

Organochlorine pesticide residues in Whooping Cranes and Everglade Kites.—Three Whooping Cranes (*Grus americana*), two Everglade Kites (*Rostrhamus sociabilis*), and one kite egg were analyzed for pesticide residues at this laboratory. This is the first time that specimens from this rare population from the wild have ever been analyzed, and the results are herein reported.

One Whooping Crane, an adult female, was shot by a hunter near Aransas National Wildlife Refuge, Texas, on 4 January 1968. Another specimen, a subadult female, was found dead on 13 April 1968 near Dorrance, Kansas. This bird was probably killed when it hit an electric wire; it fell to the ground and received internal injuries. The third Whooping Crane, a fully developed embryo, was obtained from a piped egg collected on 2 June 1967, 60 miles west of Fort Smith, Canada. The embryo died on an airplane en route to Patuxent.

The Everglade Kite specimens were found dead in a Florida conservation area adjacent to Loxahatchee National Wildlife Refuge on the following dates: an adult on 3 March 1966, a nestling on 1 April 1967, and an addled egg on 13 May 1966.

Florida apple snails (*Pomacea paludosa*) are considered to be the Everglade Kite's sole source of food. We collected 30 large specimens on 6 May 1965 from a canal in the Loxahatchee National Wildlife Refuge.

When possible the bird specimens were dissected and the brains, liver, and breast muscle removed for analyses. The snails' soft parts were removed from the shell and randomly divided into three groups each containing 10 specimens. The tissues were ground, extracted in a Soxhlet, cleaned by acetonitrile partitioning, and residues were eluted from a Florisil column. Most of the tissue extracts were separated on a thin-layer plate before analyses. The pesticide residues were determined by gas chromatography on an OV-17 column using an electron capture detector. The entire procedure is described in detail by Reichel et al. (Bull. Environ. Contam. Toxicol., 4: no. 1, 1969). As the kite egg was partly dehydrated, the residue readings were adjusted on the basis of egg volume as described by Stickel et al. (U. S. Fish Wildl. Serv. Circ. 226, 1965). The specific gravity of the egg was taken as 1.0 g/ml.

Table 1 presents the results of the analyses. These residues are low and can be

TABLE 1
RESIDUES IN TISSUES OF WHOOPING CRANES AND EVERGLADE KITES

Specimen	Tissue	ppm wet weight			Dieldrin
		<i>p,p'</i> -DDE	<i>p,p'</i> -DDD	<i>p,p'</i> -DDT	
Whooping Crane					
Adult ♀ (Texas)	Breast	0.10	< 0.04	—	< 0.03
	Liver	0.07	< 0.11	—	< 0.03
	Brain	0.08	0.59	< 0.06	—
Subadult ♀ (Kansas)	Breast	0.20	< 0.02	< 0.02	< 0.04
	Liver	0.08	< 0.02	—	< 0.04
	Brain	0.06	—	—	—
Embryo (Canada)	Carcass	0.17	—	—	< 0.01
Everglade Kite					
Nestling	Carcass	0.2	0.05	Trace	0.04
Adult	Carcass	0.28	0.06	0.09	0.02
	Liver	0.43	0.12	0.26	0.09
Egg		0.33	0.14	0.06	0.05
Apple snails ¹		0.06	0.03	0.10	

¹ Average of 3 pools.

considered to reflect the general background contamination of the environment. The low levels found in the kites correspond to the low levels found in the apple snails. The significance of these levels of pesticides in these species is not known.

The authors are indebted to Walter Stieglitz, Bureau of Sport Fisheries and Wildlife, for the Everglade Kite specimens and to Ray C. Erickson, Assistant Director, and the staff of the Endangered Wildlife Research Program for the Whooping Cranes and field data.—THAIR LAMONT and WILLIAM REICHEL, *Bureau of Sport Fisheries and Wildlife, Patuxent Wildlife Research Center, Laurel, Maryland 20810.*

Nesting of the Sooty Tern in Louisiana.—The A.O.U. Check-list (1957) includes coastal Louisiana in the breeding range of the Sooty Tern (*Sterna fuscata*). This is based on a nest found on Curlew Island in the Chandeleur group 5 June 1933 (Oberholser, 1938). The species then went unrecorded in Louisiana for 28 years when, on 16 September 1961, two specimens were obtained at widely separated coastal localities (Imhoff, 1962), their presence apparently a product of Hurricane Carla which struck the central and upper Texas coast 11 September. This note documents the subsequent reappearance of the species in Louisiana and the establishment of a small breeding colony on the Chandeleur Islands.

The Chandeleurs are a chain of barrier islands approximately 50 miles long some 20 miles off the Mississippi delta. The islands are a part of the Gulf Islands National Wildlife Refuge. The Sandwich Tern (*Thalasseus sandvicensis*) and Royal Tern (*Thalasseus maximus*) breed on several of the islands in large numbers, and formerly the Brown Pelican (*Pelecanus occidentalis*) nested there. Other common nesting species are the Laughing Gull (*Larus atricilla*) and Black Skimmer (*Rynchops nigra*); the Reddish Egret (*Dichromanassa rufescens*) and American Oystercatcher (*Haemantopus palliatus*) also breed in small numbers.

On 7 June 1962 (Stewart, 1962) and on 25–26 June 1963 (Stewart, 1963) the Sooty Tern was seen in the Chandeleurs, and on 10 June 1964 a nest was discovered on Curlew Island (Stewart, 1964) for the second Louisiana breeding record. J. M. Valentine (pers. comm.) reported the species again nesting on the islands in 1965, and in 1967 it became clear that a significant, if small, breeding colony had been established. On 27 June of that year the author, Sidney A. Gauthreaux, and other members of a party from Tulane and Louisiana State Universities found on Stake Island of the Chandeleur chain 8 nests containing 6 eggs and 3 young, and counted a total of 20 adults. Photographic evidence was obtained and deposited at the L. S. U. Museum of Zoology. More recently Valentine (pers. comm.) found two nests and seven adults on Stake Island on 22 May 1968 and a single nest on Curlew Island on 6 June. He also reported seeing several immature Sooty Terns near Curlew and North Islands 12 August 1968.

All 14 Sooty Tern nests that have been reported in Louisiana were on either Curlew or Stake Island, generally in or near Sandwich or Royal Tern colonies. Most were built to take advantage of the limited protective cover available, placed among the roots or under branches of dead black mangroves (*Avicennia nitida*), or partly hidden in a depression at the base of a clump of grass.

Also of interest is the finding of six Sooty Tern nests on Pelican Island, Texas on 27 May 1967 (Webster, 1967). The species has bred only irregularly along the Texas coast.

LITERATURE CITED

- AMERICAN ORNITHOLOGISTS' UNION. 1957. Check-list of North American birds, fifth Ed. Baltimore, Amer. Ornithol. Union.