SEASONAL STATUS OF THE AMERICAN PIPIT IN IDAHO

DANIEL M. TAYLOR, 244 N. 12th, Pocatello, Idaho 83201

In Idaho, the American Pipit (*Anthus rubescens*) has been considered primarily a migrant, either locally common but erratic (Larrison et al. 1967) or uncommon in spring and common in fall (Burleigh 1972). Several other writers (Merriam 1891, Merrill 1898, Newhouse 1960, Levy 1962) considered it an abundant fall migrant but gave no indication of actual numbers. The one (Larrison et al. 1967) or two (Burleigh 1972) winter records were from Lewiston. Larrison et al. (1967) suspected that pipits might breed on some of the state's high mountains, while Burleigh (1972) knew of only Merriam's (1891) statement that they breed in the Salmon River Mountains and a report by L. B. McQueen of breeding in the upper Pahsimeroi drainage near Borah Peak. This scantiness of breeding evidence may be why the most recent A.O.U. checklist (1983) states that the American Pipit breeds locally on mountaintops in several Rocky Mountain states but does not specifically list Idaho.

In this paper I consolidate and enhance what is known about American Pipit distribution in Idaho with reference to adjacent areas. I present evidence of additional breeding, concentrations of thousands of fall migrants, and the species' regular but erratic wintering in much of southern Idaho. I analyze Christmas Bird Count data for patterns in winter distribution related to differences in weather, elevation, geography, and annual variability.

METHODS

I gathered recent American Pipit records from a literature review and my own field notes for the last 15 years. All Christmas Bird Counts (CBCs) for Idaho since 1978 were included, as well as some from adjacent Montana and Washington. Long-term counts from southern Idaho were examined statistically in a manner similar to that of Laurance and Yensen (1985) and Dunning and Brown (1982). Weather data were extracted from U.S. Environmental Data Service monthly reports from each weather station in or close to each CBC. Using number of birds per party-hour, I compared differences between areas and between years by analysis of variance (ANOVA), and examined influences of weather and elevation by multiple regression (Zar 1974). This was done on a MacIntosh SE computer with a Statview statistical package. I also surveyed the extensive mudflats at the mouth of the New York Canal, Lake Lowell, Canyon Co., for American Pipits 18 times from August through November 1990.

RESULTS

Breeding

In the Sawtooth Mountains I observed an adult American Pipit feeding a young bird on the Custer Co. side of the summit along the trail between

Toxaway and Alice lakes, elevation 2775 m, on 26 July 1989 and an adult behaving territorially near Alpine Lake, Custer Co., elevation 2625 m, on 3 August 1993 (Figure 1). I found a pair of pipits giving alarm calls and carrying food in their beaks in the Henry's Lake Mountains, elevation 2850 m, Fremont Co., on 29 July 1993. C. Trost (pers. comm.) found several nesting pairs with young at the head of the east fork of the Pahsimeroi River on 25 July 1976 [American Birds (AB) 30:981] and a nest on Leatherman Peak, Big Lost Range, Custer Co., elevation about 3200 m. Roberts (1992) found American Pipits in the nesting season between 2400 and 3050 m in the Lemhi and Beaverhead ranges and at Long Tom Lookout, Challis Creek Lakes, and Taylor Mountain between the Middle Fork and main Salmon Rivers. These locations might be considered part of the Salmon Mountains of Merriam (1891).

Fall Migration

At Lake Lowell (Figure 1) in 1990, no American Pipits occurred in August, and I found only one to four on five dates from 6 to 18 September. On 27 September there were 600, and numbers peaked at 1750 on 9 October. There were still hundreds by 16 and 18 October, and from late October to mid-November dozens remained. A few lingered into December. At this same location J. Gatchet estimated pipits gathered in the thousands in the last week of September 1991 (AB 46:125).

Large number of pipits have been reported from other locations in Idaho and adjacent areas in late September or October. Thousands were at Rupert in fall 1971 (AB 26:98). I found flocks of over 100 on farmland in the Dry Lake region of Canyon Co. in the last week of October 1976, and 140 at American Falls Reservoir, Power Co., on 22 September 1990. In eastern Washington 500 were at Banks Lank on 17 September 1983 (AB 38:226), 200 were at Spokane on 8 October 1972 (AB 27:90), 2000 were at O'Sullivan Dam on 9 Oct 1971 (AB 26:91), and at least 1000 were near Reardan on 21 September 1973 (AB 28:81). Hundreds were found in alpine meadows on Steens Mountain, Oregon, on 24 September 1983 (AB 38:226), 2000 were estimated at Brigham City, Utah, on 22 October 1972 (AB 27:298), and thousands were in Cache Valley, Utah, on 5 October 1942 (Bent 1950).

Winter

In winter, the American Pipit is unrecorded from northern Idaho, except at Lewiston, the state's lowest elevation, where Burleigh (1972) lived from 1948 to 1958 and recorded pipits only twice: a single bird on 21 December 1951 and a flock of 60 on 8 and 13 January 1954. The 33 CBCs conducted at Moscow, Indian Mountain, Sandpoint, and Coeur d'Alene from 1978 to 1991 recorded no pipits. There were also no pipits on the northwestern Montana and eastern Washington CBCs at Troy, Libby, Glacier National Park, Big Fork, or Spokane during this time. In central Idaho, the two CBC areas of Sun Valley and Salmon recorded pipits just once in 14 years, but a total of 86 at Salmon in December 1986. The Missoula, Montana, CBC has had just one pipit once, and a record for 17

December 1989 at Ninepipe NWR (AB 44:297) was apparently only the second for western Montana in winter.

Pipits have been found erratically in winter on CBCs in southern Idaho (Table 1). Perhaps because of high variability, there were no significant differences in numbers of pipits between any of the nine southern Idaho CBC areas (ANOVA, $P > 0.10$ in all comparisons; Bruneau was excluded owing to its short duration). Pipits have been recorded in about 45% of the years on the seven of the ten CBCs where they have been found more than once, but no count found them more than 58% of the time. The highest

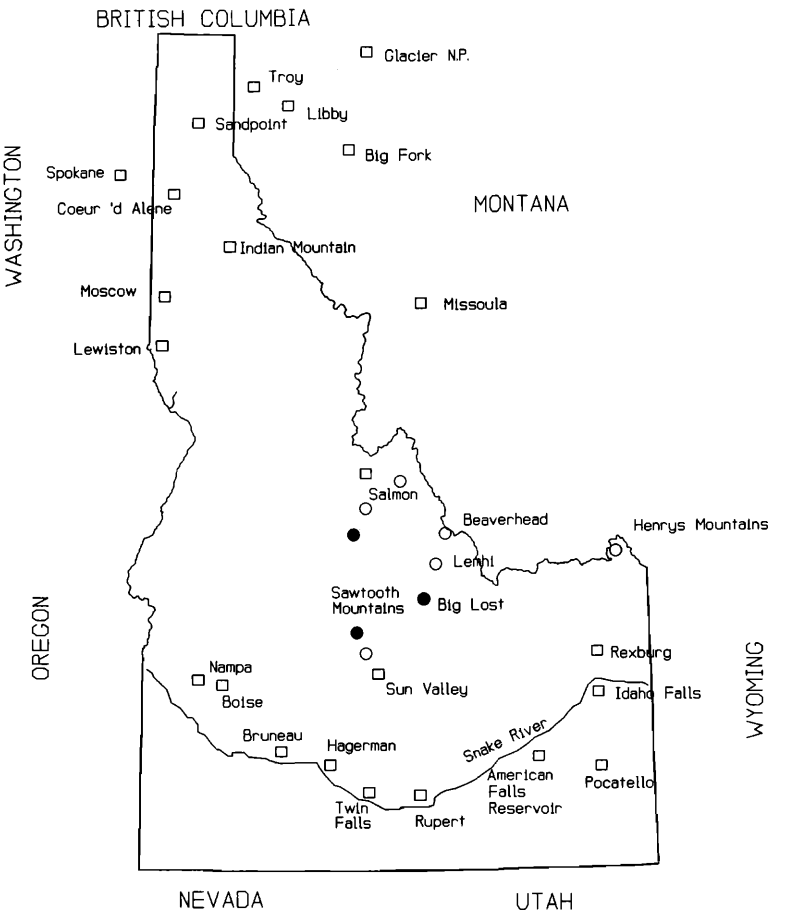

Figure 1. Locations mentioned in the text. Solid circles, known breeding locations; open circles, probable breeding locations; solid squares, locations of Christmas Bird Counts.

Table 1 Numbers of American Pipits on Christmas Bird Counts in Southern Idaho from 1978 to 1991

Area	Elevation (feet)	Years of count	High count	Mean ± SE[a] (Range) pipits/party-hour
Nampa	2210	14 (7)[b]	242	0.327 ± 0.223 (0–3.15)
Bruneau	2455	7 (4)	326	1.601 ± 1.306 (0–9.30)
Boise	2700	14 (5)	30	0.039 ± 0.022 (0–0.95)
Hagerman	2900	13 (6)	34	0.135 ± 0.072 (0–0.95)
Twin Falls	3170	12 (4)	423	1.174 ± 1.096 (0–13.22)
Rupert	4150	14 (6)	70	0.382 ± 0.277 (0–3.91)
Am. Falls	4180	14 (8)	23	0.059 ± 0.023 (0–0.29)
Pocatello	4200	14 (1)	1	0.001 ± 0.001 (0–0.02)
Idaho Falls	4610	14 (0)	0	0
Rexburg	4800	14 (1)	200	0.510 ± 0.510 (0–7.14)

[a]SE,standard error.
[b]Number of years with pipits on count.

number on any count was 423 at Twin Falls in 1986, and Nampa, Bruneau, and Rexburg each had a single count with over 100 pipits.

Although the three southern Idaho CBCs at the highest elevations recorded pipits on only two of 42 counts, pipit numbers were not significantly correlated with elevation (Table 2). There was no significant association of the abundance of American Pipits on CBCs with the climatic factors of minimum snow, mean December temperature, or mean December precipitation (Table 2). The 200 pipits in 1979 constituting Rexburg's only record was one of the few years there without snow on the ground, and the Twin Falls peak of 423 also coincided with a CBC free of snow. However, there were 3 inches of snow in Nampa when 175 pipits were found, while Bruneau recorded 279 with one-half inch of snow and 44 with 3 inches of snow and temperatures of −22 to −32° C.

Table 2 Relation of Various Climatic Factors and Elevation with American Pipit Numbers on Combined Idaho Christmas Bird Counts, 1978–1991[a]

Factor	*F* test[a]	*P*[b]	R^{2c}
Minimum snow depth	0.547 (0.593)	0.46 (0.44)	0.01 (0.01)
Elevation	1.303 (0.414)	0.28 (0.52)	0.02 (0.01)
Mean December precipitation	0.008	0.928	<0.01
Mean December temperature	1.731	0.19	0.02

[a]*F*-test values of multiple regression for all counts, and in parentheses all counts except Idaho Falls, Rexburg, and Pocatello, excluded because of their higher elevation.
[b]Probability values of *F* tests.
[c]Amount of variation explained by these factors.

For all southern Idaho CBCs combined (Bruneau excluded because of its shorter duration), numbers of pipits were highest in 1979, 1981, and 1986. The number of pipits per party-hour was significantly higher in 1986 than in most other years (ANOVA, $P < 0.05$), but this was probably due to the single very large total at Twin Falls. In years with few birds, pipits were still found on at least two CBCs, except in 1983 when only four birds were at Rupert. In the three years with the highest counts three or four CBC areas still lacked pipits.

DISCUSSION

The two new definite breeding records and other midsummer observations further establish the American Pipit as a breeding species in Idaho. The alpine zone in the state has been inadequately surveyed, and it is likely there are more areas in the high country that support pipits, especially as breeding pipits are known from adjacent alpine zones in Yellowstone National Park and on the Beartooth Plateau, Wyoming (McEneaney 1988, Hendricks 1991), and in the Wallowa Mountains of northeast Oregon (Gabrielson and Jewett 1940). Whether the new Idaho records reflect a recent increase of the breeding population, as in the Sierra Nevada of California (Miller and Green 1987), is indeterminable.

Late September and October may be the time of peak pipit movement through Idaho and adjacent regions becuase the species waits to migrate until it completes its postnuptial molt, which occurs in August and September (Bent 1950, Verbeek 1973).

The winter absence or extreme rarity of American Pipits in northern and central Idaho is consistent with their avoidance in the western United States of dry-belt pine forest (Root 1988). Numbers of wintering pipits in southern Idaho do not appear to be governed by weather or elevation. Root (1988) found that in the eastern United States the subspecies *A. s. rubescens* winters in areas of average January temperature greater than −1° C, but in the western United States pipits are hardier, wintering in areas with minimum January temperatures as low as −7° C.

Pipits appear to winter in southern Idaho randomly. The variation recorded on CBCs may be due in part to the counts themselves. However, the pattern of one or a few pipits some winters and many pipits in a few winters is similar to what Burleigh (1972) found in Lewiston, what I have observed at Lake Lowell, and what Littlefield (1990) found at Malheur National Wildlife Refuge, southeastern Oregon. Erratic annual fluctuations have also been found in sparrows wintering in the northern Great Basin (Laurance and Yensen 1985) and Snowy Owls (*Nyctea scandiaca*) wintering on the Great Plains (Kerlinger and Lein 1988). In Europe, the closely related Water (*Anthus spinoletta*) and other wintering pipits responded almost immediately to a new food source caused by canal dredging (van Ardenne 1986), and the American Pipits I observed in late October 1976 were directly behind a plow. Numbers of American Pipits wintering in Idaho may reflect the species' ability to respond quickly to erratic food sources.

It is possible that wintering of pipits in southern Idaho is recent. Before the 1970s there were few ornithologists in winter in southern Idaho, but

Davis (1934) spent 1919–1921 in the Rupert area, and Pierce Brodkorb collected numerous rare and uncommon winter birds throughout southern Idaho in the early 1930s (Burleigh 1972). Both failed to record pipits at this season. Earlier in the century, however, pipits were known to winter in both southeastern Oregon (Gabrielson and Jewett 1940) and the Ogden Valley, northeastern Utah (Bent 1950), so I suspect the lack of early records in southern Idaho was due to the paucity of observers, not pipits.

SUMMARY

In Idaho, American Pipits breed in the Pahsimeroi, Lemhi, Lost River, and Sawtooth mountains, and probably in the Beaverhead, Henry's Lake, and Salmon River mountains. Migrating pipits sometimes concentrate in the thousands in Idaho and adjacent areas in late September and October. In winter, pipits are absent from northern Idaho and adjacent regions, extremely rare in central Idaho, and erratic but occasionally numerous in the southern part of the state. There are no significant correlations between numbers of pipits on southern Idaho Christmas Bird Counts and elevation, snow cover, mean December precipitation, or mean December temperature. There are no significant differences in pipit numbers between different Christmas Bird Count areas. In one year, 1986, numbers of pipits were significantly higher than in many other years from 1978 to 1991, but this was probably due to one exceptionally high count at Twin Falls.

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