296

the earliest birds of that species, transients in our latitude, pass hurriedly, and stop only in such kinds of country as most resemble their ultimate destination. In other words, as a general rule, their occurrence in the State in spring becomes extended from the higher lands to the lower as the season advances.

THE WINTER RANGES OF THE WARBLERS (MNIOTILTIDÆ).

BY W. W. COOKE.

MANY expert ornithologists have spent a great deal of time and care in working out the breeding range of each species of North American birds. No comparable effort has been bestowed on the question of the winter home, and as a result many loose statements are current in ornithological literature. There seems to be a tendency to consider any record south of the United States as a wintering record, whereas quite a number of species pass in migration through the West Indies or Central America to winter in South America.

The following tables show at a glance what part of the district south of the United States is occupied as a winter home and what is crossed in migration. It might be added that the charts are not designed to show anything with reference to the breeding range of any of these species; so that the statement, for instance, that *Protonotaria citrea* occurs in migration in the southeastern United States is not to be taken as indicating that it does not breed in that same district.

The tables are condensed from the Bulletin on the 'Distribution and Migration of North American Warblers' recently issued by the Biological Survey.

Auk July

٠

COOKE, Winter Ranges of Warblers.

(3333882555 53555555555555555555555555555
Chile	*
Bolivia	+
Peru	+ +
Ecuador	+ + +
Brazil	+ +
Guiana	+ +
Venezuela	++ + + +
sidmoloD	++ ++ + +++
emeneA	++ + + + ++++++++++++++++++++++++++++++
Costa Rica	++ + + + ++++
Nicaragua	+ ++ ++ + + + +
Honduras	
Guatemala	+ + ++ * ++ +++ *++ ****
neteonY	$+$ + + + $+$ \odot + $+$ + + + $+$
Mexico	++++ +++++ ++ +++++ ++++**************
S. W. United States	
Texas	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
bsbininT	+ + +
Lesser Antilles	
Porto Rico	×
Haiti	+ + + + + +
Jamaica	
Сиря	
semsdad	+ + + + + + + + + + + + + + + + + + + +
S. E. United States	
 — = Occurs in migration + = Winters * = Rare or accidental 	Mniotilta varia Protonotaria citrea Protonotaria citrea Helminthophila bachmani piusi chrysoptera chrysoptera chrysoptera chrysoptiae r. guituralis c. sordida c. sordida c. sordida and subsp. nigritora and subsp. nigritora aestiva Dendroia tigrita nigritora aestiva b. castaneteeps cartlescens and subsp. aestivatica aestiva b. castaneteeps cartlescens and subsp. nigritora aestiva b. castaneteeps cartlescens and subsp. coronata aestiva b. castaneteeps cartlescens and subsp. coronata b. castaneteeps cartlescens and subsp. coronata b. castaneteeps cartlescens and subsp. coronata b. castaneteeps cartlescens and subsp. castaneteeps castanet
	H N W 4 NO LOO 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

297

Chile	
sivilóg	
Peru	+
Ecuador	+
lisera	l ·
Guiana	+
rləuzənəV	-+
6 Colombia	+ +++++++++++++++++++++++++++++++++++++
Panama	£ + ++ ++ ++ +
Costa Rica	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
suzerezi N	<u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u>
Honduras	<u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u>
Guatemala	+ + ++++ ++ ++ ++ ++ ++ ++ ++ +++++++++
Тисатап	+*+ + + +++ * + + + +
M exico	+ +++++++ * + ++ ++++++++++++++++++++++
S.W. United States	
Техая	
bsbiairT	+
Lesser Antilles	** * +++ *
Porto Rico	+ +++++
Haiti	+ + +++
Jamaica	+ * +*+++ + *
Cuba	+ * +*+++ +* + + *
Bahamas	[*] + * + + + + + + + *
S. E. United States	*+ +++++**++ * + + *
 — = Occurs in migration + = Winters * = Rare or accidental 	Dendroica blackburniae dominica a. d.abilora graciae nigrescens chrysoparna vireus townsendi vireus townsendi vigorsi palmarum p. hypochrysea vigorsi palmarum p. hypochrysea discolor p. hypochrysea discolor to discolor to

•

298

[Auk July

COOKE, Winter Ranges of Warblers.

	65 66 74 74 74 74 76 70 60 60 60 60 60 60 60 60 60 60 60 60 60
-Chile	
rivilo&	
Peru	+
Ecuador	++
Brazil	
Guiana	+
Venezuela	+
Colombia	++-
гтапа	+++
Costa Rica	++ +
Nicaragua	++ + .
Honduras	++ ++ ,
Guatemala	++ +++++++
Tuestan	+ +
Mexico	+ + + + + + + +
S.W. United States	
Техаз	* ***
bsbinirT	+
Lesser Antilies	* +
Porto Rico	+
Haiti	+
siems[+
Cuba	+
Bahamas	+
S E. United States	* *1
 — = Occurs in migration + = Winters * = Kare or accidental 	Wilsonia pusilla p. pileolata canadensis Setophaga ruticilla picta Cardellina rubrifrons Ergaticus rubr Basileuterus c. hrasheri belli
	65 66 77 77 77 70 66 66 77 77 77 70 77 70 77 70 70 70 70 70 70