

marshes of the Colorado River (which are relatively limited in invertebrate species and numbers; Grinnell, Univ. Calif. Publ. Zool. 12:15-294, 1914), the rails' principal food was crayfish. Thus, within the limits of this investigation, Clapper Rails were selective, opportunistic, or limited in the variety of foods eaten depending upon habitat type.

On the basis of the available literature (Ortmann, Proc. Am. Phil. Soc. 41(171):267-400, 1902) it is interesting to note that crayfish were absent on the lower Colorado River prior to 1900. In recent years, crayfish have become relatively common through introduction and/or natural expansion. The increase of a major food item, combined with creation of stable marsh habitat behind dams during the same period (Ohmart, et al., Trans. 40th N.Am. Wildl. and Nat. Res. Conf., 240-254, 1975) strongly support a hypothesis suggested by Tomlinson and Todd (Condor 75:177-183, 1973) and supported by Ohmart and Smith (USBR contract no. 14-06-300-2409, Boulder City, Nev., 1973) that *R. l. yumanensis* has since 1904 increased its distribution from the Colorado Delta northward along the Colorado River to approximately Needles, California. Further documentation of early river development and Clapper Rail distribution can be found in Dickey (Auk 40:90-94, 1923), Phillips et al. (The Birds of Arizona, Univ. of Ariz. Press, 1964), and Welsh (Audubon Field Notes 20:590, 1966).

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**Aggression in foraging migrant Semipalmated Sandpipers.**—The comparative study of foraging in young and older birds is a current interest in ornithology (e.g. Orians, Anim. Behav. 17:315-319, 1969), but few accounts assess the specific components that affect foraging efficiency, for example age-related differences in mechanical abilities or differences in social factors (e.g. aggression) related to foraging.

We describe here some social and mechanical aspects of foraging in juvenile and adult Semipalmated Sandpipers (*Calidris pusilla*) which we observed at Plymouth, Massachusetts on 29 and 30 August 1973. Juveniles were easily identified by their juvenal plumage (see Bent, U.S. Natl. Mus. Bull. 142:248, 1927). The observations were made during an especially high tide when prey items, mostly amphipods, were unusually visible, even to us. Semipalmated Sandpipers in Plymouth usually rest during high tides and, except for brief periods during falling tides, they normally locate prey tactually.

Our observations on 29 August were made to compare the frequency of aggression among about 20 adult and 5 juvenile sandpipers. Chasers were usually in a "Tail-up" posture quite similar to what Drury (Fig. 5 in Auk 78:176-219, 1961) likens to Sharp-tailed Grouse (*Pedioecetes phasianellus*) dance postures. Dominant birds in virtually all chases we saw were the individuals that initiated a particular chase. The results (Table 1) are assessed by the same method Hailman (Bird-Banding 46:236-240, 1975) used in his analysis of sparrow aggression and show (1) that juvenile sandpipers were more frequently aggressive than adults ( $\chi^2 = 19.88$ ,  $P < 0.001$ ), but (2) that they were no more aggressive towards adults than towards other juveniles.

Our observations on 30 August were made under conditions similar to those of the 29th, but were directed more toward tallying rates of feeding attempts rather than toward determining social interactions between adults and juveniles. About 45 juveniles and 45 adults were present in the observation area, more than on the previous day. We chose a

TABLE 1  
 FREQUENCIES OF CHASES AMONG ADULT AND JUVENILE SEMIPALMATED SANDPIPERS FEEDING  
 IN INUNDATED TIDAL WRACK

Chaser	Bird chased		Total
	Adult	Juvenile	
Adult	34 <sup>1</sup> (42.88) <sup>2</sup>	5 (10.72)	39 (53.60)
Juvenile	25 (10.72)	3 (2.68)	28 (13.40)
Totals	59 (53.60)	8 (13.40)	67

<sup>1</sup> Observed Frequency.

<sup>2</sup> Expected Frequency.

single bird, either an adult or a juvenile, in either a normal or an aggressive Tail-up posture, and with a stop-watch timed its activities including the number of feeding attempts and aggressive encounters, for 30–120 sec. The time intervals varied because we often lost track of individuals in the melee of other birds. The summarized results (Table 2) show clearly that birds in Tail-up postures initiated chases more often than birds in normal postures, and that birds in normal postures were the victims of chases more often than birds in Tail-up postures. These results were regardless of age. This relationship may explain why the rates of feeding attempts were similar in all 4 possible age/posture groups (Table 2). Because we did not record the ages of birds being chased on the 30th, we can not state quantitatively whether or not there was any change in dominance relationships among juveniles from the previous day. Our impression was that there was little change.

Our intent is to show that in one circumstance, juvenile Semipalmated Sandpipers were more frequently aggressive than conspecific adults and that consequently they dominated adults proportionately more than they were dominated by adults. Thus all young birds are not necessarily submissive to adults while foraging, something which is often assumed. Our efforts to quantify whether or not this aggression resulted in their obtaining more food were inconclusive because we could rarely discriminate between successful and un-

TABLE 2  
 FEEDING ATTEMPT RATES AND FREQUENCY OF CHASING BY ADULT AND JUVENILE SEMI-  
 PALMATED SANDPIPERS FEEDING IN INUNDATED TIDAL WRACK

Age	Posture	No. sec observed	Mean no. of attempts/sec	No. of times chaser	No. of times chased
Adult	Normal	1068	0.50	3	28
Adult	Tail-up	880	0.45	68	8
Juvenile	Normal	960	0.44	4	15
Juvenile	Tail-up	855	0.50	77	8

successful feeding attempts. We noted, however, that aggressive and non-aggressive sandpipers had similar feeding attempt rates.

According to Recher and Recher (Wilson Bull. 81:140-154, 1969) a point is reached when the frequency and intensity of aggression among sandpipers declines as they become more concentrated in an area of abundant food. The adult sandpipers we watched may have reached this point but the juveniles may not have—possibly because they were less efficient than adults (see Recher, Ecology 47: 393-403, 1966) in catching prey and therefore had a higher threshold for lowering aggression.

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**Herring Gull eating bayberry.**—Several studies of the Herring Gull (*Larus argentatus*) (Harris, Ibis 107:43-53, 1965; Threlfall, Can. Field-Nat. 82:176-180, 1968; Tinbergen, *The Herring Gull's World*, 1960) have demonstrated the omnivorous and opportunistic qualities of its diet. In addition to the well known animal and garbage components, Herring Gulls consume grasses, grain, and blueberries (*Vaccinium angustifolium*) when available (Threlfall, Nature in Wales 11:67-73, 1968; Davis, Br. Birds 49:400-404, 1956; Haycock and Threlfall, Auk 92:678-697, 1975). This note describes a previously unrecorded vegetable food source.

On 30 August 1975 I observed an adult Herring Gull feeding on the fruit of bayberry (*Myrica pennsylvanica*) at Great Gull Island, Suffolk County, New York. The bird flew to the bush from downwind, lowered its feet and spread them in the upper twigs of the bush, and kept its wings spread so that it was supported by the wind. While in this position the bird bent its head several times and picked berries off the upper twigs. The gull fed in this manner for approximately 2 min and then flew off upwind.

Pellets of either Herring Gulls or Great Black-backed Gulls (*L. marinus*) containing bayberry fruit have been found by visitors to the island in late December and early January (Hays, pers. comm.), but no gull has ever been seen eating the fruit. (Observers are present on Great Gull Island every year from 1 May to at least mid-September.) The fruit is available throughout the year, although least common in late spring and early summer. The unusual feeding technique and scarcity of evidence suggest that for Herring Gulls bayberry fruit is an infrequent food item.

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**The Lesser Antillean Bullfinch in the Virgin Islands.**—The polytypic Lesser Antillean Bullfinch (*Loxigilla noctis*) occurs throughout the Lesser Antilles (except the Grenadines), from Grenada in the south through Anguilla and Saba in the north and northwest. This species was not observed west of the Anegada passage, a 124 km strait separating the northern Lesser Antilles from the Virgin Islands and Puerto Rico until discovered by Raffaele and William Truesdell, Park Naturalist of the Virgin Islands Na-