.

10. **Pacific Nighthawk** A group of about 10 were seen flying over a meadow 1 mi. above the Bear P.O. None of them were calling.

11. **Hummingbird** (Broad-tailed?) Few seen; mostly females and immatures.
12. **Olive-sided Flycatcher** Several seen.

13. **Wood Pewee** Few seen and heard.

14. **Flycatcher sp?** Few

15. **Black-headed Jay.** Few.

16. **Rocky Mt. Jay** None seen.

17. **Clark Nutcracker** Common, especially seen in family groups.

18. **Evening Grosbeak** Two or three small flocks seen

   (p. 1102)

19. **Purple Finch** Common.

20. **Crossbill** Few seen almost every day, but always flying over uttering their loud clicking and chirping noise and seldom alighting so that nonw were taken.

21. **Pine Siskin** Common often hopped about on the ground in camp.

22. **Vesper Sparrow** Few on open slopes of Smith Mt. which are covered with wild buckwheat.

23. **White-crowned Sparrow** Few along creeks and on brushy slopes. Two nests with 3 and 4 eggs respt. were found in low brush along the creek on July 15. These nests were only 2 ft. off the ground and were made of dry grass.

24. **Chipping Sparrow** Few.

25. **Junco** Few.

26. **Fox Sparrow** Four seen; two taken. First ones seen on this trip.
27. Western Tanager  Common everywhere. Often come into camp to pick up crumbs and allow us to approach within 3 or 4 ft. They often come in pairs but sometimes they come singly.

28. Lazuli Bunting  Few along creek.

29. Warbling Vireo  Few.


31. Audubon Warbler  Quite a few among conifers.

32. Water Ouzel  Two on Bear Creek.

33. Rock Wren  5 or 6 seen about rock slides.

34. House Wren  3 or 4 pairs found.

35. Winter Wren  One seen and its liquid trill heard on Bear Creek just below Smith Mt. on July 20. It was among heavy brush and logs.

36. Red-breasted Nuthatch  Two immatures taken among dead trees on old burn on Indian Creek side.

37. Chickadee  Common but not numerous. One nest containing young (on July 19) was located 25 ft. above the ground in a dead stump located in an old burn.

38. Ruby-crowned Kinglet  One taken among stand of firs; few (3 or 4) others seen.

39. Townsend Solitaire  3 or 4 seen, two taken.


41. Hermit Thrush  Few seen and heard. These seem to inhabit more open country than the former species.
42. **Western Robin** Common, several young seen. One nest containing one half feathered young was found on July 16. It was located 5 ft. from the ground in a 7 ft. fir tree.

(p. 1105)

43. **Western Bluebird** Few about open slopes and dead trees.

44. **Mt. Bluebird** Two taken by Gilmore. Several others seen. Six seen by Gilmore on July 19.

(p. 1106)

July 20. Ray and I took our rifles and fishing tackle and proceeded down (3 mi.) the east slope of Smith Mt. to Bear Creek. Bear sign has been reported conspicuous here. It took us about 1 1/2 hrs. each way over open dry flats and ridges near the top and heavy timber, huckle berry and logs near the creek. We saw no bear or sign of them. Saw three fine "Blue" Grouse and one Western Winter Wren. Also caught a fine string of trout, mostly "Bull" trout and a few rainbow trout. Reached camp at 8 P.M. very tired.

July 21. Packed our dry specimens and separated our load of equipment so that we can take a light load into Bear Lake. We took the unnecessary equipment down to Bear Ranger Station where Mr. Verne Brewer (ranger) gave us permission to store it in his office. We then went on down (4 mi.) to the Bear P.O. and store where we bought more supplies and got our mail. On our way home we were invited to have dinner (supper) with Mrs. Brewer and family. Mrs. Kozal (sp?) was there with her two children.

Mr. Kozal (District Forest Supervisor) and Verne Brewer (ranger) came into camp before we left for Bear and they had lunch with us.
If you are going to 6 it fit the line.

How do you know where to stop and when.

To decide the second two scenes of Ulrich's German.

I'm thinking the second six scenes of Ulrich's German.

On July 16

My friend, we have been working hard on the evening.

At least, we haven't finished the homework (homework, I am going to take care of the school).}

If you did not have, the school would be complete more than the class.

I'm writing my name, the last name, and the address. We are here.

I can save you from my friend.
July 22.

Loaded the remainder of our outfit into the Reo and started for Black Lake (5 mi.). We had some trouble getting the truck out of the camp and back onto the road and then travelled without much trouble the narrow rocky and steep road back to Black Lake Mill. Here we walked up to the lake (½ mi.) and found Mr. Van Husen (owner of Mesa Orchards largest orchards in the world) fishing with his family. Also saw many fine fish (Rainbow Trout 12 to 18 inches long). Scouted for a camp ground but found it hard to get water and shade together, but finally (9:30 p.m.) dumped off the load in the most likely spot, cooked supper and turned in damn tired.

(p. 1108)

July 23. Black Lake.

Made camp, took our guns and went on a little tour of inspection and tried our luck at the fish in the lake. Caught only one in the creek just below the lake (this a fine 12 in. Rainbow).

July 24.

Rained off and on all day. Went hunting but everything was wet and I saw little. Wrote notes and unpacked the remainder of the outfit. We are camped at the Old Black Lake Mine, which ceased to operate in 1905 or 1906. This is now the end of the auto road. An old road which is now a trail extends on to Iron Springs.

This association is a colder and wetter one than any we have worked before. The peaks are very rough and rocky. The canyons are heavily wooded with Englemann spruce, white fir, western larch and some limberpine. The dry open slopes support wild buckwheat and some lupine and grass.

In the wet canyons there is a

(p. 1109)

heavy undergrowth composed of alder, huckleberry, thimbleberry, blue bell, currant, twin berry, teasel and grass.
I found some heather here which is the first I have seen this season. There are many boggy springs and little creeks along which or in which there is much succulent vegetation and moss. Many of the trees support lichens of several varieties.

There is a creek flowing out of Black Lake known as Lake Creek and flows into Rapid River. We are camped on this creek \( \frac{1}{2} \) mi. E of Black Lake. Black Lake is a small (\( \frac{3}{4} \) mi. in dia.) natural lake but looks and is said to be very deep.

(p. 1110)

July 25. \( \frac{1}{2} \) mi. E Black Lake, 6800 ft., Adams Co., Idaho.

Spent the entire morning hunting down the creek through heavy timber. Saw 1 Western Winter Wren, 1 West. Warb. Vireo, 2 Varied Thrushes, 3 Audubon Warblers, 4 Creepers, 2 Macgillivray Warblers, 6 Robins, 6 Olive-backed Thrushes, 1 Red-tailed Hawk, 4 Evening Grosbeaks, 8 Pine Siskins.

Also saw freshly torn logs on which were the claw marks of a bear.

4408 Caliospermophilus ad. m. 260-92-40-13. Shot from root of down log. This is the first seen on this trip.

4409 m. Varied Thrush

4410 m. " " Both shot in heavy woods near creek, the latter among alders. The first was uttering his high pitched trill from the top of a 100 foot white fir.

4411 ad. f. Macgillivray Warbler Alder thicket.

4412 m. West. Warbling Vireo

(p. 1111)

4413 m. Audubon Warbler

4414 im. Water Ouzel
I learned some fascinating facts about the lake.

The lake is called Lake Superior.

Lake Superior is the largest lake in the world.

It covers a vast area of about 82,400 square miles.

The lake is fed by several rivers, including the St. Louis River.

People have lived on the shores of Lake Superior for thousands of years.

The Indigenous peoples have a rich cultural history with the lake.

Lake Superior is an important source of fish and other wildlife.

Many outdoor activities are popular around the lake, such as fishing, boating, and hiking.

The lake is also a popular destination for tourists.

Lake Superior is one of the five Great Lakes.

It is bordered by the United States and Canada.

The lake is known for its stunning scenery and ecological diversity.

Lake Superior is a vital part of the Great Lakes ecosystem.

Conservation efforts are ongoing to protect the lake and its surroundings.

Despite the challenges, the lake continues to inspire and captivate those who visit it.

Lake Superior reminds us of the beauty and power of the natural world.

Lake Superior is a testament to the enduring connection between humans and nature.
Yesterday evening Mr. Ivan Stover's sheep herder (an intelligent white man) saw a bear ½ mi. below camp. It was on the trail just before dark 9 p.m. This a.m. I found bear tracks in the trail 100 yds. from camp.

4415 ad. m. Silver-haired Bat 102-35-9-12. Thirty ft. above ground at dark over open flat.

4416 ad. f. Big Brown Bat 125-45-10-4. Same as 4415.

4417 ad. m. Microtus richardsoni 214-66-29-10.

4418 ad. f. " " 225-71-28-9. Both of these taken at edge of boggy stream under alders and logs.


4420 jv. m. Song Sparrow Among heavy brush on steep slope. This is the first Song Sparrow seen since Crane Creek. An adult was nearby.

Last evening I put out 45 traps on a steep moist slope which is covered with logs, a few small firs and spruce, heavy grass, some moss and much brush. These traps caught but one Zapus. Eight traps along the creek held 2 ad. M. richardsoni.

4421 im.m. Williamson Sapsucker Trunk of live fir.

4422 m. Olive-backed Thrush Feeding on ground among heavy timber.

4423 im. m. Thomomys 180-62-26-4. Dry gravelly flat.

Found fresh bear tracks again this a.m. Four auto loads of fishermen came in to fish Black Lake.

4426 jv. m. " 138-43-24-8.

These two along with another of the same size were taken in traps about an old rotten stump which is now almost overgrown with moss and grass. It stands beside a little muddy creek.

(p. 1115)

I removed the nest which was composed of dry grass and situated just beneath the ground. The 3 ran out and swam away disappearing under the opposite bank.

4428 im. m. Neosorex 153-71-21-4. (Foramlin) Edge of creek.
4430 ad. m. Sciurus hudsonicus 335-127-55-18.
4433 ad. m. White-crowned Sparrow With mate and one other pair in thicket near creek.
July 28. \( \frac{1}{2} \) mi. E Black Lake, 6800 ft., Adams Co., Idaho.

80 traps held 4 Microtus richardsoni; 2 ad. Microtus mordax; 3 ad. Thomomys; 1 ad. 1 im. Neotoma; 1 ad., 1 im. Evotomys.

4435 Microtus richardsoni im. f. 198-61-27-10 (5 embs.)

4437 ad. m. Sciurus hudsonicus 386-130-53-20.
4438 ad. m. ” ” 316-115-50-19. (Last one skeleton) Both of these shot among heavy timber.

4439 ad. m. Microtus mordax 172-58-21-10.
4440 ad. f. ” ” 180-64-21-10. Both at edge of creek under alders and grass.

(p. 1117)

4441 ad. m. Thomomys 210-63-28-6.
4442 ad. m. ” ” 190-58-26-5.
4443 ad. m. ” ” 197-62-26-5. All from moist gravelly soil near creek.

(p. 1118)

July 29. \( \frac{1}{2} \) mi. E Black Lake, 6800 ft., Adams Co., Idaho.

Eighty traps (all in old sets) held 2 im. Neotoma; 1 ad. Microtus mordax; 1 ad. Microtus richardsoni; 1 ad. Evotomus; 2 ad. Neosorex; 1 im. Sorex; 1 im. Peromyscus maniculatus; 1 ad. Citellus columbianus; 1 im Eutamias; 1 ad. Thomomys.
4445 ad. m. *Thomomys* 195-63-26-5. Dry loam.

4446 ad. m. *Citellus columbianus* 360-100-52-12.

4447 ad. m. *Microtus mordacx* 160-51-20-10. Under service berry bush at edge of creek among spruce and fir.

4448 ad. m. *Evotomys* 138-42-19-10 (Skeleton) Under log at edge of creek.

4449 ad. f. *Neosorex* 156-70-20-4. Skeletons

4450 ad. m. " 157-78-20-4. From edge of creek.


4452 *Garter Snake* (formalin) Edge of creek. (p. 1119)


4453 *Eutamias* ad. f. 217-93-32-14 Suckling young.

4454 ad. m. *Callospermophilus* 300-110-45-14.


4457 *Frog* Edge of creek. (Formalin) These three "Callos" and no. 4408 are the only ones seen on the entire trip. They were all taken within an area of 1 acre on the south slope of an open rocky ridge. These three were taken at the base of a large rock slide along an old road.

Packed the outfit and drove about 7 mi. back to Smith Mt. lookout where we had supper with Mr. and Mrs. Jimeson (the lookouts). The road has been worked lately and is in better shape now although it is still bad enough.
July 30. Black Lake.

4458 ? Pine Marten No measurements. Skinned carcass picked up here at the old mill. It was taken last winter. One of the old cabins shows evidence of having been occupied by a trapper last winter.

(p. 1120)

Mammals at this camp.
July 22-30

1. Sorex vagrans Few taken along creeks, not numerous. Mostly immature specimens taken.

2. Sorex palustris Common. Old and young taken about springs and creeks.

3. Bats Not common. On cold evenings none were seen. On warm evenings from 4 to 10 were seen. Three genera Myotis, Eptesicus and Lasionycterus were taken.

4. Ursus Tracks seen along various trails about camp. All sign seen was among heavy timber. A herder, working with Mr. Stover's sheep, saw one in the trail at dusk on July 26 about ½ mile below our camp.

5. Martes A skeleton was found here that was evidently trapped and skinned here last winter.

6. Peromyscus maniculatus Common in every association from the wet bogs to the dry hill slopes and rock slides.

(p. 1121)

7. Neotoma cinerea Common in rock slides and in the old mine buildings. Both young and old were taken. They have large nests on the beams of the old mine buildings.
8. *Evotomys* Common every place, along the creeks and in the woods. They are not localized. Both young and old are taken now.

9. *Microtus mordax* Only three taken. These were caught along a large creek. They are evidently scarce as several hundred trap nights in likely places yielded but the three.

10. *Microtus richardsoni* Quite a few under heavy brush and alders and grass at the very edge of small streams. They take freely to water as I saw several jump into the water and swim to safety. They have burrows entering the banks just at or under the level of the water. They are mainly nocturnal but are also abroad just at sundown

(p. 1122)

and several were seen when I tended my traps just before sundown. One or two were taken during the middle of the day. Forage runways often extend out among herbs and grass along streams that are inhabited by this form. Often their trails come out of the water, cross over a little neck of ground and re-enter the water. Some of these runways indicate that they do not hesitate to go entirely beneath the water. A nest with three burrows leading from it was found on the edge of a small boggy creek. It was situated under the roots of a low badly decayed stump. Three \( \frac{1}{4} \) grown young were trapped here. Two of which were preserved as specimens. I believe that each runway is used primarily by one individual as a line of traps set in widely separated trails usually brought a much heavier return than a line which were concentrated in a small area. Most traps did not yield more

(p. 1123)

than one *richardsoni*. Runways which run parallel to the stream and run through the water most of the way are more productive and often yield 2 or 3 individuals. Breeding females seem to vary greatly in size which indicates that they begin to breed while still quite immature. In one place they had foraged out 10 ft. from the creek and cut stems \( \frac{1}{4} \) in in dia. of a 3 ft. composite (Senecio?).
11. *Thomomys* Quite common, especially in the little dry flats and dry meadows.

12. *Zapus* Common in riparian associations. Many were "jumped" during the day time when we walked through low herbs or grass. Usually they were jumped from their globular surface nests which are composed of dry grass.

Several were kept captive for a few days and in each case the *Zapus* became active as soon as it became cold and only revived when artificially heated or placed in the sun.

On July 29 I saw a disturbance among a dense stand of a composite (Senecio) which stood 2 to 3 feet tall. The composite was in full bloom and I soon learned that a *Zapus* was busily engaged in obtaining these flower heads. It would climb up the stalk rapidly (almost on a run) until its weight caused the flower stalk to bend over to the ground and then with a bite or two it would cut off the whole head and then proceed to open the separate flower heads. Many of the flowers contained a small insect larvae. Whether the *Zapus* was after the larvae or the seeds of the composite I could not tell. It pulled down 7 or 8 heads during the 15 minutes I watched it.

13. *Citellus columbianus* Numerous in every association from the wettest bogs to the dry ridges and rock slides. They are especially numerous about meadows. Both old and young are still "out". I judge from the number present that none of them have begun aestivation. Most of them are in good shape but none of them are extremely fat. We are some of them and found them quite edible.

14. *Callospermophilus* Only two adults and two im. seen and all of these taken. They are the only ones seen on the entire trip. Ray thought he saw one on Smith Mt., but could not be positive. See notes pg. 1119.
15. *Eutamias* Common but not numerous. Usually seen on ground or logs or among rocks. Seldom on tree trunks. Both old and young are about not. They often raid our camp.

(p. 1126)

16. *Sciurus* Common but not numerous. Usually 2 or 3 heard or seen each day. They did not come into camp. Few young are in evidence. I do not believe that they leave their nests until they are almost fully grown as we have not seen any half grown ones on the entire trip.

17. *Ochotona* Quite a few in the rock slides. Both young and old present. They are busy making hay.

18. *Odocoileus* Tracks seen in several places. Ray saw a large buck among some rocky ledges above camp.

19. *Ovis* Ray picked up the horn cores and parts of the skull of two Mt. Sheep on top of a rough rocky ridge. The fragments are old and much decomposed. There are no sheep here now.

(p. 1127)

Birds found at this camp July 22-30.

1. *Blue Grouse* Few seen on forest covered slopes.

2. *Goshawk*. One seen.

3. *Cooper Hawk* One seen.

4. *Sharp-shinned Hawk* One seen.

5. *Horned Owl* One seen; none heard.


7. *Hairy Woodpecker* Three or four seen.
If you are still in need of the service of a doctor, please contact the local hospital.

If you have any questions, feel free to ask.

I hope this information is helpful.

(End)
8. **Williamson Sapsucker**  Few, both adults and young 
Not common as they were at 
Frenchy's Mine.

9. **Red-shafted Flicker**  Two seen.

10. **Broad-tailed Hummingbird**  Few.

11. **Olive-sided Flycatcher**  Three or four found 
about a wet meadow which 
is covered with scattered pines and firs. Many of 
these trees were dead. One pair undoubtedly have young at 
(p. 1128) 
present. They often perch on the top of the 
highest dead tree in the meadow.

12. **Flycatcher (Wright?)**  Quite common, 3 or 4 
seen each day.

13. **Clark Nutcracker**  Quite common; 3 or 4 seen 
each day.

14. **Evening Grosbeak**  Few seen usually in small 
flocks (3-10) flying above 
the tops of the pines and firs. The white wing 
patches and loud clear note is characteristic.

15. **Cassin Purple Finch**  Few.

16. **Pine Siskin**  Quite common. Some of them do 
flight antics and sing a great 
deal.

17. **White-crowned Sparrow**  Few. Always seen in 
pairs. One young just 
learning to fly was seen.

18. **Chipping Sparrow**  Common. 
(p. 1129)

19. **Junco**  Few.

20. **Song Sparrow**  One pair seen.


23. Macgillivray Warbler Few.

24. House Wren One or two pairs.

25. Red-breasted Nuthatch 3 or 4 seen.

26. Chickadee 4 or 5 seen.

27. Kinglet (sp?) Few seen.


29. Robin Few.

30. Varied Thrush Few. Usually found in the tops of the tallest firs and larch from where they utter a faint "peeeeeeeeeeeeee"

31. Western Winter Wren One seen in dense thicket at edge of creek.

(p. 1130)

General Notes.
July 22-30.

Both birds and mammals were scarce. The most unproductive camp as far as birds go. Siskins, Tangers and Chipping Sparrows were most numerous. Callospermophilus and Vaired Thrush were only new forms found.

It was mild, as to weather both day and night during our stay. We had several light rain storms. The trees support a dark color red lichen which indicates humidity.

Quite a few fishermen came into fish Black Lake and they also fished down Lake Creek to Rapid River. The fishing was not too good.

Mr. Stover runs his sheep over this range every year but the sheep seem to do little real damage to the range.
July 31. Smith Mt. to Helna via. Cuprum

This morning we drove on down (9 mi.) to the Bear Ranger Station. Here we saw Mr. and Mrs. Verne Brewer and family and loaded up the outfit which we had stored there. Had lunch with Smoke Chaser Alan Hansen from Utah. We then drove on down to Bear P. O. (4 mi.) and left instructions regarding our mail and from there we went on to Helna Lookout via Cuprum. We had supper with Fred (Dick) Mink the lookout. Here it is drier that it is on at Bear. At Cuprum which is an old mining town in the bottom of the canyon it is much drier that it was at any of our Mt. camps. Cuprum (4500 ft. elevation) supports a heavy stand of yellow pine, also considerable brush and grass. Dick Mink received the report of a fire this evening and Bob Barbour came over to join him on a trip to Shake River to investigate the report of the fire.

Aug. 1.

Mink and Barbour left at 6 a.m. to investigate the fire mentioned yesterday. We had breakfast and left shortly after. Went back through Cuprum and then down into the Snake River gourge and crossed the river bridge (1600 ft. elevation) a few miles below Homestead. We then explored an old down the river 4 or 5 miles. On the opposite side of the river is a road which runs down the river about 18 miles to the Red Lodi Mines. We saw many sucker fish (dead and alive) in the Snake River. It is dry, rocky and brushy along the river. Leaving Homestead, Oregon, we drove on among low sage covered hills to Dayville where we spent the night (beside the road).

This finishes the notes of Borell for Idaho. Gilmore and Borell drove to Berkeley, California, arriving Aug. 5 via. Columbia River Highway and Redwood Highway.

Few slight changes made in form and arrangements of notes and also in spelling. WBD
Copy

Field Notes of Robert J. Orr.

Idaho—only.

June 30 - August 1, 1932.

Members of the party:

Alden H. Miller
Robert J. Orr
Dean Blanchard.

Property of W. B. Davis.
All specimens collected as listed in the catalog are in the Museum of Vertebrate Zoology, Berkeley.

Our's field nos. 582 to 848.

Summary of specimens.

- Bird skins: 36
- Bird skeletons: 1
- Mammal skins: 173
- Mammal skeletons: 4
- Skulls only: 11
- Snakes: 7
- Toads: 15
- Frogs: 15

Total: 262

Four numbers were skipped in the catalog.
Itinerary of Miller, Orr and Blanchard in Idaho in 1932.
(Taken from Orr (MS) 1932)

From Wieser drove NW to Cuddy Mountain, camped above the old town of Heath, 1 mi. above Brownlee Ranger Station...... June 30-July 3.

Drove back to Cambridge and from there to a point 3 mi. w. of Payette Lake, Adams, Co. Camped here from the evening of July 3 - July 7.

Moved camp at 10:50 A.M. to go the Salmon River Mountains. Ate lunch at a small creek near Donnelly, Valley County where some collecting of birds and amphibia was done. Went east from Cascade to a point 5 mi. E. Warm Lake, 7000 ft., Valley Co. Camped here from the evening of July 7 - July 9.

Moved camp in mid-afternoon over to the Sawtooth Range just over the divide about five miles w. of Cape Horn. Camped here from evening of July 9 to July 11.

Moved camp at 8:00 A.M. going to Stanley and from there along the Salmon River almost to Clayton. Turned back because timber was playing out and drove to Alturas Lake in the Sawtooth Range. Camped here from July 11 - July 14.

Moved camp early in the morning, going back to Cascade. Stopped at noon in a flat meadow on the w. side of the Sawtooth known as Bear Valley. Collected a few birds here and moved on, arriving late that evening at Cascade. From there drove back to Payette Lake, branching north at New Meadows and camping for the night at the w. side of Granite Mountain. After skinning some of the animals taken yesterday moved on to Grangeville. From there, 18 miles by road to the Castle Creek Ranger Station on the S. Fork of the Clearwater River. Camped here from the evening of July 15 - July 18.

Moved camp at mid-morning, going back to Grangeville, and from there to Orofino. Camped in the late P. M. 2 mi. NE of Weippe. Camped here from July 18- July 21.
Moved camp July 21 at 8:55 A. M. Travelled back to Orofino and from there to Wallace via St. Maries and Coeur d' Alene Lake. Camped for the night above Wallace near Glidden Pass.

July 22. Moved camp this A. M. up to Glidden L Lakes. Camped here from July 22- July 25.

July 25. Moved camp early this A. M. going back to Coeur d' Alene. Continued north to Cocololla and from there travelled 5 mi. w. to a point in the mountains where they camped. Camped here from the evening of July 25 - July 28.

July 23. Moved camp early in the A. M. going through Sandpoint and Bonners Ferry up to Meadow Creek. Camped four mi. w. of Meadow Creek from afternoon of July 23 to Aug. 1. at which time the trip was completed.

Localities

SW slope Cuddy Mts., 4600 ft., Washington County.
3 mi. W Payette Lake, 5400 ft., Adams County
Donnelly, Valley Co., Idaho.
5 mi. E. Warm Lake, 7000 ft., Valley County.
5 mi. W Cape Horn, 7000 ft., Valley County.
Alturas Lake, 7000 ft., Blaine County.
W. slope Granite Mts., 4500 ft., Adams County
Castle Creek R. S., Clearwater Riv., 1800 ft., Idaho County.
2 mi. NE Weippe, 3000 ft., Clearwater County.
Glidden Lakes, 5700 ft., Shoshone County.
10 mi. N. St. Maries, Kootenai County
5 mi. W Cocololla, 3500 ft., Bonner County
4 mi. W Meadow Creek, 3000 ft., Boundary County.
June 30, 1932

Eastern Kingbirds were seen near Weiser, not being as abundant however as the Arkansas Kingbird. A nest of the latter was noted on a telephone pole. From Weiser we went NW to Cuddy Mountain, camping above the old town of Nethal, 1 mi. above Brownlee Ranger Station. I set out 3 dog, mouse traps about camp at 10 p.m.

July 1, 1932

Caught 7 P romocyclus maniculatus in the 6 mouse traps last night. Oliver lacked success in a fox call among the willows. Alders and other riparian growth, 9 a.m. as it was singing. Juncos are rather scarce. I heard 4 during the entire morning, but only succeeded in shooting one. The canyon slopes are extremely steep and both ascent and descent are quite difficult in most cases. Timber is not abundant. The Yellow Pines and Douglas Firs are rather localized into clumps here and there and along the canyon bottoms. The south facing slope is almost devoid of trees as is the summit of the mountain. On the treed slopes, there is a considerable growth of Chaparral consisting largely of Conshous. Here are to be found quite a number of Spotted Towhees, Calandrella calor.--
July 1, 1932

and Towhee (Warbler) are also present in similar places. I believe that I heard a Virginia Warbler this AM. Other birds seen were: Golden-tailed Woodpecker, Hairy Woodpecker, Red-shafted Flicker, Mountain Chickadee, Western Tanagers, Weak Flycatchers, Chipping Sparrow.

Western Tanagers and Weak Flycatchers are extremely abundant. Citellus columbianus is present all over the valley floor, living in thickly covered meadows (small), in forested areas and among rocks. Their call is similar to Citellus unicolor, but not as long nor as powerful. Shot a Snowshoe Hare in a small meadow clearing next to the brush along the creek, at 7 a.m. Shot a Citellus columbianus next to camp at noon. (p. 136) This p.m. I placed out 45 traps along the creek among willows and alders and thimbleberry. Captured a small load of unknown species (identified as Porcupine trees) along a small rivulet flowing from a spring. It hopped from a mossey bank into the water. Even though it was wrapped in web mass it failed to live more than 3/4 hr. from 6:46 p.m. An old miner living 100 yards from camp told me that he remembered Borel and Gilmore who camped here two years ago. He also gave me a new vernacular name for Citellus columbianus.
July 1, 1932

calling them "go-downs." According to him they come out about the first of April and then go into hibernation (the adult he said) around July 1st.

Flying Squirrels and Water Shrews are present, tho' not abundant. He said that he had never seen any Conies about here, claiming he had seen many in Colorado. Woodchucks are present on the other side of the mountain lower down.

This evening I heard two groundhogs. Shot a chipmunk before dark. Miller brought in a Red Squirrel and a Citellus columbianus, also a chipmunk this p.m. At dusk a certain type of bat was seen flying low over the creek. Other types were seen foraging out over the tamarisk hillsides. A Willow Thrush was heard after sundown, along the slope near the creek.

July 2, 1932

This a.m. traps contained only 2 Peromyscus maniculatus, 1 Zapus princeps, and 1 Microtus richardsonii. The Zapus was captured beneath a bank on a rocky creek shore. The "big" Microtus was taken in a trap set in the center of a small stream on an island about 2 in. long. Another trap set in a similar place was lost, probably being carried off by one of these larger mice. Last night about 8:45 p.m. I was watching
July 2, 1932

the creek with a flashlight and I saw a Promegac munipulative moving along the opposite shore. It kept looking under rocks, and jumping right into the water, enabling it to reach rocks farther out. Finally, it went under a bridge, and then jumped straight into the swift flowing current and swam across in the rapids. The creek is 10 ft wide and the mouse did not go more than 15 ft farther down on the opposite side so swiftly did it swim. This A.M. I found a Warbling Vesea neeck up in a cottonwood tree 20 ft above the ground on the SW side at the end of a lower limb. It seemed to contain quite a bit of cottony fuzz on the outside but I could not reach it for inspection. The S was singing in the tree and the F was on the nest. Mr. Audubon Warblers and am positive the A.M. that I heard a Virginia Warbler. Shot a Spotted (p. 138) Forker near camp that was singing in a clump of 1. at 5 A.M. Blanchard brought in a Red Squirrel and an immature Chipmunk. Miller also brought back 2 Chipmunks, one immature and the other an adult, apparently of the quadrivittatus group (later identified as suslicaudus). Miller reports seeing several Red-eyed Vrces further downstream in the cottonwood, also shot a Vermil Thrush. I
July 2, 1932

heard one of the latter singing yesterday 4 M. Blanchard shot 2 Lewis Woodpeckers down in the yellow pine belt near Artemisia. An Olive-backed Thrush nest with 5 eggs in it was found by Miller in a clump of Alders next to the creek. The nest was in the center of the clump which was small, hence the nest was clearly visible at 10 yards distance. One was heard singing in this vicinity yesterday and today, but nobody observed any birds sitting on the nest during this P.M. The nest and set of eggs were collected by Miller. Saw another Snowshoe Hare at 7:20 P.M. It was in a small grassy clearing near the creek. When I saw it the animal was running in the heavy manner seemingly characteristic of L. baileyi. It disappeared in a pile of dead drift wood and young alder.

July 3, 1932

This A.M. there were only 6 Peromyscus maniculatus in the trap. Three of these were caught out on a small mossy island in the center of narrow, shallow streams flowing from springs. One was in the water and was covered with Clamaria and Hadac leeches. Moved camp at 3:30 A.M. going back to Cambridge and from there to a point 3 mi W of (p. 137) Fayette Lake, Adams Co., Idaho. Along the road 4 Eastern Kingbirds were seen and one freshly killed individual was found dead on the highway 1 mi.
Of the Washington-Adams County line. Arrived at the new camp site by turning off the Payette Lake highway at Little Posee Creek and continuing along this road to the Creek Oth. Ranger Sta. We are located 4 mi. above this. This mountain range is far greater as far as size is concerned than Cuddy Mountain. Likewise, there is a large amount and quite a diversity of timber. We are on Lodge Pole Pine near the creek. Red Fir and Spruce are to be found up the canyon, which is quite broad and on the sides of the ridge. There are a number of grassy meadows along the creek with tall grasses growing in them. Took a walk along the bottom of the valley at 1:30 P.M. Placed out a gopher set near camp, but did not see anymore workings during a ½ mi. walk. The ground is suitable for gophers, not being of a rocky type such as was seen at Cuddy Mountain. It may be that the meadows are too damp. Birds are quite numerous here. Saw 2 Pilated Woodpeckers in the Lodge Pole; 4 Red-naped Sapsuckers in same area; 2 Red-shafted Flickers in same vicinity, and 1 Hairy Woodpecker. Heard what I believe was a young Goosander calling in the fir and spruce. Saw 4 Warbling Vireos along the creek and in Lodge Pole Pine also 1 Cassin Vireo in Lodge Pole Pine. Earl Ruby and Golden-crowned Kinglets were
July 3, 1933

Heard in the fir and spruce area. Found a Red-naped Sapsucker's nest in a dead tree. The holow 25 feet above the ground. The tree seemed to be an old yellow pine, even tho it was growing in Lodge Pole area. The parents were seen about the tree, one emerging from the hole and coming close, and the other going in. Young were heard inside. On Blue-sided Flycatcher was heard near camp. Wood Peewees are about the most common birds in the Lodge Pole Pines. White-throated Flycatchers are less numerous.

Five Siskins are abundant, staying most of the time near the tops of the pines. Cassin's, Purple Finches are equally numerous. Heard 4 or 5 Evening Grosbeaks. Audubon's Warblers and Townsend's Warblers are present in the pines and fir. Heard a White-crowned Sparrow this evening down near the ranger's station. Red-breasted Nuthatches and Chipping Sparrows numerous. Only 2 Juncos heard during the day. Olive-backed Thrushes heard singing during most of the afternoon and evening. Western Tanager found all over. Blackburn's shot a Rocky mountain Jay, 2 Brown Creepers, and a Williamson's Sapsucker.

Columbia Ground Squirrels are very numerous, but difficult to see on account of the tall grass and their shy nature. Red Squirrels are more common here than any place we have been so far.
July 3, 1932

Shot 3 chipmunks on stumps and fell two in grassy places near the timber. They appear to be E. regisculus. Captured 3 large Boys Locas out in camp meadow near fallen timber. Placed out 15 mouse, 2 gopher and 8 rat traps along the meadowland, near the creek, in the fir and spruce and on stumps in the timber. The country seems particularly good for Microtus. Heard a number of Robins and Killdeer this evening.

July 4, 1932

The temperature was quite low during the night. Frost seen on the ground until 7 a.m. Heard a pair of Horned Owls near camp at 3:30 a.m. A gopher was taken from the east near camp. The traps contained the following animals: 3 Zapus prince, 1 Sorex, 4 Eotomys, 1 Phenacomys, 2 Microtus mordax, and Microtus sp. All except 2 young Eotomys were taken in the grassy land near the creek, some in open near fallen timber, others near fir, and others among alders. There was no noticeable differentiation of habitat. Two of the Red-tailed Mice were taken up in the fir belt. Miller noticed a Wood Pewee nest as we were going along the trap line. It was on a lower dead branch of a Lodge Pole. The height above the ground was approximately 9 feet. The nest was about 2 feet from the trunk and was
July 2, 1932

composed of moss, cottony material and plant
fibers woven very compactly together. There were
5 eggs in it. One of the adults swooped down
often snapping over Miller's head as he climbed
up to look into the nest. Yesterday I forgot to
mention that I shot a Chickadee (P. gambeli)
in order to make sure of the species here.

A Horseshoe Thrush was heard singing at 6:30 P.M.
Placed out 1 mouse trap and 1 rat trap along
the grassy land by the creek and among the fire.
At 9:10 P.M. two Horsed Cubs were heard nearby.
One gave a low "Who-who-who-who" and the
other would immediately reply or break in on
the call of the other with a much higher pitch,
"Wh-who-who-who-who-who-who-who." This was done
a number of times until they seemed to fade
away in the distance.

July 5, 1932

The 11 mouse traps contained 1 zapus (captured
in a small path near the creek), 4 Microtus
mordax (taken along logs and beneath alders
in grass land near creek), and 4 Eutamias
(2 Juan). The Red-tailed Hawk as noted the
morning before seem capable of existing in
several habitats, one being grassy land along
the creek and 25 feet from fire, the other
July 5, 1932

Being the dense fir thicket where the ground is barren of vegetation, shot a F. Townsend Warbler near the thicket where the Evotomys were taken, also in same thicket I shot a F. Audubon Warbler. Back at camp at 7:45 a.m. I shot a Red Squirrel (S. ludovicianus) as it was running across a log in the lodge pole pine area. A Red-tailed Hawk was seen during the morning. This evening I shot a Red Squirrel in sun fire. Placed out 55 mouse traps in the canyon to the west over the ridge. Traps placed in among the firs and in damp grass and mossy timber along a little stream. Collected another Cape on (p. 149) the grassy slope. Pair of barnet owls heard at 8 p.m. calling as they did the night before, saw several bats. Placed out three gopher sets on the ridge. Shot a Jena.

July 6, 1932.

Placed out another gopher set at 6:30 a.m. Mouse trap contained 10 Evotomys (3 juveniles) and 1 Zapus. One gopher taken from set placed out back night and at 10:30 a.m. one taken from set placed out early this a.m. Took a walk over towards Little Goose Creek, down along an irrigation ditch running from a spring in the canyon in which I trapped, caught 2 Rana pretiosa along the bank. Saw a number of Salam.
July 6, 1932

Warblers along the stream. In a sedge-covered meadow, a pair of Lincoln Sparrows were noted. No white-crowned Sparrows were seen in the willow growth along the stream in a meadow that seemed quite suitable for them. Shot a Cassin Blue in a Lodge Pole Pine on the ridge where an adult Jay Jones was shot last night and 3 and several young Seen. Went down at 11:30 A.M. to collect some tadpoles in a small pool in the meadow and found a Garter Snake emerging from the pool. Found the remains of a young Snake shot down in a few about 7 feet above the ground. Seemed like the work of a Barned Cat.

July 7, 1932

This A.M. Miller caught a Snake in a line of 15 traps that he placed out in the meadow. (p. 144)

along the creek. I took another gathering from a set up on the ridge. Miller examined a Warbling Vireo's nest found by Blanchard in a small willow the day before yesterday and thought he saw three eggs in the nest. The next day there were definitely 4 eggs in the nest and this A.M. at 10:30 I found 3 young hatched. It possibly Miller thinks that he was mistaken in the first count. The bird that flew away from the nest became very excited when I approached and came
July 7, 1932
within 2 feet of my head as I looked into the nest. It had the crown feathers raised and uttered a
wren-like buzz, reminding one of a Swainson’s Thrush. The other member of the pair, supposedly the F.
was singing in a Lodge Pole Pine 20 feet away.
Moved camp at 10:30 A.M. to go to the
Salmon River Mountains. Ate lunch at a
small creek near Donnelly, Valley Co. where we collected a number of Ranas. Fox
Sparrows, Song Sparrows, White-crowned Sparrows,
Brewer Sparrows, Yellow Warblers, Wood Peewee
and Barn Swallows all noted in general vicinity.
Found a dead Snowshoe Hare along the road.
3 miles Donnelly near a willow thicket along the
creek where open Lodge Pole forest surrounded.
At present two pairs of Mountain Bluebirds
were seen nesting in Lodge pole in town. Went 5
from here to a small 3 miles Warm Lake, 700 ft.
Valley Co., Idaho.

(p. 145).

Our camp is along a small mountain creek
where some alders and willows are growing. The
surrounding ridges are covered with Lodge Pole
Pine stands, and a few firs and spruces are
so to be found in the canyon bottoms. Set 15
mousetraps along creek and in swamp
meadows. Mosquitoes are extremely thick here.
July 8, 1932.

The trap this A.M. contained 7 Squirrels, 1 Peromyscus maniculatus, 1 Evotomys gyriferus and 1 Zapus princeps. One of the Zapus was caught on the edge of a fire thicket near one of the trees - a most unusual place. Callaecomorphini are present, but not in great numbers, and they are extremely wary, during a 6 mile walk over two canyons, only one gopher working was seen, and this 3 1/2 miles away. Saw one Red Squirrel in a rather open stand of Lodge Pole Pine. It attempted to take refuge in a clump of matted dead leaves in one of the trees, but seeing the futility of such escape it came out again and I shot it. The stands of Lodgepole are rather barren as far as birds are concerned. In several places after sitting quietly for 15 min. I would be aware only of the presence of 10+2 Audubon Warblers and perhaps a Cassin Purple Finch and a Western Tanagers. Down along (p. 146)

the valley edge about 3 mi. 5 Wood Peacocks were common, but not a single Field Flycatcher was heard during the day. Found a Mountain Bluebird's nest at 10:30 A.M. at Bugjine was found up in the racks. The Bluebird's nest was out on an open burned
July 8, 1932

on hillside where a tall dead stump of a
Lodgepole Pine was standing. The top had broken
off and the nest hole was 1 foot down from
the top about 40 feet above the ground on the
upper S-facing side. Both members of the pair
were seen to enter with food, but the male did not
so much more than partly enter. The female went
in and stayed there until I left (5 min. later).

Lincoln Sparrows are quite common among
the riparian growth. White-crowned Sparrows
are scarce, saw 3 Ruby-crowned Kinglets,

each in small fir areas. No other warblers,
but the ones mentioned were seen. That two

juncos, one being a 9 which was singing 9
way up a fir tree on a dead limb and the other
a 5 that was seen carrying a caterpillar and

heard in Lodgepole Pine. Saw a Shy Tree (Woodpecker)
and heard a Red-shafted Flicker. Also saw a

Williamson’s Sapsucker

Frogs (Rana pretiosa) are extremely abundant
in the swamp areas in the meadows and up
at a small pond 1/2 mi. W of here where there are

(p. 147)

number of large tadpoles. Captured a Bufo among
willows 1 mi. S of here at noon. This evening

a Pacific Hootowl was heard. Placed out 55
traps in place similar to where I placed
July 8, 1932

them last night only down stream and among Blueberry Bushes.

July 9, 1932

This a.m. there were 3 Zapue, immature, Microtus (meadow?) and 1 Peromyscus maniculatus (jew.). One of the Zapue had been caught beneath a bank 13 feet from the stream. It was only caught by the tail and had evidently jumped into the water because the trap with the drowned animal was found in a drift 100 feet down stream. Extompy are scarce here, probably due to the lack of many fire. Jno Clark Patridge flew across the canyon at 10:30 a.m., that a Chickadee (P. gambeli) yesterday, moved camp in mid afternoon over to the Sawtooth Range just over the divide about 5 miles W. Cape Nimi. A Snowshoe hare was seen to cross the road at 4:30 p.m. Along the road, 23 miles by speedometer from our last camp. Another was seen 15 min. later several miles beyond here and a Mule Deer (spike buck) was seen in same vicinity. All three of these animals were seen where there was a rather heavy undergrowth beneath Lodgepole, Fir and Spruce on Bear Valley on the west side of the Sawtooth Range Torred Lakes and Savannah

(P. 148)
July 7, 1932

Sparrows were noted. Arrived in camp too late to place out traps, but managed to get out 5 gopher sets about camp.

July 10, 1932

One gopher taken from set this a.m. Took a walk between 5 and 8 a.m. to survey the country. It is somewhat similar to the last range that we were in. However, the firs and spruce are most abundant, and there are more willows in the meadows. Springs, rivulets from the snow above, and swampy pools are everywhere, forming suitable breeding places for mosquitoes which are extremely abundant. Miller shot one junco at 5 a.m. that appears like mearnei, but two that I later procured are much darker headed and have less pink on the sides. I shot a S. Fulicatus Walker in junco thicket 200 yards from the creek at 6:30 a.m. At 7:30 a.m. a S. Whit. Crowned Sparrow was shot as it was perched on top of a small spruce rising just above the level of the surrounding willows in a meadow. The song of these birds is quite different from anything that I have ever heard. The second note is lower than the first and the trill is considerably higher. Four other singing males were noted near camp during the morning. Red Squirrels are very abundant. Bluejays brought one back. Miller brought in
July 10, 1932

a shipment (E. reficandus). I found the remains of a Flying Squirrel (Glaucomys sabrinus) that had been dead some time. Birds saw this a.m.: Williamson Sapsucker, Red-shafted Flicker, Mountain Chickadee, Ruby-crowned Kinglet, Warbling Vireo, Cassin Vireo, Audubon Warbler, Ticolatol.

(p. 149)

warbler, White-crowned Sparrow, Crexwell, Cliffing Sparrow, Jones, Clark Nutcracker, Red-tailed Hawk. Blanchard saw a Goshawk this a.m. at noon Miller returned with two Conies which he shot on a rock slide 1/3 miles down the canyon. at 4:00 p.m. I placed out another gopher set 40 yards from where adult 2 was taken this a.m. At 10:30 a.m. there was another gopher (ad.2) in this set. I placed out 3 more sets at 3 p.m. The gophers seem to prefer the rocky slopes to the wet meadows. Old castings from wintert are down in these wet places. At 4:30 p.m. I went down to the Canyon rock slide, arriving there at 4:55 p.m. A number were heard calling among the rocks. The slide is about 200 yards long and 75 yards wide with some grass on the edge. A few scrubby blackberry bushes are growing among the pieces of granite which range from rocks 8" in diameter in places to 31⁄2" in the central portion. Their call was a single
July 10, 1932

Sack, rather soft. None were seen for 1/2 hour, the only animals in evidence being Cottlespermaphiles. As the sun grew lower and shadows began to fall on part of the slide the animals became more active, coming out and calling and going to the grassy areas along the edge to feed. When a mouthful of grass was taken the animal would sit on top of a large rock, moving the ears quite fast for a moment before it began to chew. Pile of feces and drip of blackberry bush near were to be seen also in the rock slide. When I would squeak usually one or more animals would be heard answering 15-20 seconds later. When scared down beneath the rocks it was seldom more than 2-3 min. before they would come up again. I collected 5 individuals. Blanchard came back with 2 which he had shot farther up the mountain at the snow line in a similar granite slide. This totals 14 for the day. I placed out 40 mouse and 8 rat traps along the meadow beneath willows and among the spruce and firs. The rat traps were placed in suitable places for Glaucomys. At 9 p.m. a squirrel-like chucklee was heard to come from a fork pole 20 ft. from our camp fire. On examination a
July 16, 1932

One of the rat traps had been sprung, probably by a flying squirrel. It had been placed by the garbage pit. Took a walk this a.m. Shot 4 Chipmunks (E. ruficaudus) and 2 Columbian Ground Squirrels. Red Squirrels are numerous among the Douglas Fir. Shot a Pygmy Nuthatch that was seen with foot in its bill, perched on top of a dead stump up in the yellow pine belt. The timber consists of a growth of Douglas Fir on the canyon bottom and on the S-facing slope, with yellow pine growing on the more open upper portions of the S-facing slope of the canyon. Chestnut-backed, Black-capped, and Mountain Chickadees are all to be found here, as are the three kinds of Nuthatches, Siskin-billed, Red-breasted, and Pygmy. Willow Thrushes seem as abundant as Olive-backed Thrush. Blanchard found an Olive-backed Thrush's nest with one egg in it today. Placed out 55 mouse traps and 10 rat traps. Mouse traps placed among the ferns and in the Douglas Fir area. The rat traps were placed on stumps, and nailed to trees. A Horned Owl was heard this evening.  

July 17, 1932

The trap line contained only 5 Peromyscus maniculatus. Shot a Chipmunk and a Flycatcher.
Alturas Lake, 7000 ft, Blaine Co., Idaho.

July 14, 1932

Lodge Pole Pine near camp. Miller collected 4 more from the flock. Moved camp early this a.m., going back to Cascade. Stopped at noon on a flat meadow on the W side of the Sawtooth.

Known as Bear Valley. Collected some Savannah Sparrows and Horned Larks. (A sandhill Crane was heard in the distance. Moved on, arriving late in the p.m. at Cascade. From there we went back to Fayette Lake, traveling north at New Meadows and camping for the night at the W side of Granite Mountain. Shot at some late, Blanchard taking 3, two of which were saved.

July 15, 1932

After skinning some of the animals taken yesterday we moved on to Grangeville at noon. From there we traveled east about 18 miles by road to the Castle Creek Ranger Station on the S Fork of the Clearwater River and camped there at an altitude of 8000 ft. The canyon slopes are quite precipitous. Arrived in camp too late to set out traps other than 3 rat traps about camp. Three Flying Squirrels were noted at one time in the evening. Heard a Horned Owl in the distance.
Alturas Lake, 7000 ft, Blaine Co., Idaho.

July 13, 1932

maniculates. Considering the number of animals taken the night before on 25 traps, this catch seemed remarkably low. Shot a 3 junco over in the Douglas Fir area that is very light in color appearing like a mearne. In one of the traps there was a White Crowned Sparrow and in another a Bufo. Captured another Bufo, a Rana and 4 Thamnophis ordinoides. It began to rain early this p.m. and continued throughout the night. Last night we heard and saw a pair of Flying Squirrels on the base of a Lodge Pole Pine 3 feet from my head. They give a series of high pitched squeaks. This evening I placed out 2 traps in protected places where the rain would not spring them, near some refuse.

Blanchard and Miller both reported seeing woodchucks and Conies up high in the peaks where they were seeking Lenticolites. Miller saw 2 of the latter today. Blanchard brought back 3 Conies yesterday, also an immature Marmot.

July 14, 1932

Due to the heavy downpour it was useless to set-out any traps last p.m. One of the rat traps contained a 7 Blanconya salcinus. Shot an Evening Grosbeak from the top of a tree.
Alturas Lake, 7000 ft., Blaine Co., Idaho.

July 12, 1932

Spent entire day skinning both previous and the day’s materials. This P.M. I placed 65 mouse and 4 rat traps in swampy area across the river and beneath the fire. I Horne'd Owls and a Poor will heard.

July 13, 1932

Last evening I heard a number of young Juncos calling from a nest beneath a Yellow Pine from which Miller shot a ? yesterday P.M. This A.M. the nest contained three dead young birds just beginning to get feathers along the backs. They were preserved under Miller’s collecting number. The nest itself was on the ground and covered over by stems from a grass clump. Found a Lincoln Sparrow nest this. It was on the ground in some tall grass beneath a small willow. The nest was composed of small stems of dry grass. There were 3 eggs and 2 young just hatched in the nest. The parent ran off in the grass, reminding one of a meadow mouse. It was not seen until about 50 feet away, then it flew up on a small willow and began to chit. It was heard to give the ‘chipping’ note once or twice later. The trap contained 2 Mice.
Alturas Lake, 7000 ft., Blaine Co., Idaho.

July 11

capped spire after going 5 miles of Cape Horn. Alturas Lake is situated on the east-central side of the range at an elevation of 7000 feet. On the S-facing slope above the lake there is a great deal of sage growing. On the N-facing slope of the ridge on the S side of the lake there is a growth of fir (Douglas) lower down and Lodgepole Pine higher up. A stream flows into the upper end of the lake and has a considerable growth of alders and willows along its banks. On each side of the stream there are swampy areas, edge covered, with willows growing in patches. These latter from a suitable shelter for White-crowned Sparrows and Lincoln Sparrows.

Picked up a Cottontail skull (S. nuttallii) from an animal (jmv.) that had been run over 2 mi. SE of Cape Horn. Spent the afternoon skinning Conies taken yesterday at the last camp. Placed out 25 mouse traps in swampy meadow this p.m.

(jr. 15-2)

July 12, 1932

Found the following in the traps: 2 Zapus princeps, 1 Louis Vagner, 4 Microtus montanus (1 jmv.), and 1 Microtus?... The two Zapus were a & B and G taken within 15 feet of each other.)
July 10, 1932

Flying squirrel was seen climbing the tree and going out on the branches. It travelled so fast it was difficult to follow it with a flash light. It glided from tree to tree with remarkable speed, reminding one almost of a bat in the moonlight. A light thud was heard when it would land. The animal as far as I could see seemed to lose very little altitude in gliding.

July 11, 1932

The traps placed out last night contained only 1 Ziggy, 1 Microtus montanus (jun.), and 1 Peromyscus maniculatus. No gophers were in the sets placed out yesterday p.m. Moved camp at 8 a.m. going to Stanley and from there along the Salmon River almost to Clayton. The timber began thinning out more and more until only a sparse

forest of Douglas fir was to be found near to the sage brush on the N-facing slope of the canyon, through which the river runs. Reaching this point we decided to turn back and go to Alturas Lake in the Sawtooth Range. The lack of yellow pine, and its apparent complete replacement by Douglas fir in this region is quite conspicuous.

The Sawtooths, i.e., the main body of the mountain range, rise up as rugged snow-
July 18, 1932

Shot a Snowshoe Hare about 200 yards S of camp along the road in a grassy meadow next to some willow thickets along the river. Blanchard saw and shot at another but missed it. Bats were seen shortly after sundown. They were slow, very high flyers, going over the open portions of the country. They were almost always above the tops of the tallest pines. 3+ young horned owls were heard calling in the Lodge Pole Pine and Fir forest next to the meadow in which we are camped. An adult was also seen. Placed out only 1 dog, mouse and 2 rat traps due to the fact that it was late and I had some animals from the last camp to skin tomorrow.

July 19, 1932

No mammals were found in any of the traps. Shot 3 Chipmunks (Eutamias) close to camp and placed out a gopher set. Placed along the stream among the willows and will rodent birds are present. I shot one of them there, also a Chipmunk which was foraging up in a shrub, the name of which I am not familiar with. Saw 2 Snowshoe Hares (Lepus) out in clearings next to thickets in place similar to where I shot one last evening.
July 15, 1932

3 eggs today and the bird was on the nest during the time that we were there. List of birds seen at or near this camp: Spotted Sandpiper, Ruffed Grouse, Mourning Dove, Sharp-shinned Hawk, Sparrow Hawk, Horned Owl, Pygmy Owl, Belted Kingfisher, Hairy Woodpecker, Plateau Woodpecker, Red-shafted Flicker, Red-naped Sapsucker, Vaux Swift, Calliope Hummingbird, Audubon’s Warbler, Black-throated Green Warbler, American Redstart, Warbling Vireo, Cassin Vireo, Red-eyed Vireo, Andulus Warbler, Yellow Warbler, Olive Warbler, Sedge Warbler, slender-billed Nuthatches, Red-breasted Nuthatch, Pygmy Nuthatch, Black-capped Chickadee, Chestnut-backed Chickadee, Mountain Chickadee, Olive-sided Flycatcher, Willow Flycatcher

Cow tracks were seen in mud along the edge of the river.

Moved camp at mid-morning, going back to Beangville, and from there to Orofino. Camped in late afternoon, 2 mi. N.E. of Wiegge at 3,000 ft.
July 17, 1932

The other side and was up in the thick fir branches in a moment and out of sight. Several were heard later but no more seen. A half dozen traps were placed about camp, baited with peanut butter and rolled oats. The olive-backed Thrush's nest today had 2 eggs in it.

July 18, 1932

The Flying Squirrels were in the trap placed for them. Prepared to move camp early, but before we left Miller and I went across the river to collect some Song Sparrows which I had previously heard. That a Red-eyed Vireo in a Cottonwood. Along the river vegetation, consisting of willow, rose, alder, etc., we took (p. 157)

3 Song Sparrows, all males. In some small pools along the side of the stream we found some very large frogs of a species that was new to me. There was a great deal of red on the sides and legs, somewhat resembling R. aurora, but of a lighter, more salmon color, and extending farther along the body. Captured a garter snake (T. ordinaria). Took several pictures of the Olive-backed Thrush's nest. It was located among the ferns about 3/2 feet above the ground. There were
July 17, 1937

which appears to be E. hammondi. These flycatchers are abundant among the firs and have a call note differing quite a bit from that of a Wright. Likewise they have a series of small notes unlike those of a Wright. A Red-eyed Vireo was seen down among some cottonwoods along the river. I shot a Chestnut-backed Chickadee early this p.m. that came in response to a Pinyon Pigeon note given by Miller. I shot one of these Pinyon Pigeons this a.m. At 4:30 p.m. I shot a more Juniperas and a very large adult Citesiae columnianae.

(If 156)

These squirrels when full-grown are about the size of a half-grown marmot. They run in a rather leaping manner, much more so than most of the Citesiae group. This evening at dusk a Flying Squirrel was seen to glide across camp from a tree over our table to another tree about 150 feet away. The limbs were spread far out so that the animal appeared square. It glided rather slowly. Later I went out hunting for some. After setting quietly in one spot for 15 minutes I saw a shadow pass me and hear one of the squirrels hit a tree near to me about 20 feet from the ground. The moment I flashed it it went around.
July 19, 1932

Up among the fir and Lodgepole I saw some Pinyon Nut notes this a.m. and very shortly had a number of birds come and call loudly about me. There were Pine-billed Thrashers, Chestnut-sided Chickadees, Pine Siskins and Crossbills. The Junco became quite excited 'shopping' all the while, I shot 2 of them for Miller. A little farther down the trail I gave the call and when the birds previously mentioned were grouped about I saw a Sharp-shinned Hawk come through the tree and alight near me. I shot it and found it to be a B in process of molt. Crossbills appear to be the commonest species of bird about here. They stay high up in the fir, seemingly feeding on the cones. Red Squirrels and Columbian Ground Squirrels are both present in suitable territory about here. This evening I placed out 55 mouse traps along the stream and edge of the brush in the meadows. While I was placing out 4 still sets in one place a weasel came out on a log and sniffed at me, immediately going back into the brush. I barely had a glimpse of it in the waning light, but it was very small, probably a Least Weasel.
July 20, 1932

There were 2 Microtus, 2 Zapus princeps and 1 Peromyscus maniculatus. Several Microtines were seen going through the grass along the trap line. In one place along the stream I saw a Muskrat swimming away from me swiftly. When I moved it dove under and disappeared beneath a log alongside of a bank. I set a rat trap baited with rolled oats at this point. Nothing was found in the 
set. I left them out during the day and placed out a dozen mouse traps in suitable places for Microtus. A Chipmunk was also found in one of the traps. I shot a Song Sparrow and an Audubon Warbler along in the willows. Found another gopher working near camp 1/4 mi. and placed a set there. Nothing was in the set placed out yesterday. Shot a Cooted Plover at camp. Icklows often stay about all day. Blanchard shot a Redstart yesterday and a Townsend Warbler. At noon I shot a few Hairy Woodpeckers at camp. Also shot a Catbird. A pair of Western Tanagers were seen feeding a young at noon today as they were seen yesterday. Two adult and two bob-tailed 
Brie-Backd Thrushes were seen at camp. A pair of Sharp-shinned Hawks and a Red-tailed Hawk were noted this a.m. A pair of Calaveras.
July 20, 1932

Warblers were seen down in the willows this p.m. American Three-toed Woodpeckers heard and seen today. Blanchard shot an adult 7 and 7 and one juvenile.

(p. 161)

This p.m. at 5:30 I saw 2 Snowshoe Hares 5 of camp along the creek. At 7:30 p.m. I saw another in a grassy meadow next to riparian growth. When I came within 100 yards it stopped feeding, but continued as I stopped. Its color and manner of staying close to the brush reminded me of a true rabbit. When came within 40 yards it ran towards the brush 5 yards and stopped at the edge, facing in. I shot at it but did not succeed in killing it. At that moment a huge young saps ran towards the brush. This I procured. I placed out 4 traps in an area where there were some Lodgepoles scattered about with willows and smaller shrubs growing beneath. Fallow logs were scattered about, but between the trees there was an abundance of tall grass. While setting out the traps I saw 2 jumping mice. Numerous noises and rustlings in the grass seemed to indicate that animals are very abundant here. A Columbian Ground Squirrel that was partly
July 20, 1952

Eaten by yellow jackets was found in one of the steel sets. The gopher set placed out this a.m. was still empty.

July 21, 1952

Trap contained 2 Microtus.

Zapus princeps, 2; Eutamys, 1; Sorex, 1.

In one of the gopher sets there was a gopher; the other set had one of the traps sprung, but did not contain any animal. That is a crossbill that was singing 7/8 of the way again (p. 162).

A tall fox. Another Snowshoe hare was seen by Miller and myself at 5 a.m. It was about 20 yards out in the few meadows when we first saw it, but the animal immediately ran to within approximately 5 yards of a willow clump and sat with ears erect attentively, listening. Miller slowly approached and shot it. Three Microtus were seen running along on the grass along the edge of the creek. One was seen to jump into the water and swim along the stream beneath the bank. Moved camp at 6:55 a.m. The following birds were seen during the two days stay at the camp: Sharp-shinned hawk, Elf-tailed hawk, Killdeer, Horned owl, Pacific Nighthawk, Rufous Hummingbird.
July 21, 1932


(p. 163)

Giddon Lakes, 5700 ft., Shoshone Co., Idaho

July 21, 1932

Travelled back to Orofino and from there to Wallace, via St. Maries and Coeur d’Alene. Lake. At the north end of the lake a Black Bear, Wood Ducks and Mallards were noted. Camped for the night above Wallace near Slidden Lake.

July 22, 1932

Moved camp this a.m. up to Gidden Lakes at 5700 feet. Most of the timber in the vicinity of Wallace has been burned over, but where we are located the forest has been untouched by fire.

July 22, 1932

The slopes and canyon bottoms are covered with Fir (Abies sp.), Hemlock, Spruce and Lodgepole Pine. There are grassy, sedge covered areas and small meadow lands adjacent to the creeks. Willows and alders are growing along the streams and in the meadows. The more open hillsides are covered with Blueberry and a type of bunch grass. Camp rockslides are abundant on the slopes. Blanchard shot one this p.m. and they are very much darker than the rock found in the Sawtooth. This is probably P. f. princeps. He also shot a Caloospermophilus. Varied Thrushes were seen and heard singing today as were Olive-backed and Hermit Thrushes.

Birds seem to be scarce about here for some reason unknown. One Fox Sparrow was heard singing at 9 a.m. and again at 7 p.m. White-crowned Sparrows were also heard. Ernestia Ruficauda and Catillina Columbianus were noted. This evening I placed out 60 traps along the meadow and stream. One Gopher was seen at 3:45 p.m. in the meadow among the Carex and Salix. Miller said another Gopher in mid-morning among
Giddens Lake, 5700 ft., Shoshone Co., Idaho.

July 23, 1932

some Blueberries. One Olive-sided Flycatcher was heard this a.m., but aside from this no other Flycatchers were heard during the day. Grasshills, Chipping Sparrows, and Winter Wrens were also seen today. Blackbirds shot 3 juv. Juncos and Miller 5 juv. but no adults were seen at all. The day was quite warm.

July 23, 1932

The following animals were found in the traps: 1 Microtus navasii, 3 Zapuque princae, 1 Sonsi, 1 Thromopus manipularis and 1 Microtus richardsonii. The Microtus richardsonii was taken in a runway among the mass and grass in a swampy place next to some willows and a creek. The runway was very narrow, averaging about 1" across, for such a large mouse. At 6 a.m. I went up the canyon to Lower Giddens Lake and climbed up on the west slope to some rock slides. Conies were quite abundant everywhere along the talus slope. They were not very active, however, until the sun came over the ridge. I collected three during a few minutes hunting up in the same rock slides Calliastrumphila were present and Entamia rifnicandi were about the edge foraging up in some low
Oro, R.T., 1932


July 23, 1932

Fished. Saw a Citellus columbiae on the edge of the same slide that Cones were taken from.

(f. 115).

This evening I placed out 55 mouse traps along the stream and a number of them in a sedge covered meadow. Collected a Rana in the sedge covered meadow. It has the same red leg as those taken at the last two camps.

Not a sign of a gopher was noted anywhere during the day. This evening a Burrowing Owl was heard.

July 24, 1932

1 Microtus, 2 Peromyscus maniculatus, and 1 Gopus princeps in traps this a.m. The Microtus was taken in the sedge, the gopus along the stream in moish, grassy place and the two Peromyscus in a type of bunch grass that is growing in small open spaces between the fire. At 11 a.m. I started across the canyon coming down from Lower Glidden Lake. Down in the canyon bottom there are some tall fir (Abies) that evidently were not burnt at the time that most of the trees were. There is a dense growth beneath the trees in this canyon making headway.
July 24, 1932
through this area very difficult. It took me
2½ hours to cross through ½ mile of this over
the other ridge. At 7:10 a.m. I shot a
3 Hensil Thrush that was singing from
the top of a fir about 25 feet above the ground.
Down in the dense jungle I found beneath
the fir I found some pigeon tail notes
and immediately two Winter Wren
flew up to me and stayed within 10 feet
or less of me during a 15 minute period
that I continued to give such notes and
quack. Very shortly after
(p. 166)
a pair of Olive-backed Thrushes came about and
became very excited. Western Tanagers,
Wright Flycatchers, Cassin Purple Finch,
Polio Warblers soon came about, all
grouping in the fir overhead or in the
dense vegetation and making a great deal of noise. In addition there was a Red-
breasted Nuthatch and a pair of Audubon
Warblers. After I ceased calling and the
excitement subsided I heard a Fox Sparrow
singing nearby. This soon came when
I squeaked, but although I shot it, I
was unable to find it in the dense under
growth. 7½ on the other side of the canyon.
Sladen Lake, 5700 ft., Shoshone Co., Idaho.

July 24, 1932

I came across two adults (S47) and a young Audubon Warbler. The 7 kept fluttering her wings over perches in some willows for 5 minutes without lighting once, she appeared to be trying to attract my attention. The 3 made a dart at the juncture several times when I approached me. In the same willow clump which was on a rocky ledge, upon which a few fir trees were growing a Townsend's Warbler, a pair of Palomine and a pair of Delavenas Warbler and two Warbling Vireos were called. All were seen in the same willow clump at the same time. Olive-sided Flycatchers were quite numerous on the open slope, being perched on the tops of the dead trees. One pair became quite excited over my presence, coming down low to the tops of some 10 foot pines within 50 feet of me and giving a call consisting of 3 similar notes. Farther up the slope I came to some Canyon slides. At 10:30 p.m. (A.M. 7:30), the animals were not very active although they could be heard calling below the rock. I managed to squeak you number, shooting three. One of them was a young individual.

July 24, 1932

About 1/2 grown, I went around the ridge and came to a small alpine valley just beneath a snow covered ridge. Conies were to be heard everywhere in the talus slopes that surrounded the valley. I saw three other very young ones running about the rocks. One was seen to give a call just like the adults, only not quite as loud and slightly higher.

This small valley was rather lacking in timber, but contained a few small firs. Eleven young fawns were seen in three flocks consisting of 4, 3, 4. Shot 2 which appeared like adult firs at a short distance, but proved to be young which were molting. Mountain Bluebirds, House Wrens, Clark Nuthatchers, Chipping Sparrows and Hikers were the only birds noted here.

Captured two more Ranas this a.m. I inspected an Olive-backed Thrush's nest which I found last p.m. It had two young just beginning to show pin feathers along the main body tract. The nest was in a small fir along the creek, 2 feet above the ground.
July 25, 1932

Moved camp early this A.M. going back to Colur & Allen where we stopped for 13 hours at noon.
Went 5 miles N of town and hunted for E. ruficandua but succeeded in seeing only one individual.
Miller and Blanchard did not see any. Saw both Penthero gambeli and atricapillus there.
Saw adult & a jinn. James that were together in a small grove of yellow pine. Also
shara & Refus Hemmingbird (?)

Continued north to Cocalalla and from there travelled 5 miles west to a point in the moun-
tain where we camped. Our camp is situated
at 3500 feet in a small meadow along side of a
stream. There is an abundance of grass and
rush in the immediate vicinity of the creek
where there are alders and willows growing.
On either side of the meadow there is timber con-
sisting of Lodgepole, Hemlock and Fir and a cinnamon
like tree. Beneath the tree ferns Thimbleberries,
Huckleberries and Raspberries are present with ripe
fruit on them.

The meadowlark about here abound with
jophers workings, largely fresh. I placed out two
set this evening. Along the creek I placed out
50 mouse traps. While I was placing out
traps I observed both Dand & House Wren carrying
food to a nest located in a hole in a dead

Aspen trunk about 20 ft. above the ground. Some bats were seen flying about the building when it was near dark.

July 26.

Traps this A.M. contained 5 mice — 3 Microtus, and 2 Microtus pennsylvanicus, 1 Zapus hispidus, and 1 Eutamias sylviculus. A gopher was in one set at 6 a.m. and in the other set at noon. Saw 2 Snowshoe Hares at 7 a.m. along the road. They ran into the brush beneath the pines and I was able to see one when it stopped. A movement on my part caused it to run away slowly, thumping as it went along just as a cottontail would do.

(Downy Woodpecker, 1 Hairy Woodpecker, 2 Red-shafted Flickers, 2 Red-tail Hawks, 2 Robins, 2 White-crowned Sparrows, 4 Song Sparrows, 4 Chipping Sparrows, 2 Black-capped Chickadees, 2 Red-breasted Nuthatchs;

This p.m. I placed out 6 gopher sets. Pacific Nighthawks seen and heard this evening. At 10 p.m. we were surrounded by some animal clattering over some old shakes along the side of one of the buildings. In examining the place with a flashlight I saw a Snowshoe Hare moving over them, something about. It seemed to pay...
Dear R.T.,

5 mi. W. Coeur d'Alene, 2500 ft., Bonner Co., Idaho.

little attention to the light, slowly moving around the corners of the house out of sight,
a Red-eyed Vireo was heard in one of the cottonwoods down along the creek today.

(J. 170).

July 27, 1932

There were 3 phoebes in the sets this a.m. I placed two new sets there and went up an old humber road to some clearings over the ridge. In the Lodgepole and Firs I found one two Golden-crowned Kinglets and 4 Western Tanagers by giving some long and notes. At the same place I shot a
Red Squirrel as it was leaping from tree to tree.
Chipmunks were quite numerous around the edge of the clearings. I shot three and Miller shot three. In one place where most of the trees were dead I shot a young St. Fairy Woodpecker.

Beneath the same tall stump a Snowshoe Hare
founded into the undergrowth. I took a quick shot at it and killed it. About 50 yards farther
on two of the Chipmunks were shot from the same log.

Up on the ridge above this spot I heard a
Blue-sided Flycatcher and a Stellar Jay. I went up
to see if I could get a Jay and saw an Arctic
Three-toed Woodpecker drumming on a dead stump.
I shot it and at the same moment a Great
Horned Owl flew out of some fir at my right.
5 mi. W Coeur d'Alene, 3500 ft., Bonner Co., Idaho.

I also shot it and a Flicker which had apparently been aroused by the commotion. Down in another meadow I called the third Chipmunk to me by squeaking. Out in a clump of willows I shot an immature Red-naped Sapsucker.

At 10:30 a.m. another young gopher was taken from one of the sets placed out last night. A night hawk was seen flying over the meadow at this hour.

(p. 171)

At 2 p.m. two more gophers were taken from the sets. Some of the boys living about here told me that there was an adult and seven young Bushy-tailed woodrats living in an old cabin about 3/4 mile north of here. (Weasel and Skunk) were rather rare. The vernacular name for Citellus columbianus about here is "Go Down", the same name as the inhabitants of Cuddy Mtn. called them.

Blanchard placed out 59 mouse traps this p.m.

July 28, 1932

This a.m. I took two gophers from the remaining two sets. Blanchard's trap line contained 8 loops and 8 Minutie. Moved camp early in the a.m. going through Sandpoint and BONNER TERRY up to MEADOW CREEK. Camped 1/2 miles west of Meadow Creek at 3000 ft. The Canadian line is about 10 miles north of here by road.

We are situated in a small clearing in a
July 28, 1932

rather wide canyon. Fire and logging has made the fir forest rather open in many places, but 1/2 mile west of here the timber is untouched. Along a small stream running through the canyon there is a considerable growth of tall grass and raspberry bushes. Did not place out any traps tonight because of yesterday animals most of which have not been taken care of yet. Gopher workings are very numerous as at the last camp.

July 29, 1932

This a.m. I placed out 5 gopher sets, shot an adult and a jnr. Entomis ruficaudus. Steller Jay and Rocky Mountain Jay seen early this a.m. Two Fine Crossbills were seen close to camp at 7 a.m. Miller shot them as they were feeding on the berries of a certain bush with which we were not familiar. During the middle of the morning a flock Rocky Mtn. Jays came close to camp. Blanchard's fitch that seemed to attract them and they came so close that we had to back up in order to get them with dual shot. We took four altogether. Most of the birds about here are not singing. This p.m. I placed out 35 traps in the grass land across the creek. There were three gophers in the set, one of the entrances in which I had a trap had the plug pulled out. On investigation I found the remains of a
July 24, 1932

gopher which apparently had been caught and eaten by some animal. The entrance was too small for a squirrel so I rather suspect a weasel. Blanchard captured an adult and a young gopher in the same set this p.m. I placed out 3 more sets.

July 26, 1932

Trope this a.m. contained 8 Melotis (see catalog list for species), and two Zapus griseus. Three more gophers were taken from the sets and I placed out another set. That a Long Sporans in the creek vegetation about 8 a.m. I heard a call somewhat similar to that of a young Juniper I had been listening to for some time before I investigated. It proved to be an adult Pine SBecause which I shot. The bird was perched half way up in a small tree out in a clearing. The notes were loud, the second being higher than the first. Chipmunks were seen in numbers this a.m., feeding on the same bushes that the Pine SChwabeke were noted on yesterday. Another gopher taken from set this p.m. There was a fresh mound of earth this evening at the entrance to the tunnel in which the gopher was found partly eaten yesterday. Citellus columbianus is present in numbers in the meadow and
July 30, 1932

Few brush birds in the canyon bottom. Scissored hawks were heard a number of times this morning and evening. An adult sparrowhawk was seen this a.m. on top of a tall stump. Their young were heard calling. Miller shot an immature sparrowhawk today.

July 31, 1932

Spent most of the day packing in preparation for our return to Berkeley tomorrow. In the middle of the a.m. the call of a pine grosbeak was heard. Miller and I started out toward the clump of bushes in which one was seen yesterday. Miller shot an adult but it flew up from the ground in the center of the clump. I approached within 20 feet of the point where another was seen to fly, but saw no sign of the bird. Miller approached as I backed up and an adult flew up quietly to a stump where I shot it. Most of the feathers were absent from the neck region and the back of the head. These birds were extremely quiet.

(p. 174)

While they were feeding, so much so that we were practically unaware of their presence until we were right upon them. This p.m. we came across an adult and some young Ruffed Grouse by the creek. I was only able to
July 31, 1932.

see 4 of the young, but saw certain that there are more. This is probably the same family I saw yesterday. The T would not reach as well to the "chick call" that usually expects them earlier in the season. The young were once again the size of California Quail. Yellow Warblers and Yellow Warblers were seen and very seldom heard along the stream. None were noted singing. No Audubon Warblers or Cassin Purple Finches have been heard here. Crossbills are occasionally heard flying over in small flocks. Several Golden-crowned Kinglets were heard in the firs about camp this a.m. Red-breasted Nuthatch heard more often than any other bird in the forested area. An American Three-toed Woodpecker was taken by Miller the day before yesterday.

Moved this evening back to our camp at Cocolalla on account of rain.

August 1, 1932 at Cocolalla

Started home early this a.m. As we left a Snowy Owl was seen to run along the side of the road for about 25 yards. It kept just ahead of the machine which was travelling about 23 m.p.h. Travelled via Spokane and Pendleton almost to Umatilla, Oregon. Picked up a Charcoal bottle this a.m. at Cocolalla. It had been dead for a day or so on the road.
Notes by J.B. Davis. The party drove to Grants Pass the second day and the following day reached Berkeley - August 3.
Catalog
For Idaho Only.
(F. 180)

582. Gastrochila ustulata, wt. 30.8 g.
583. Promyus maniculatus, 179.72-20.5-18, wt. 25.5 g.
584. Castor columbianus, 311-88-60-19, 293.9 g.
585. " " 308-85-49-19, 326 g.
586. Sciurus hudsonicus, 348-13-53-37, 266.7 g.
587. Asaphes tricus, 8 emb. x 6 mm.

July 2, 1932
590. Peromyscus maniculatus, 177-73-20.5-19, 22.3 g.
591. Microtus richardsoni, 218-46-25-16, 78.6 g.
592. Ripidomys maculatus, 6 emb. taken by Miller on same date, 70.1 mm., 39.3 g.
593. Eutamias ruficaudus, 212-93-32-17.5, 60.8 g.
594. Sciurus hudsonicus, 338-127-51-26, 272.5 g.
595. Thomomys fuscescens, 178-52-22-5, 57.3 g.

(p. 181)

July 3, 1932
596. Peromyscus maniculatus, 6 emb. x 6 mm.
597. Eutamias ruficaudus, 173-75-20-18, 26.4 g.

July 4, 1932
597. Eutamias ruficaudus, 210-95-32-18, 43.8 g.

July 5, 1932
598. Pentalopus gambeli, 12.6 g.
599. Eutamias ruficaudus, 217-71-32-16, 66.1 g.
600. " " 221-15-33-17, 62.4 g.
601. Lepus boreas.
602. " "
603. " "

June, P.T.
1932.

49.
July 4, 1932 SW slope Rudy Mt 4600 ft. Washington Co. Idaho
604 8. Loxos 108 - 42 - 13 - 5 - 4.5 wet no grain
605 8. " 119 - 44 - 13 - 8 (6 emb.) 7.3
606 8. Microtus 162 - 6 - 20 - 11.5 (3 emb. x 6) 31.9
607 8. Phenacomys intermedius 132 - 32 - 18 - 13.5 27.8
609 8. Phenacomys suecicus 189 - 6 - 26 - 5 64.8
610 8. Euiotomyx jappare 141 - 42 - 18.5 - 13 27.5
611 8. Zapus princeps 223 - 131 - 29 - 14 23.5
613 8. " 224 - 134 - 29 - 15 24.2
614 8. Lepus faydhi 464 - 50 - 152 - 84
July 5, 1932 3 mi. W Payette Lake 5400 ft. Adams Co. Idaho
615 8. Zapus princeps 238 - 140 - 30 - 13 27.5
616 8. Euiotomyx jappare 148 - 48 - 19 - 14.5 32.6
617 8. " 148 - 46 - 19 - 13 (4 emb. x 9) 30.1
618 8. Anebraea tawnciae (p. 182)
619 8. Microtus montanus 192 - 67 - 20 - 14 42.9
620 8. " 188 - 65 - 20.5 - 14 51.2
621 8. Buff loress
624 8. " 196 - 69 - 21 - 15 52.2
625 8. Sciuus hudsonius 354 - 137 - 51 - 28 281.2
626 8. " 342 - 129 - 54 - 27 302.1
July 6, 1932
627 8. Rana pretiosa.
<table>
<thead>
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<th>Date</th>
<th>Location</th>
<th>Species</th>
<th>Notes</th>
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<td>Rana pretiosa</td>
<td>Not in grams</td>
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<td></td>
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<td>Bufo boreas (tadpole)</td>
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<td>Vireo solitarius</td>
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<td>Eotamnys gapperi</td>
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<td>Homonyx jucus</td>
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<td>Eotamnys gapperi</td>
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<td>July 13, 1932</td>
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<td>July 2, 1932</td>
<td>5 mi. E Warm Lake, 7000 ft., Valley Co., Idaho</td>
<td>Rana pretiosa</td>
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<td>Date</td>
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<tr>
<td>July 3, 1932</td>
<td>Fayette Lake, 5400 ft, Adams Co., Idaho</td>
<td><em>Ochotona princeps</em></td>
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<td><em>Lepus canus</em></td>
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<td><em>Peromyscus maniculatus</em></td>
<td>179</td>
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<td><em>Eotomys gashperi</em></td>
<td>147</td>
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<td><em>Ochotona princeps</em></td>
<td>231</td>
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<tr>
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<td></td>
<td><em>Lepus canus</em></td>
<td>253</td>
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<td></td>
<td></td>
<td><em>Peromyscus maniculatus</em></td>
<td>246</td>
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<td><em>Eotomys gashperi</em></td>
<td>223</td>
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<td><em>Ochotona princeps</em></td>
<td>347</td>
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July 3, 1932

*Ochotona princeps* 231 - 139 - 30 - 15.5 22.1

*Ochotona princeps* 236 - 138 - 31 - 14 24.8

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July 2, 1932

*Ochotona princeps* 196 - 65 - 26 - 6 82.8

*Ochotona princeps* 196 - 14 - 30 - 20 145.1

*Ochotona princeps* 196 - 16 - 29.5 - 22 192.5
Catalog

July 10, 1932. 3 mi. w. Cape Horn, Joseph & Edward Valley Co., Idaho

1. D. Pachyeneus princeps 198 - 14 - 13 - 22 183.9
3. D. Pachyeneus princeps 200 - 13 - 31 - 22 179.2
4. D. Pachyeneus princeps 201 - 16 - 31 - 22 168.7
5. D. Pachyeneus princeps 190 - 13 - 29 - 21 133.6
6. D. Pachyeneus princeps 191 - 15 - 29 - 22 139.4
7. D. Pachyeneus princeps 186 - 14 - 29 - 21 111.3
8. D. Pachyeneus princeps 205 - 16 - 31 - 23 158.2
9. D. Pachyeneus princeps 185 - 15 - 29 - 20 106.2
10. D. Pachyeneus princeps 213 - 15 - 31 - 22.5 172.4
11. ---
12. ---

13. D. Calospermophilus 264 - 88 - 39 - 20 158.2

July 11, 1932

14. D. Peromyscus maniculatus 191 - 87 - 21 - 17 25.1
15. D. Zapice princeps 244 - 136 - 31 - 16 26.1

July 12, 1932. Alturas Lake, 7000 ft. Blaine Co., Idaho

16. D. Zapice princeps 238 - 142 - 82 - 15 30.8
17. D. Zapice princeps 238 - 143 - 53 - 16 28.1
18. D. Microtus 138 - 43 - 18 - 14 32.1

(f. 186)

19. D. Sores 71 - 38 - 13 - 7 3.7
20. D. Microtus mordax 212 - 74 - 21 - 15 52.6
21. D. Microtus mordax 188 - 63 - 19 - 14 44.9
22. D. Microtus mordax 176 - 48 - 21 - 14 50.5

23. D. Bufo boreas

24. D. ...
Orr, P.T.
1932


675 # Thamnophis ordinoides
676 # Microtus montanus

197 67-21-14.5 54.7

July 13, 1933.
677 # Microtus
678 #
679 #
680 # Peromyscus maniculatus
681 # Zonotrichia leucophrys

178 - 59-21 - 14 33.5
168 - 58-19.5 - 14 30.5
188 - 87-22 - 19.5 28
177 - 79-21 - 21 22.2

July 14, 1933.
702 # Blaneomyx salivarius
703 # Rana pretiosa
704 # Bufo laevis

341 -15.5 - 43-26 191.6


710 # Mytios luciferus
711 #

9.0 - 41-10-13 7.2
77-39-10.5-13 8.9


713 # Neosperminea vespertina

47.7

714 # Sylvilagus nutalli. Juv. skull only.
Catalog.

July 16, 1932, 5 mi. E Elk Co., R.S. Bear Valley, Idaho. (300 ft., Valley)

715 B. Ammosemusa sandwicensis 15.9

716 B. Ocebus obscurus alpestris 26.5

718 B. Ammosemusa sandwicensis


719 B. Lotta pygmaea 7.6

720 B. Eutamias ruficaudus 232-98-32-18 62.2

721 B. " " 209-88-33-17.5 64.5

722 B. " " 225-79-33-18 50.5

723 B. Oterius columbianus 300-86-48-20 294.2

July 17, 1932

724 B. Empidionus (Hammondii?) 11.6

725 B. Reonogus mancipationus 175-78-18.5-17 25.5

726 B. " " 175-78-20.5-18 24.6

727 B. Eutamias ruficaudus 2.25-96-32-16.5 64.8

728 B. Fenithestes rufescens 11.3

729 B. Eutamias ruficaudus 216-99-33-17.5 44.5

730 B. " " 240-103-34-18 67.5

731 B. Oterius columbianus 355-102-50-21 616.8

July 18, 1932

732 B. Rana

733 B. Ureos olivaceus 16.2

734 B. Passerella melodia (p. 187)


735 B. Bupus Caudini 400-37-197-75 (Gemb. x 23)


736 B. Hamnophis ordinus.
<table>
<thead>
<tr>
<th>Date</th>
<th>Location</th>
<th>Species/Measurements</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 19, 1932</td>
<td>2 mi. NE Weippe, Clearwater Co., Idaho</td>
<td>39.8, 23.3-108.33-19.5, 214-97-31-17</td>
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<td>341, 3000 ft²</td>
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<td>July 20, 1932</td>
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<td>10.5, 67, 30</td>
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<td>178-79-19-17.5, 240-111-33-19</td>
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<td>342, 312-63-28-6, 486-52-142.84</td>
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Orr, R.T.
1932.
<table>
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<th>Item</th>
<th>Date</th>
<th>Location</th>
<th>Measurements</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>762</td>
<td>July 23, 1932</td>
<td>Glidden Lake, 5700 ft., Shoshone Co., Idaho</td>
<td>114-42-12-8</td>
<td>6.2</td>
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<tr>
<td>763</td>
<td>July 23, 1932</td>
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<td>204-65-26-14</td>
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<td>764</td>
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<td>118-54-20-13</td>
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<td>231-140-30.5-16.5</td>
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<td>767</td>
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<td>Glidden Lake, 5700 ft., Shoshone Co., Idaho</td>
<td>259.138-31-16.5</td>
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<td>768</td>
<td>July 23, 1932</td>
<td>Glidden Lake, 5700 ft., Shoshone Co., Idaho</td>
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<td>July 23, 1932</td>
<td>Glidden Lake, 5700 ft., Shoshone Co., Idaho</td>
<td>228-103-31-17</td>
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<td>771</td>
<td>July 23, 1932</td>
<td>Glidden Lake, 5700 ft., Shoshone Co., Idaho</td>
<td>203-16-30-20</td>
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<td>772</td>
<td>July 23, 1932</td>
<td>Glidden Lake, 5700 ft., Shoshone Co., Idaho</td>
<td>192-17-29-20</td>
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<td>Glidden Lake, 5700 ft., Shoshone Co., Idaho</td>
<td>24.0</td>
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<td>776</td>
<td>July 24, 1932</td>
<td>Glidden Lake, 5700 ft., Shoshone Co., Idaho</td>
<td>234-146-29.5-15</td>
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<td>July 24, 1932</td>
<td>Glidden Lake, 5700 ft., Shoshone Co., Idaho</td>
<td>158-64-20-17.5</td>
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<td>July 24, 1932</td>
<td>Glidden Lake, 5700 ft., Shoshone Co., Idaho</td>
<td>115-11-24-17</td>
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<td>Glidden Lake, 5700 ft., Shoshone Co., Idaho</td>
<td>215-17-30-22</td>
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<tr>
<td>July 24, 1932</td>
<td>Stetson Lake, 5700 ft.</td>
<td><em>Calaesperus philus</em></td>
<td>281-95-41-22</td>
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<td><em>Plerotoma princeps</em></td>
<td>203-12-31-10</td>
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<td><em>Buso longipes</em></td>
<td>123-39.5-12-8</td>
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<td><em>Microtus</em></td>
<td>163-67-19-13.5</td>
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<td><em>Zapus princeps</em></td>
<td>225-130-51-15</td>
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<td></td>
<td><em>Thomomys fuscus</em></td>
<td>193-59-26.5-6</td>
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<td>192-60-24-5.5</td>
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<td><em>Thomomys fuscus</em></td>
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<td><em>Eutamias Ruficants</em></td>
<td>224-97-24-16</td>
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<td>230-104-31-17</td>
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<td>Location</td>
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<td>Measurements</td>
<td>Notes</td>
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<td>July 27, 1932</td>
<td>5 mi. W Coosalla, 3500 ft, Bonner Co., Idaho</td>
<td><em>Thomomys fusipes</em></td>
<td>182-61-25-5, 69.9</td>
<td>Skull only</td>
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<td><em>Callosciurus nubigena</em></td>
<td>187-61-24.5-5, 61</td>
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<td>July 26, 1932</td>
<td>5 mi. W Coosalla, 3500 ft, Bonner Co., Idaho</td>
<td><em>Thomomys fusipes</em></td>
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<td><em>Callosciurus nubigena</em></td>
<td>176-54-23-5, 57.5</td>
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<td>July 27, 1932</td>
<td>4 mi. W Meadow Creek, 3000 ft, Boundary Co., Idaho</td>
<td><em>Eutamias russatus</em></td>
<td>228-105-33-19, 47</td>
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<td><em>Sciurus hudsonicus</em></td>
<td>240-130-48-25, 250</td>
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<td><em>Dryobates villosus</em></td>
<td>175, 3</td>
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<td><em>Sphyrapicus Various</em></td>
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<td><em>Leiolopis arctica</em></td>
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<td><em>Coleps caper</em></td>
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<td>July 27, 1932</td>
<td>4 mi. W Meadow Creek, 3000 ft, Boundary Co., Idaho</td>
<td><em>Terocorus canadensis</em> (Complete skeleton)</td>
<td>62.2</td>
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<td><em>Leque lairdii</em></td>
<td>70.5</td>
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<td>4 mi. W Meadow Creek, 3000 ft, Boundary Co., Idaho</td>
<td><em>Thomomys fusipes</em></td>
<td>207-62-37-55, Skull only</td>
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<td><em>Callosciurus nubigena</em></td>
<td>193-62-27.5-5, 79</td>
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Catalog.

July 29, 1932 4.3 mi. W. Meadow Creek, 3000 ft, Boundary Co., Idaho.


July 30, 1932

831 p. Thomomys fuscescens 198-65-27-5 75-6
832 p. “ “ 208-67-28-5.5 skull only 90.7
834 p. P. caccalas meladicus 23.2.
835 p. Zapus princeps 222-128-29-15 25.9
836 p. “ “ 223-140-30-14 16.2

837 p. Microtus 150-48-19.5-13 30.4
840 p. “ 175-58-20.5-14 38.7

841 p. P. caccalas enucleator 33.4
842 p. Microtus 165-53-20-14 29.3
843 p. “ 189-66-20-15 skull only 42.6
844 p. “ 187-68-20-12.5 skull only 31.7
845 p. “ 167-62-20.5-14 30
846 p. Thomomys fuscescens 205-63-27-5.5 73.6

July 31, 1932

847 p. P. caccalas enucleator 57.5


848 # Charina bollae

N.B. This completes the catalog for Idaho.