

Incoloy bands could be difficult to close but that he had developed a special technique that gave a close butted joint.

We first applied Incoloy bands in 1967. Returns in 1968 banded with these bands showed no evidence of wear; we therefore rebanded all returns from previous banding seasons with Incoloy and used it for all new bandings that year.

Extreme wear in the turnstone bands can be attributed to the turnstones' behavior. They have been observed in the Central Pacific and in Alaska squatting on their tarsi to get more leverage to flip over a rock. In doing so, they rub the band across the ground and the abrasion takes off the aluminum.

The elimination of salt water as a cause of band wear seems justified for other reasons in addition to those mentioned by Jehl. Aluminum bands used on Sooty Terns banded on Howland Island in 1938 and recaptured in 1965 were almost like new. Returns with legible aluminum bands of Redfooted Boobies banded 13-15 years previously also provide evidence that aluminum bands on seabirds are little affected by salt water. However, Monel bands placed on Redfooted Boobies showed crevices after only one year of wear. The turnstones we banded in Alaska winter on Pacific islands mainly along the shore and band wear was not due to saltwater corrosion but to mechanical wear.

Mr. Ed Martinez has banded several thousand shorebirds in Kansas and is finding his aluminum bands illegible after one year (personal comm.).

I disagree with Jehl's statement that persons studying the Stilt Sandpiper or any other shorebird should use anodized bands. Anodizing wears off rapidly and the bands would then corrode. The above evidence and that provided by Jehl shows that the use of standard aluminum bands on shorebirds is pointless and should be discontinued in favor of Incoloy or some other alloy equally as good.

This paper is the partial result of work done on a grant from the National Science Foundation, grant no. GB 6220, to Southwestern College, during 1967-68. Work in 1964-66 was supported by the Smithsonian Institution's Pacific Ocean Biological Survey Program and this paper constitutes contribution number 67 of that program.—Max C. Thompson, Department of Biology, Southwestern College, Winfield, Kansas 67156.

Observation of "billing" in courtship behavior of Tree Swallow.—

Since 1966, I have been engaged in a breeding biology study of the Tree Swallow (*Iridoprocne bicolor*) colony in the John F. Kennedy Memorial Wildlife Refuge, near Jones Beach, Long Island, New York. In previous years, an average of 35 nest boxes were in use per year, but this year, *circa* 55 new boxes have been added.

On four occasions, April 13, 15 and 27, 1969 and on April 16, 1970, I observed behavior just prior to attempts to copulate which is similar to "billing" in the case of the Hawfinch, *Coccothraustes coccothraustes* (Hinde, 1955, A comparative study of behavior of certain finches. *Ibis* 97: 706-745, and Marshall, 1961, Biology and Comparative Physiology of Birds, Book II, Chapter 23 (R. A. Hinde: Behavior) pp. 400-401.

On the four occasions mentioned, the adult birds were observed to face each other, on a perch or atop the nest box, assuming a very erect stance. Loudly chattering, they moved their heads up and down, bills opening and closing rapidly. As the male's bill would be up, the female's would be down. Their bills did not quite touch. This behavioral pattern lasted from 2 minutes (April 27th, 1969—interrupted by human disturbance in the nesting area) to 13 minutes, twice or thrice interrupted by frantic preening of both birds.

Observations were made in each case from *circa* 250 feet, or in a blind, with a 20x telescope. The last date this behavior was observed the birds flew off, out of the line of sight, but in all of the 1969 observations, attempts to copulate almost immediately followed this billing behavior. Also interesting was the fact that in the April 15, 1969 observation, copulation took place on top of a box which was occupied by another pair of Tree Swallows.—Frederick S. Schaeffer, P. O. Box 3295, Grand Central Station, N. Y., N. Y. 10017.

A Nylon Belt for Holding Birds.—I constructed and tested a belt for holding Wood Ducks (*Aix sponsa*) during weighing. The device was made of plastic-coated nylon fabric (VN 13159 Armor-tite, Cooley Inc., Pawtucket, Rhode Island) and Velcro (available locally in fabric stores), a fastening material now used in the clothing industry as a substitute for buttons and zippers.