

six nestlings. Female 2's eggs hatched on 28 May. Throughout the incubation period the male attended both nests and guarded both when the females were gone. While the young were in the nest he concentrated mainly on female 1's nest. He fed her young at a normal frequency, and fed female 2's nestlings only occasionally. He and female 2 were never hostile toward one another, and he continued to defend her from other males and House Sparrows. She allowed him in her nest, though he never visited her for long periods.

Female 1's young fledged on 19 and 20 June, and the male helped her in post-fledging care. Several days after female 1's young left, I saw an adult male feed female 2's young in the nest several times, but I do not believe the polygamous male showed any further interest in female 2. Her young left the nest on 25 and 26 June and she cared for them alone. Later the male and female 1 displayed postbreeding nest defense.

It is conceivable that polygamy may occur in a situation where the first birds arriving on the breeding grounds (most often all males) perish in unseasonably cold weather and the later arriving population consists of more females than males. But plenty of breeding places were available in my neighborhood in 1973, and I noted no dearth of males. Early arriving males frequently defend several nesting compartments, then later confine all defensive activity to their mate's chosen compartment. Apparently the early territorial claims of these two males extended throughout the season, and when second females appeared within this territory, they were also accepted as mates.—CHARLES R. BROWN, 1804 West Hunt Street, Sherman, Texas 75090. Accepted 6 Jun. 74.

Ruddy Ground Dove in south Texas.—I saw a Ruddy Ground Dove, *Columbina talpacoti*, on the North Trail on Santa Ana National Wildlife Refuge, Alamo, Texas, on 28 January 1971. The bird was sitting in a huisache tree, and I made out all identifying characteristics clearly with 7×35 binoculars at 30 feet. The bird remained on the refuge for 7 weeks, and many bird watchers came to see it. It was last reported on 17 March 1971. The several photographs I took of the bird make this the first authenticated record for the species in the United States. A color slide sent to the editor of The Auk shows the bird to be a male (confirmed by E. Eisenmann). The only previous report from the United States was that of one male seen from 23 December 1950 to January 1951 west of San Benito (near Harlingen), Texas, listed on the hypothetical list of the A.O.U. Check-list (1957, fifth ed., Baltimore, Amer. Ornithol. Union, p. 647). The species is widespread in the American tropics and occurs regularly north to southern Tamaulipas, Mexico.—WAYNE A. SHIFFLETT, Santa Ana National Wildlife Refuge, U.S. Fish and Wildlife Service, Alamo, Texas 75816. Accepted 28 Jun. 74.

Substrate choices of oxpeckers.—The two species of African oxpeckers (*Buphagus africanus* and *B. erythrorhynchus*) have been reported to be undifferentiated in food choice (Attwell 1966, Puku 4: 17; Olivier and Laurie 1974, Auk 91: 169). This conclusion is supported by similarity in their stomach contents (Moreau 1933, Bull. Entomol. Res. 24: 325; van Someren 1951, E. African Agr. J. 17: 1) and by their mutual and sometimes simultaneous occurrence on certain species of large mammals where they feed on ticks, flies, and tissue from sores (Attwell *ibid.*, Olivier and Laurie *ibid.*). The importance of differential choice of foraging substrates (i.e. species of large mammals) in reducing interspecific ecological overlap between these two species has not been identified.

TABLE 1
 OCCURRENCES¹ OF YELLOW-BILLED OXPECKERS (*BUPHAGUS AFRICANUS*) AND
 RED-BILLED OXPECKERS (*B. ERYTHORHYNCHUS*) ON LARGE MAMMALS

Mammals	Okavango Swamp ²		Zambia ³	
	<i>B. a.</i>	<i>B. e.</i>	<i>B. a.</i>	<i>B. e.</i>
Naked or fur sparse, parasites eaten:				
Black rhinoceros (<i>Diceros bicornis</i>)	—	—	12	8
Wart hog (<i>Phacochoerus aethiopicus</i>)	0	3	3	4
Buffalo (<i>Syncerus caffer</i>)	5	2	35	7
Subtotal ⁴	5	5	50	19
Fur moderately dense, parasites eaten:				
Burchell's zebra (<i>Equus burchelli</i>)	0	1	4	7
Giraffe (<i>Giraffa camelopardalis</i>)	0	5	2	2
Impala (<i>Aepyceros melampus</i>)	0	7	3	34
Roan (<i>Hippotragus equinus</i>)	—	—	16	16
Sable (<i>Hippotragus niger</i>)	—	—	2	9
Blue wildebeest (<i>Connochaetes taurinus</i>)	0	1	3	0
Kudu (<i>Tragelaphus strepsiceros</i>)	0	4	9	14
Eland (<i>Taurotragus oryx</i>)	—	—	6	11
Subtotal	0	18	45	93
Naked, tissue eaten:				
Hippopotamus (<i>Hippopotamus amphibius</i>)	—	—	10	36
Subtotal	0	0	10	36

¹ Separate observations of one or more oxpeckers on an individual or herd of a mammal species.

² This study.

³ Attwell *ibid.*, combined data from Kafue National Park and Luangwa Valley.

⁴ Subtotals used in statistical tests.

During June and July 1973 I recorded the substrate choices of oxpeckers in the vicinity of Chief's Island, Okavango Swamp, northern Botswana. These data demonstrate a significant difference in substrate choice between the two oxpecker species (Table 1, $P < 0.001$, Fisher Exact Probability test). The Yellow-billed Oxpecker (*B. africanus*) occurred exclusively on buffalo, and the Red-billed Oxpecker (*B. erythrorhynchus*) usually foraged on other species. *B. erythrorhynchus* was in smaller groups (1–23, mean 4.9 birds) than *B. africanus* (1–100, mean 32.0 birds). Thus, the relative abundance of the two species in the swamp was less disproportionate than the frequencies of sightings indicate. Attwell's (*ibid.*) data from Zambia show a similar differentiation in substrate choices (Table 1, $P \ll 0.001$, Chi-square test, $df = 2$) and preference by *B. africanus* for buffalo and other sparsely furred or naked substrates.

Morphologically, oxpeckers differ in bill structure: *B. africanus* has a broader, heavier bill; *B. erythrorhynchus* a narrower, more scissorslike bill (Attwell *ibid.*). The correlation between broad bill form and the choice of sparsely furred or naked substrates (e.g. buffalo and rhinoceros) in *B. africanus* and narrow bill form and the preferential use of furred substrates (e.g. impala, kudu, and giraffe) in *B. erythrorhynchus* suggests that bill differentiation is related to fur density. Attwell (*ibid.*) has suggested that lateral compression of the bill may facilitate grasping or capturing parasites and flies in fur. Both oxpecker species avoid substrates with dense, woolly fur (e.g. reedbuck *Redunca arundinum*, waterbuck *Kobus ellipsiprymus*, and lechwe *Kobus leche*). The relatively great affinity of *B. erythrorhyn-*

chus for hippopotamuses, which lack fur, would seem to contradict this relationship, though all foraging on hippopotamuses is on tissue from open wounds (Olivier and Laurie *ibid.*). The importance of bill shape in taking this type of food is unknown, but a narrow bill could possibly be advantageous. Attwell (*ibid.*) considers the preferences of *B. africanus* for buffalo and of *B. erythrorhynchus* for domestic cattle as paradoxical on the basis of the close taxonomic relationship between the substrates, but these choices are predicted by the suggested relationship between bill shape and the density of substrate fur.

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Magpie kills a ground squirrel.—Small mammals make up 7–12% of the diet of the two North American magpies, the Black-billed, *Pica pica hudsonia*, (Kalmbach 1927, The magpie in relation to agriculture, U.S. Dept. Agr. Tech. Bull. No. 24) and the Yellow-billed, *Pica nuttallii* (Linsdale 1937, The natural history of magpies, Pacific Coast Avifauna No. 25). Blackburn (1968, Condor 70: 281) gives the only account of magpies killing these mammals, the previous assumption being that they were taken as carrion.

On 31 March 1974, 40 miles east of Edmonton, I watched a Black-billed Magpie chase and kill a Richardson's ground squirrel, *Spermophilus richardsonii*. On this day in an especially late spring, many ground squirrels had surfaced and were running about on the snow that still covered the ground to depths of 1 m and more. The magpie, foraging over the open field, encountered the squirrel about 9 m from its tunnel in the snow. The squirrel ran toward its tunnel, but was intercepted by the magpie and ran about bewildered. The magpie harassed the squirrel for more than a minute until it stopped running and crouched down on the snow, where the bird killed it immediately with a sharp peck at the back of the neck. The magpie sat on its kill, ate at it for some time, then flew into a copse of aspens bordering the field.—LORAN L. GOULDEN, *Renewable Resources Consulting Services Ltd., 11440 Kingsway Avenue, Edmonton, Alberta, Canada T5G 0X4.* Accepted 1 Jul. 74.

First record of Purple Sandpiper for Louisiana.—On 4 April 1974 the authors and a student, Paul S. Frey, collected a Purple Sandpiper (*Calidris maritima*) at the east jetty of the Calcasieu ship channel, Cameron, Cameron Parish, Louisiana. We saw only the one sandpiper, which was in a loose flock of Sanderlings (*Calidris alba*) and Ruddy Turnstones (*Arenaria interpres*). The rock jetties at Cameron extend about a mile into the Gulf of Mexico, and we collected the bird about 100 yards from the south end.

We find no previous specimen or sight records for this species in Louisiana, and this is one of the few records for the coast of the Gulf of Mexico. Recently this species has been seen and photographed along the Texas coast (Webster 1969, 1970, 1971, 1972). The 4 April date is in agreement with the Texas records that occurred between 30 November and 23 April. Burleigh (1958) lists three Georgia specimens, and Sprunt (1954, 1963) reports three specimens and numerous sightings in Florida. Our specimen (Louisiana State Univ. Mus. Zool. No. 75533)