STATUS, DISTRIBUTION, AND DIET OF ELEONORA’S FALCON (Falco eleonorae) IN THE CANARY ISLANDS

LEANDRO DE LEÓN,1 BENEHARO RODRÍGUEZ, AND AURELIO MARTÍN
Departamento de Biología Animal (Zoología), Universidad de La Laguna, E-38206 La Laguna, Tenerife, Canary Islands, Spain

MANUEL NOGALES
Grupo de Ecología y Evolución en Islas (IPNA, CSIC), E-38206 La Laguna, Tenerife, Canary Islands, Spain

JESÚS ALONSO AND CARLOS IZQUIERDO
Departamento de Biología Animal (Zoología), Universidad de La Laguna, E-38206 La Laguna, Tenerife, Canary Islands, Spain

KEY WORDS: Eleonora’s Falcon; Falco eleonorae; Canary Islands; diet; distribution; status.

The Eleonora’s Falcon (Falco eleonorae) ranges from Cyprus to the Canary Islands (Snow and Perrins 1998). The Atlantic colonies are located on the Moroccan coast of Essaouira and north of Salé (Thévenot et al. 2003), and the Canaries harbor the only breeding site of the species in the Macaronesian Archipelagos (Martin and Lorenzo 2001). This population represents the westernmost and southernmost limit of its breeding range (Vaughan 1961, Snow and Perrins 1998). The Canary Islands, a volcanic archipelago located 100 km from the Atlantic coast of northwestern Africa (27°37’–29°25’N, 13°20’–18°19’W), comprises seven major islands and some small islets and rocks. The only known breeding sites of Eleonora’s Falcon in the Canaries are located in the northern small islets and rocks. The only known breeding sites of Eleonora’s Falcon in the Canaries are located in the northern small islets and rocks. The only known breeding sites of Eleonora’s Falcon in the Canaries are located in the northern small islets and rocks.

The Eleonora’s Falcon coincides with the post-nuptial migration of small passerines (Walter 1979, Ristow et al. 1986). Consequently, the study of the falcons’ diet during this period may also provide some valuable information on the general composition and temporal distribution of the migratory flow (Walter 1979, Ristow et al. 1986, Doél-García and Dies 1987, Spina et al. 1987, Wink et al. 1993). The objectives of our study were: (1) to update data on the status and distribution of the breeding Eleonora’s Falcons in the Canary Islands, and (2) to provide detailed information on the temporal variation of falcon diet during the breeding season.

METHODS
During the breeding seasons of 2000, we determined the status and distribution of the species in the Archipiélago Chinijo. Fieldwork was conducted during two visits, by a minimum of six observers: 9–24 August (incubation) and 11–27 September (early chick-rearing period). We counted the number of nests containing eggs or chicks in most locations, as they were generally accessible; however, at a few inaccessible sites, we estimated the number of nests using binoculars from adjacent sites. During both the breeding seasons of 2000 and 2001, we studied the diet of Eleonora’s Falcons. We used only bird prey remains with complete body, wings, legs, or distinctive feathers, which remained in the proximities of the falcon’s nests (N = 95; Hernández et al. 1985, Ristow 2004) for prey identification (following Jonsson 1994, Svensson 1998). Minimum number of individuals was estimated. In cases in which prey remains did not allow identification in the field, they were collected for a laboratory comparison with a reference collection. Biomass was calculated using the mean weight of each prey taxa taken from Snow and Perrins (1998), except for Plain Swifts (Apus unicolor; data were obtained from birds trapped for ringing in Gran Canaria; F. Rodríguez pers. comm.). For unidentified species (Table 2), fresh masses were estimated from the mean mass of species in the same genus which were identified as prey in this study or of species frequently observed in the study area. In Alegranza, Montaña Clara, and Roque del Oeste, nest inspections were made opportunistically (a maximum of 6 visits per eyrie). At Roque del Este, nests were systematically surveyed in August, September and October 2000; two visits of ca. 2 hr were conducted each month by four or five observers. We calculated Morisita’s Index to study similarities in diet composition through the breeding season. Niche breadth for each month was evaluated using the standardized Levin’s niche-breath Index (Krebs 1989), where values close to 0 indicate dietary specialization, and values close to 1 indicate a broad diet. Furthermore, likelihood ratio tests were conducted to analyse monthly differences in the occurrence of the most abundant prey birds.

RESULTS AND DISCUSSION
Population. A total of 37 pairs of Eleonora’s Falcons were counted at El Roque del Este, resulting in the highest

1 Email address: ldeleon@icia.es