- HALLER, M. H. 1941. Fruit pressure testers and their practical application. U. S. Dept. Agri. Cir. No. 627.
- LUGINBUHL, R. E. 1966. Personal communication regarding the care of rodents in the Animal Disease Laboratory, University of Connecticut.
- MITTERLING, L. A. 1965. Bird damage on apples. Proc. Amer. Soc. Hort. Sci. 87: 66-72.

MITTERLING, L. A. 1966. Construction of a "beta - confinement" bird enclosure. Bird-Banding 37: 123-125.

WRIGHT, E. N. 1959. Bird damage to horticultural crops. J. Roy. Hort. Soc. 84: 426-434.

Plant Science Department, Univ. of Connecticut, Storrs, Conn. 06268

Received August, 1966.

## **BIRD-BANDING IN SOUTH AMERICA**

## By C. C. Olrog

Since 1961 the author has had the opportunity to carry out a limited program of bird-banding in Argentina. Although no major results have been obtained, the experiences learned may be of some use for future work in Latin America.

The main problem at first was how people would react to finding a banded bird. I was told by almost everyone (University Professors and the like) that it would be completely impossible to obtain recoveries of banded birds because of the mind of the people; they presumed that a banding program organized in the same way as in the U.S. or Europe would never work because of the special negative mentality of the South Americans. This pessimistic opinion was also shared by the administrations of the "Instituto Nacional de Tecnologia Agropecuaria" and the "Miguel Lillo" Institute which supplied the funds and the staff to carry out the The interest in the possibility of studying the arthrobanding. borne virus in birds was, however, so strong that the optimistic views of virologist Dr. Lucio Villa and myself were accepted, though not exactly trusted, and a program was approved for five vears.

*Program.* It was agreed that the principal purpose was to band waterfowl and species of birds known or suspected of carrying virus fatal to domestic animals and man. Moreover any species ought to be banded, even if only of pure ornithological interest. The funds available were about \$1,500 a year, to cover the purchase and maintenance of a vehicle, equipment, salaries for assistants and other costs related to the program.

Bands. The bands were purchased from the "I. O. Mekaniska" Factory, Bankeryd, Sweden, since it was not possible to have them made in Argentina for a comparable price and high standard. Eight sizes of bands were used, for application to any species from Penguins and Rheas to Hummingbirds, and there was a series of wing-tabs for ducklings. The inscription on the bands reads: DEVUELVA INSTITUTO MIGUEL LILLO TUCUMAN AR-GENTINA (Return Miguel Lillo Institute, Tucumán, Argentina), thus avoiding any confusing abreviations.

*Methods.* Birds were captured with traps of the conventional types used in the U. S. and Europe and with mist-nets. Nestlings and migrants were banded during different seasons and in different areas. In addition to the operations of the team of the Miguel Lillo Institute (four people), banding was also carried out by several amateurs and at their own expense.

*Birds banded.* Between 1961 and 1967 it has been possible to carry out only two years of effective and one of scattered banding, mainly due to the extreme pressure of bureaucratic administration current in South America. The number of birds banded was 7,051, representing 213 species (103 Non-Passerines, 110 Passerines). The figures as to the different groups are as follows:

Grebes 175, Cormorants 403, Herons, Storks & Ibises 558, Geese & Ducks 635, Birds of prey 83, Rails & Coots 273, Shore-birds 205, Gulls & Terns 457, Pigeons & Doves 588, Parakeets - Woodpeckers 225, Woodcreepers, Horneros & Antbirds 187, Tyrant-Flycatchers 568, Plantcutters 110, Swallows & Wrens 27, Mockingbirds & Thrushes 1,053, Wood-Warblers 27, House Sparrows 339, Black-birds 177, Tanagers 247, Finches 454.

*Recoveries.* Contrary to the pessimistic views taken by most people involved in the banding program, it was soon clear that the response of people finding banded birds was positive: they sent in the bands, mostly enclosed in detailed letters with information as to where and when the bird was shot, captured, or found, and many people wanted to know the purpose for banding birds. As yet no advertisement has been made in the press or on radio, so the people have acted completely by themselves. In many cases country people, unable to write or communicate themselves, went to the nearest village or town where they handed over the bands to the police or newspaper-officials, who in turn forwarded the bands and information. Keen interest in the banding program was shown by several sportsmen's organizations in Argentina and Brazil, from where there were a good many recoveries. As to the ducks, the first three years show the following figures:

	Banded	Recoveries
Fulvous Tree-Duck (Dendrocygna bicolor)	16	1
Brown Pintail (Anas georgica)	70	3
Silver Teal (Anas versicolor)	39	2
Cinnamon Teal (Anas cyanoptera)	6	1
Ringed Teal (Anas leucophrys)	122	2
Rosy-billed Pochard (Netta peposaca)	145	16
Black-headed Duck (Heteronetta atricapilla	) $46$	3

There were also several recoveries of those species normally not exposed to shooting. Those appear to have been made largely by fishermen who caught the birds in nets and traps:

Neotropic Cormorant (Phalacrocorax		
brasilianus)	403	20
White-necked Heron (Ardea cocoi)	317	3
Great Egret (Egretta alba)	158	3
Black-crowned Night Heron (Nyctico-		
rax nycticorax)	<b>68</b>	2
Roseate Spoonbill (Ajaia ajaja)	61	1

There have been few recoveries of other species than those mentioned above, but the attention of the persons sending in the bands showed great interest.

*Conclusions.* These experiences in Argentina show that the South Americans in that country as well as in Brazil respond in the same way to finding a banded bird as people do in the U. S. or Europe. They will usually try to return the band out of interest or plain curiosity. Therefore it might not be difficult to start bird-banding in South America on a larger scale, because of the demonstration of interest and cooperation by the common man in this preliminary program.

It is known, however, that the Fish & Wildlife Service in Washington D. C. has had remarkably few recoveries from South America though great numbers of North American migrants have been banded over the years. The reason for this might rather be that the abbreviations on the band are hardly understandable to Spanish and Portuguese speaking people, rather than lack of cooperation; they simply do not know what to do with the band. Moreover it is very doubtful if a post-office, for example in Argentina, would accept a letter with the following address: F. W. S. WASH. U.S. In any case, the lack of recoveries in South America of banded North American birds does not necessarily mean that the South Americans do not want to cooperate.

Instituto Miguel Lillo, Tucumàn, Argentina

Received November, 1967.