

VARIATIONS IN FOOD COMPOSITION AND FORAGING BEHAVIOUR OF GREY HERON *Ardea cinerea* IN ARAGON RIVER (NORTHERN SPAIN) DURING THE BREEDING SEASON

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Foraging strategies of Grey Herons, Ardea cinerea, in northern Spain were studied in the main feeding areas (a river) during the breeding season (March-June). In the study area, herons were mainly piscivorous both in number and biomass. Small fishes were caught more frequently by herons in March and April and medium-sized fishes were more abundant in May and June. Herons spent more time in the feeding areas in June than in May and April. The average biomass taken by adults in each foraging session was similar in June and May but greater than in April. Feeding attempts were more numerous and successful in shallow water. Intraspecific aggressions were higher in May and June than in April. Probably the hatching of chicks and their age-related requirements of food were the cause of these changes in foraging strategies.

Key words: *Ardea cinerea*, breeding season, food composition, foraging strategies, Grey Heron, river.

INTRODUCTION

The feeding habits of Ardeids have been studied in Europe and North of America (OWEN & PHILLIPS, 1956; HAFNER & MOSER, 1980; HAFNER *et al.*, 1982; HAFNER & BRITTON, 1983; RODGERS, 1983; RODRÍGUEZ & CANAVATE, 1985; LASZLO, 1986; ROHWER, 1990; GONZÁLEZ-MARTÍN *et al.*, 1992; FASOLA *et al.*, 1993; CAMPOS & LEKUONA, 1997), as well as the feeding behaviour used by adults during the breeding season (FASOLA, 1986, 1994; ERWIN *et al.*, 1985; HAFNER *et al.*, 1986; MARION 1989) and their implications in the distributions of breeding colonies (FASOLA, 1983; VAN VESSEM & DRAULANS 1986a; FASOLA & ALIERI, 1992).

The conservation and future growth of colonial birds populations depend on both suitable foraging and breeding sites, whether these be in agricultural (FASOLA

& ALIERI, 1992; LANE & FUJIOKA, 1998) or nonagricultural habitats (HAFNER *et al.*, 1986). The importance of these strategies is obvious because the amount of food brought to nest by birds and, consequently, successful breeding depend on them. Furthermore, intraspecific competition influences the number of birds in the feeding areas and, as a result, the spatial distribution of Grey Heron colonies (MARION, 1984).

The aim of this study was to analyse the foraging strategies of the Grey Heron *Ardea cinerea* in an area where numbers are increasing (LEKUONA, 1997). To this end, type and size of prey, foraging activities, prey selection and intraspecific aggression rates throughout the breeding season were studied.