

## Interference Competition between Rails and Crakes (Rallidae) during Foraging in the Post-Breeding Season

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**Abstract:** In an old riverbed of the Tigris River near the city of Diyarbakir (SE Turkey), observations of foraging Rallidae were made in October 2004. Reciprocal reactions (aggression, mutual foraging) were noted between birds. A total of 20 cases of aggression were observed. The most frequent aggressor was the Water Rail. In an interaction between 2 Spotted Crakes, size difference between the birds was obvious. Three cases of collective foraging were seen: 2 Spotted Crakes, Spotted and Baillon's Crakes, as well as Little and Baillon's Crakes. Instances of Crakes and also Moorhens foraging at distances of 3-4 m from each other were common. The above observations show strong aggressive behavior in Water Rails and hint that territorialism in this species during the autumn migration or post-breeding dispersion exists. It is possible that birds of the genus *Porzana* are also territorial during the autumn migration, although the degree of reciprocal intolerance is moderate.

**Key Words:** Rallidae, Water Rail, *Rallus aquaticus*, Crake, *Porzana*, interaction, aggressive behavior

### Introduction

Rails and Crakes are territorial during the breeding season and nest alone (Cramp and Simmons, 1980; Jenkins, 1999). They are intolerant and other birds are driven away (Glutz von Blotzheim et al., 1973; Cramp and Simmons, 1980; Taylor and Van Perlo, 1998). Outside of the breeding season, most species are loners, although some of them belonging to the genera *Gallinula*, *Porphyrio*, or *Fulica* gather together in flocks, which are sometimes very large (Cramp and Simmons, 1980). Since it is difficult to observe Rails and Crakes, there is very limited information concerning their intra- and interspecific relationships outside of the breeding season. Cases of Water Rails, *Rallus aquaticus*, killing and eating passerines are known (Koenig, 1943, 1951; Axel, 1952; Blundell, 1962; Thompson, 1962; Holliday, 1968; King, 1980; Wood, 1986; Barry, 1995; Steiof, 1999). They were also observed killing birds caught in traps and mist-nets (Williamson, 1949; Lehmann, 1980; M. Polak *in litt.*, personal observation); however, these cases are unnatural in character.

Rails and Crakes are usually associated with marshy habitats covered by dense vegetation, which makes observation of them difficult (Jenkins, 1999; Jenkins and Ormerod, 2002; De Kroon, 2004). Published reports concerning any aspect of their ecology are scarce, except for some information about territoriality, home range, and vocalization of Water Rails (De Kroon, 1983; Jenkins et al., 1995; Polak, 2005). Social strategies, different aspects of flocking, and territoriality were described based on waders, *Charadrii*, which often inhabit similar, but more open habitats (Recher and Recher, 1969; Myers et al., 1979; Stawarczyk, 1986). Rails and Crakes, however, have not been the topic of similar works. The aim of this short report was to describe the frequency and character of relationships among different species of foraging Rallidae during the post-breeding period.

In an old riverbed of the Tigris River near the city of Diyarbakir (lat 37°54'N, long 40°15'E) (SE Turkey), observations of foraging Rallidae were made from October 4 to 27, 2004. Foraging birds were followed continuously (for 15-45 min) with binoculars or a

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spotting scope from distances of 20-40 m in the early morning (0600-0700) and in the evening (1600-1800). Total time spent on observation was approximately 11 h. The reactions between birds foraging on plants floating on the water's surface and amidst plants growing above the water surface were noted. Behavior was considered aggressive when one bird actively chased another bird away, resulting in the victim's escape or flying away. Foraging was considered mutual when 2 birds were at a distance from each other less than or equal to their body lengths. From 2 to 8 birds were observed at the same time, including Moorhens, *Gallinula chloropus* (up to 4 birds), Water Rails (up to 4 birds), Spotted Crake, *Porzana porzana* (up to 3 birds), Baillon's Crake, *P. pusilla* (up to 2 birds), and Little Crake, *P. parva*. These birds usually accompanied a Little Bittern, *Ixobrychus minutus* (1-2 birds), and less often a Snipe, *Gallinago gallinago* (up to 4 birds), as well as Bluethroat, *Luscinia svecica*.

In all, 20 cases of interactions were recorded (Table). Water Rails were the most frequent aggressors ( $\chi^2 = 12.80$ ,  $df = 1$ ,  $P < 0.001$ ). They did not tolerate other birds in close proximity. Aggression began with running towards the victim. If the victim did not escape, the Water Rail attacked with its beak. No victim preferences were found ( $\chi^2 = 5.55$ ,  $df = 3$ , ns). Several times the victim was chased over a distance of a few meters. On October 20, a Water Rail chased another rail 3 times after the victim landed. In the case of interaction between 2 Spotted Crakes, size difference between birds was

obvious. A similar observation of a Water Rail attacking a Spotted Crake during foraging was described by Page (1977).

Three cases of collective foraging were noted: 2 Spotted Crakes, Spotted and Baillon's Crakes, and Little and Baillon's Crakes. There were often instances of Crakes and Moorhens foraging at distances greater than their body lengths. Instances of foraging 3-4 m from each other were common. When a Water Rail foraged at a similar distance, however, it ended in a gradual approach and attack, although it cannot be stated as a rule. A Baillon's Crake, feeding in the wake of a Water Rail, was foraging 30-80 cm behind the Rail (Parrot, 1997).

The above observations show the strong aggressive behavior of Water Rails and suggest that territorialism in this species during the autumn migration or post-breeding dispersion exists. It is possible that birds of the genus *Porzana* are also territorial during the autumn migration, although the degree of reciprocal intolerance is moderate.

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Table. The number of instances of aggressive behavior among foraging Rails and Crakes (Rallidae) in an old riverbed of the Tigris River (SE Turkey) in October 2004.

	Victim			
	<i>P. porzana</i>	<i>R. aquaticus</i>	<i>P. pusilla</i>	<i>G. gallinago</i>
Aggressor				
<i>R. aquaticus</i>	8	5	4	1
<i>P. porzana</i>	1	-	1	-

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