

during the winter of 1966-67, when at least four sight records were reported in Minnesota (Andrews 1967:396).

Sprague's Pipit. *Anthus spragueii*. I first observed this species on the Missouri River hills just north and west of Chamberlain, Lyman County, during the period 17-19 September 1966. Pipits were seen each of the three days, usually as single birds, but on one occasion two were observed. In 1967 I located Sprague's Pipits 15 mi. SW of Fort Pierre, Stanley County, an area 70 mi. NW of Chamberlain. At least six birds were found in three localities; three birds were found in one area, but usually only one or two birds were flushed. Pipits were observed daily during the period 30 September-2 October. A specimen was taken on the latter date. On 2 May 1968 I observed two Sprague's Pipits 10 mi. N of Woonsocket, Sanborn County, and on 4 May a single bird was located in Tripp County, 11 mi. NW of Ideal. During the last 10 days of September 1968 I observed this species during each of four days in the field in Lyman County when birds were seen near Fort Pierre, Reliance, and Kennebec. Pipits were heard or seen at four different localities near these towns, but it was unusual to flush more than two birds at any one spot. They invariably flew up from medium to heavy grassland. Water Pipits (*Anthus spinoletta*) were also observed during this period, but they were found in flocks feeding in harvested cropland, never in heavy native grassland. I became quite familiar with this species on its wintering ground in southeastern New Mexico (Harris 1964), and have had little trouble identifying the birds in the field, relying on call, flight pattern, and habitat to

separate this pipit from associated species, usually Horned Larks (*Eremophila alpestris*) and Chestnut-collared Longspurs (*Calcarius ornatus*).

House Finch. *Carpodacus mexicanus*. A female was taken 30 December 1966 at Mitchell, Davison County, while I was conducting an Audubon Christmas Census. This is the first observation and specimen for the state, although the bird might be expected to occur in the southwest corner of South Dakota. According to the A.O.U. Check-list (1957:560-561) the House Finch is resident in the Nebraska panhandle and in southeastern Wyoming.

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AN INSTANCE OF A CAPTIVE TURKEY VULTURE KILLING PREY

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Actual observations of a Turkey Vulture (*Cathartes aura*) killing live animals for food have not been reported in recent literature, hence are rare enough to be noteworthy. Pearson (Bird Lore 21:319, 1919) and Scott (Auk 9:120, 1892) report anecdotal instances of live feeding. We were on a visit to the Arizona-Sonora Desert Museum near Tucson when the following observations were made in the walk-through bird exhibit about 14:00 on 11 September 1968.

We had just entered the first pen containing Gambel's Quail (*Lophortyx gambelii*) Roadrunners (*Geococcyx californianus*), Turkey Vultures, and Curve-billed Thrashers (*Toxostoma curvirostre*) when we were aware of a combat between two thrashers. This fight ended with one of these birds lying exhausted at the edge of the water pool just 4-5 ft from the observation walk, and the victor left the scene. At this time we sat down more or less to await developments.

In a very short time an adult Turkey Vulture approached the beaten thrasher and eyed it. The thrasher summoned its strength and made for protec-



FIGURE 1. At this point the vulture has taken the thrasher from the cholla the second time. Note thrasher's attempt to escape. Photo by C. H. G. 105 mm lens @ 1/60 sec.

tion at the base of a cholla bush 3-4 ft from the pool. The Turkey Vulture followed it, and, reaching into the base of the cholla, grabbed it by the tail and pulled it partly out of the vegetation. It escaped and went deeper into the cactus. The vulture again reached into the cholla and pulled the thrasher out (fig. 1), this time carrying the bird several feet away from the cholla. The vulture put it down and studied it. The thrasher lay still a few seconds, then scolded and pecked at the vulture, and suddenly escaped and fled back to the same cholla.

The vulture followed and again pulled it from the cactus by the tail, carried it to the same spot, put it down momentarily, and then picked it up by the front end and carried it farther away (fig. 2). At this point, the scene of action was about 15-20 ft



FIGURE 2. The vulture now has the live thrasher by the skin at the side of the head. A close examination will show the thrasher's open eye. Photo by B. G. 200 mm lens @ 1/250 sec.

from us. The vulture put the thrasher on the ground and put a foot on it, whereupon cries came from the thrasher. The vulture then used its bill somewhere about the thrasher's head, and the cries became louder. Next, amid loud cries, the vulture pulled off a wing, then deliberately pulled off its head. Some feathers were plucked off, and the bird pulled apart as it was eaten.

While this whole action was in rather slow motion, the enthusiasm of the turkey vulture seemed to build up as the "chase" went on. At first its actions were slow and tentative. Toward the end they were more purposeful and rapid. Other vultures seemed to observe what was going on, and gathered around, particularly at the time the thrasher was ingested. One grabbed a piece and fled. Whether or not the victim was somewhat injured or incapacitated before the thrasher battle, we cannot say. We also realize that what we observed was in a pen and may not accurately reflect a wild situation.

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A MARSH HAWK ROOST IN TEXAS

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Meinertzhagen (*Ibis* 98:535, 1956) observed 160 Montagues (*Circus pygargus*) and Marsh Harriers (*Circus aeruginosus*) utilizing a roost about 25 mi. E of Gsiolo, Kenya, on 17 January 1956. A similar roost was observed by Gurr (*Ibis* 110:332, 1968) of an estimated 100 Australasian Harriers (*Circus approximans*) in New Zealand in 1966, while Weller et al. (*Wilson Bull.* 67:189, 1955) reported on a Marsh Hawk (*Circus cyaneus*) roost consisting of an estimated 80-90 birds in central Missouri in mid-February 1952.

On 20 December 1967 I observed a concentration of Marsh Hawks going to roost 12 mi. SSW of Friona, Parmer County, Texas. The site was a 30-acre playa lake covered with an extensive stand of smartweed (*Polygonum* spp.) and unidentified grasses. The

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"FOOT-TREMBLING" FEEDING BEHAVIOR BY A KILLDEER

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On 2 May 1968 I observed a Killdeer (*Charadrius vociferus*) feeding in shallow water at the edge of Pit Lake, Adams County, Washington. The Killdeer stood on one foot and vibrated the other rapidly in the water. The periods of vibration were approximately 5 sec long and were followed by pauses during which the bird stood, peered into the water, and then often pecked sharply with its bill. This behavior continued

southern half of the lake was covered with 1-6 inches of water, while the northern half was dry. The hawks were roosting in the water-free area.

On 20 December 43 hawks were seen going into roost. A more complete count on 21 December totaled 66 birds. Subsequent observations included 30 on 26 December, and 31 on 27 December.

On 27 December the first hawk arrived at 15:39 C.S.T., but the majority of the flight did not arrive until about 17:00. Upon arrival, many birds landed in the surrounding fields within 0.5 mile of the roost and preened. Some remained in the fields for as long as 2 hr. Unlike Marsh Hawks in Missouri, those in Texas appeared to do little feeding in the roosting area. On 29 December the last bird went to roost at 18:01; 21 December, 18:08; 22 December, 18:09; and 27 December, 18:11.

On 22 December the first hawk to leave the site departed at 07:30, and by 08:02 all birds had left the roost. They left in all directions and were followed by vehicle for distances greater than 6 miles, but maximum dispersal ranges were not determined.

The hawks continued to use the area until mid-March when the lake vegetation was burned.

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for over 20 min. Several times while I watched, the Killdeer was apparently successful at stirring up food, as the bird was seen to swallow after pecking into the water.

K. E. L. Simmons (*British Birds* 54:34, 1961) reported that foot movements are used in feeding by six species of Old World plovers. It is interesting that one of these is the Lapwing (*Vanellus vanellus*), which is generally considered to be the Old World ecological counterpart of the Killdeer.

It is relatively rare to find a Killdeer feeding in water; possibly this is why this behavior has not been observed in this species more often. Although it appears to be widespread in European plovers, I have found no reference to such behavior in Killdeers.

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