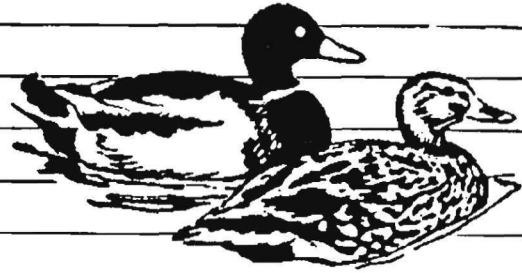


Research



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## Low Incidence of Pairing and Courtship Behavior in Redheads Wintering in Louisiana

Redheads (*Aythya americana*) have been observed to be one of the earliest species of the genus *Aythya* to initiate courtship and pair bonds in Texas (35–60% of the females observed were paired before departure from the wintering grounds). We conducted behavioral studies of a separate population of redheads, wintering in Louisiana, to document their courtship activity and pair formation chronology during winter 1988–89. Our study area was Chandeleur Sound, adjacent to the Chandeleur Island chain about 40 km off Louisiana's Gulf of Mexico coast. About 20,000 redheads winter there each year.

### Behavioral Data Collected

We collected data from observation blinds established at four locations on the Chandeleur Islands. Behavioral, flock, and environmental data were collected during 6 half-day (dawn to noon or

noon to dusk) observation periods between days 8 and 17 of each month, November 1988 through March 1989. We used spotting scopes and recorded the sex and presence or absence of courtship behavior for each bird observed during 2-minute scans conducted at 15-minute intervals. Courtship data were expressed as a percentage of total birds scanned. Between scans, we observed individual females for a minimum of 1 minute each and recorded whether or not they were paired (a paired female was one accompanied by a single male that followed, led, or courted the female and whose movements were in synchrony with hers). Pairing was expressed as a percentage of the total number of females that we observed between scans. Both variables (percent courtship and percent paired females) were rank-transformed for data analysis, and differences were tested among months using analysis of variance.

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## Few Birds Observed Courting or Paired

The percentage of birds that exhibited courtship behavior averaged less than 1% for each month throughout the winter, although the percentage for individual scans varied between 0 and 13% (Table). There was a significant increase in courtship activity from November and December to March; the peak shown in January was not significant because of the high degree of variation for that month.

The mean percentage of paired females increased steadily from 0% in December to 9.4% in March, and the increases were significant (Table). These numbers, however, are much lower than the 35–60% pairing shown previously by researchers in Texas.

## Analysis of Environmental Factors Continues

The low number of birds observed in courtship and in paired status raises questions about the role of external factors affecting

courtship activity. Sampling periods were limited to 6 days each month, and environmental influences may have inhibited courtship activity. We are presently analyzing environmental data collected for each scan to evaluate the role of weather on courtship and pairing activity in wintering redheads.

For further information contact

Thomas C. Michot or Wayne Norling  
Southern Science Center  
700 Cajundome Boulevard  
Lafayette, Louisiana 70506  
(318)266-8500

**Table.** Monthly means for courtship (percentage of birds in each scan that exhibited courtship behavior) and for paired females (percentage of observed females that were paired) of redheads (*Aythya americana*) on Chandeleur Sound, Louisiana, winter 1988–1989.

Month	Courtship (%)				Paired females (%)			
	<i>n</i>	Mean	SE	Range	<i>n</i>	Mean	SE	Range
Nov	54	0.04	0.04	0–1.96	—	—	—	—
Dec	169	0.13	0.06	0–9.09	107	0	—	0–0
Jan	158	0.41	0.13	0–12.72	86	2.7	1.20	0–50
Feb	182	0.17	0.05	0–4.40	79	5.1 <sup>a</sup>	2.15	0–100
Mar	185	0.33 <sup>b</sup>	0.09	0–9.09	74	9.4 <sup>c</sup>	2.42	0–100

<sup>a</sup> Mean percent paired females for February was significantly ( $P < 0.05$ ) greater than for December.

<sup>b</sup> Mean percent courtship for March was significantly ( $P < 0.05$ ) greater than for November or December.

<sup>c</sup> Mean percent paired females for March was significantly ( $P < 0.01$ ) greater than for December, January, or February.