

Status of the Nesting Population of the Scarlet Ibis (*Eudocimus ruber*) in the Venezuelan Llanos

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Abstract.—During 1983-1984, an aerial census of the nesting population of the Scarlet Ibis (*Eudocimus ruber*) was conducted in the Venezuelan Llanos. As a result of the flights, 22 colonies were located in 1983, containing 64,439 pairs. In 1984, the number of observed colonies decreased to 7 containing 42,236 nesting pairs. These results are compared with earlier data from the literature; we conclude that a reduction of the nesting area of this species has occurred during recent years.

Resumen.— Durante los años 1983 y 1984 se realizó un censo aéreo de la población nidificante del corocoro rojo (*E. ruber*) en los Llanos de Venezuela. Como resultado de los vuelos, en 1983 se localizaron 22 colonias con un total de 64.439 parejas. En 1984 el número de colonias observadas descendió a 7 con 42.236 parejas. Estos resultados se comparan con datos bibliográficos anteriores y se concluye que ha habido una reducción en el área de nidificación de esta especie a lo largo de los últimos años.

Key words.—Census, *Eudocimus ruber*, Venezuelan Llanos.

Colonial Waterbirds 11(2): 311-314, 1988

The distribution of *Eudocimus ruber* extends along the coasts of Colombia, Venezuela, Guyana, Surinam, French Guyana, the northeast of Brazil and Trinidad as well as the Llanos of Colombia and Venezuela and a small area in Ecuador in the interior of the continent (Blake 1977). One of the strongholds of the species is the Llanos of Venezuela. The purpose of this paper is to summarize existing information about the nesting colonies of the Scarlet Ibis in order to delimit the actual rookeries, the status of the nesting population, and its change during the past few years in the Venezuelan Llanos.

METHODS

Aerial surveying was done with a high wing Cessna 170 B. We flew at an altitude of 300 m and airspeed of 180 kph. When a colony was detected, we descended to an altitude sufficient to photograph the birds. The census was done afterwards by counting the red points on projected transparencies. During 1983, the aerial survey was flown in July; and in 1984 it was flown in July and August.

RESULTS

Censuses 1983-1984

In 1983, we located 22 colonies containing 64,439 pairs of Scarlet Ibis. In 1984 the number decreased to 7 colonies with 42,236 pairs (Table 1, Fig. 1). This decrease may not be real because: 1) in 1984 colony # 23, situated in Apure had not yet

been established at the time of the census, although a prereproductive group of some 5,000 birds was present, and 2) colony # 13 in Portuguesa could not be flown. We note six colonies of importance for their size: # 3 located in Barinas, 7 and 8 in Portuguesa, and 23, 24 and 25 in Apure. The smaller number of colonies observed in 1984 appears to be real in that the long dry period of that year, could have limited the number of appropriate nesting and feeding sites concentrating pairs in fewer sites. In 1983 the average size of colonies was 2,929, but in 1984 it increased to 6,034.

The Llanos supports mixed populations of Scarlet and white Ibis. It has been calculated that the White Ibis represents less than 10% of the total population (Ramo and Busto 1982, 1987).

Comparison with Previous Years

The first published information on Scarlet Ibis nesting sites in the Venezuelan Llanos dates from 1950. Zahl (1950) recounted his trip to the Llanos of Venezuela in 1949 where he encountered approximately 5,000 young Scarlet Ibis.

During the following 30 years, the localized and sporadic information available identified four additional colony sites in the Llanos (Castroviejo pers. com., Busto and Ramo 1982, Luthin 1983).

From 1980-1984, Ramo and Busto (in press) studied colonies in the Guanare-

Table 1. Location of Scarlet Ibis colonies and estimated numbers of pairs in the Venezuelan Llanos.

State	Colony ¹ site	Location ¹	Estimated # of Pairs	
			1983	1984
Barinas	1	W of Barinas	104	0
	2	S of Ciudad Bolivia	383	125
	3	W of Mijagual	26,219	0
	4	S of Libertad	167	0
	5	NE of Barinas	15	44
	6	SE of Ciudad Bolivia	402	0
Portuguesa	7	S of Guanarito	9,867	3,897
	8	Guanare-Masparro area	69	6,705
	9	Guanare-Masparro area	108	0
	10	Guanare-Masparro area	273	0
	11	Guanare-Masparro area	170	0
	12	Guanare-Masparro area	241	0
	13	Guanare-Masparro area	1,082	?
	14	Guanare-Masparro area	204	0
	15	NE of Papelón	390	0
	16	NE of Papelón	25	0
	17	NE of Papelón	0	794
	18	NE of Papelón	0	88
	19	Between Guanare and Barinas	87	0
Cojedes	20	SE of San Carlos	393	0
Guarico	21	SE of Coroza Pando	1,293	0
	22	E of El Baúl	290	0
Apure	23	S of Palmarito	8,886	— ²
	24	S of San Vicente	13,771	0
	25	S of Bruzual	0	30,583
Total			64,439	42,236

¹Locations in Figure 1.

²Pre-reproductive group.

Masparro area (500,000 ha in the Llanos Occidentales), and in 1982 Charlie Luthin (pers. com.) initiated a program to evaluate the nesting populations of the Scarlet Ibis. During that year a preliminary aerial census of the Llanos in Venezuela was undertaken to evaluate the preferred nesting habitats of this species (Ramo et al. 1983). In 1983, a more ambitious census covered the whole north coast of South America and a large part of the Venezuelan Llanos (Ramo and Busto 1984, de Jong, pers. com.). During 1984 the census covered the colonies found during the previous year.

The first information from the Venezuelan coast came from Schwartz (in Spaans 1975), who mentioned the existence of a small colony next to San Juan de los Cayos. During the following years, the numbers of known colony sites increased to five (ffrench and Haverschmidt 1970, Spaans 1975, de Visscher 1976, Gómez and Carnaby 1982).

Ffrench and Haverschmidt (1970) provided information about the locality of colonies in Trinidad and Surinam during 1947-1967. Spaans (1975) and Spaans and Jong (1982) conducted the first census of the nesting population in the Guyanas in 1975-1980.

There is very little information from Brazil (Spaans 1975, Teixeira and Best 1981). The population status from Colombia and Ecuador is practically unknown.

Available data for nesting colonies in the Llanos during the years before 1983 are presented in Table 2. It is rather curious to observe that three colonies (g, h, i) existed between the rivers Arauca and Apure to the east of Bruzual, that have not recently been used (Table 2, Fig. 1). One is the old colony site discovered by Zahl in 1949 (colony g) and not reported since. Another one observed by Castroviejo (pers. com.) (colony h) has been inactive since 1977. The third one situated in la Horqueta Ranch (colony i), has been

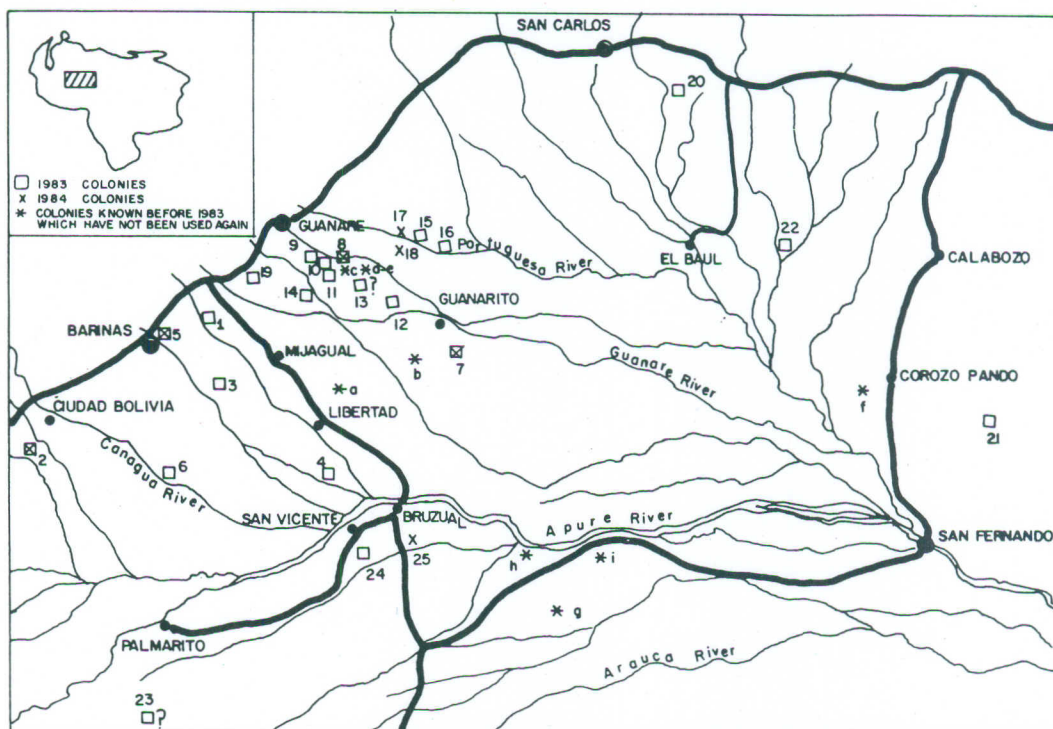


Figure 1. Location of the Scarlet Ibis colonies in the Venezuelan Llanos.

Table 2. Location of Scarlet Ibis colonies known in the Llanos before 1983 and estimated numbers of pairs.

State	Colony site ¹	Location	Year	Estimated # of pairs	Source of information
Barinas	a	Guanare-Masparro area	1981	210	Ramo and Busto, in press
Portuguesa	8	Guanare-Masparro area	1980	120	Ramo and Busto, in press
	8	Guanare-Masparro area	1981	188	Ramo and Busto, in press
	8	Guanare-Masparro area	1982	17	Ramo and Busto, in press
	12	Guanare-Masparro area	1982	569	Ramo and Busto, in press
	13	Guanare-Masparro area	1981	523	Ramo and Busto, in press
	14	Guanare-Masparro area	1980	1,515	Ramo and Busto, in press
	14	Guanare-Masparro area	1981	84	Ramo and Busto, in press
	14	Guanare-Masparro area	1982	5,050	Ramo and Busto, in press
	b	Guanare-Masparro area	1981	192	Ramo and Busto, in press
	c	Guanare-Masparro area	1982	37	Ramo and Busto, in press
d	Guanare-Masparro area	1982	65	Ramo and Busto, in press	
e	Guanare-Masparro area	1982	35	Ramo and Busto, in press	
Guarico	f	Flores Moradas Ranch	1981	?	Luthin 1983
Apure	g	Near Matillure river	1950	5,000 (young)	Zahl 1950
	h	El Frío Ranch	1975	?	Castroviejo pers. com.
	i	La Horqueta Ranch	1979	17	Busto and Ramo 1982
	i	La Horqueta Ranch	1982	50	Ramo et al. 1983
	37	S of Bruzual	1982	10,000	Ramo et al. 1983

¹Locations in Figure 1.

know for some time by the Llaneros. It was active in 1979 and 1982 but not since.

It is possible that the lack of nesting in these areas was due to the higher level of inundation caused by dikes constructed by the cattle ranches. The dikes were erected to retain water during the dry period. From the small plane it was clear that this zone was more inundated. These hydraulic works (drainage canals, containing dikes) continue to be developed in the area and which, if they continue to expand, could negatively affect the quality of the nesting habitat by either draining or flooding areas utilized by aquatic birds. Another factor to consider is the cutting of vegetation in the colonies, something that already happened in a colony in the Guanare-Masparro area. If agricultural development does alter colony site placement, it should be emphasized that a large portion of the nesting area of this species is located in places of high agricultural potential (Barinas and Portuguesa). There is a great pressure on the use of this which could seriously affect this species in the future. The quantities of pesticides applied here every year might also affect ibises. In water samples taken in the watersheds of rivers Guanare, Apure and Portuguesa (Carrillo 1983), pesticides of high toxicity were detected. In many cases, the concentrations were higher than the maximum levels allowed in Venezuela by the Ministerio del Ambiente y de los Recursos Naturales Renovables. In an analysis of six Scarlet Ibis eggs, collected in a colony in the Guanare-Masparro area (Portuguesa), Spaans (1983) found low residuals of organic chlorides.

ACKNOWLEDGMENTS

We would like to thank Brehm Foundation, especially Mr. Wolf Brehm, and the Polar Foundation for the financial assistance of the flights without which this work would have been impossible. Other institutions which helped us during this work are Universidad Nacional Experimental de los Llanos Occidentales (UNELLEZ) and Sociedad Venezolana de Ciencias Naturales (SVCN). Charles Luthin of the World Working Group on Storks, Ibises and Spoonbills and Dr. Eugenio de Bellard Pietri made the fund raising possible. Pilot Steward Reid showed great ability and experience during the flights. Dr. Ingrid Olmsted translated the original manuscript, and Milagros de Arias typed the manuscript. Dr. Kushlan revised the paper, supplying useful advice. To all we express our sincere appreciation.

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