

whether or not they were recent arrivals at the time of their capture, for the long crossing from Greenland must involve a considerable loss of body weight.

All who watched these birds (and I should mention Dudley Iles, who played a big part in the strenuous daily counts in September) were delighted to have this opportunity to become familiar with a rare and intriguing species.

## ECTOPARASITES

BY GORDON B. THOMPSON

A considerable amount of material was collected from eighteen host species during 1953. Representatives of four groups of ectoparasites are contained in the collection and there is much of interest but this report must necessarily be brief. Peter Davis is to be congratulated for having made such an excellent job of collecting these ectoparasites.

Host	SIPHONAPTERA (Fleas)		Date
	<i>Dasypsyllus g. gallinulae</i> (Dale)	<i>Nos and Sex</i>	
Garden Warbler—ad		1 female	9/5/53
Willow Warbler—ad		1 female	2/5/53
Grasshopper Warbler—ad		1 male	6/5/53
Grasshopper Warbler—ad		4 males	24/4/53
Grasshopper Warbler—ad		1 female	21/4/53
Grasshopper Warbler—ad		1 male	6/5/53
Sedge Warbler—ad		1 male	23/4/53
Sedge Warbler—ad		1 female	9/5/53
Sedge Warbler—ad		1 male	24/4/53
Whitethroat—ad male		1 female	3/5/53
Whitethroat—ad female		1 male	3/5/53
Wren—ad		1 male	24/4/53

All the fleas listed above were collected from the birds' bodies by the chloroform-bath method and were obtained from spring migrants with the exception of the one specimen from a resident Wren. Unfortunately, an exact record of the number of birds examined by the chloroform-bath method was not kept until July, but Peter Davis estimates that approximately 220 birds were examined in all and these were mostly small passerines. Since July eighty-six were examined but no fleas were found. On the basis of the approximate total, fleas were obtained from 8.95 per cent of the birds prior to July and the fifteen fleas were all collected during the period April 21st to May 9th. It is not known whether

these fleas were brought to the island by the birds. If the fleas were acquired by the birds during their brief stay on the island it would appear that there is a period of great activity for *D.g. gallinulae* during April and May. This flea has been found parasitising about fifty-nine species of bird hosts and occurs more often on the bodies of birds than other species. As far as I am aware the flea has not been previously recorded from Lundy.

### HIPPOBOSCIDAE (Bird Flies)

Host	<i>Ornithomyia</i>		Date
	<i>fringillina</i>	<i>avicularia</i>	
Meadow Pipit—juv	—	1 female	16/8/53
Meadow Pipit—juv	2 females (1 gravid)	—	12/8/53
Meadow Pipit—juv	2 females (1 gravid) 1 male	—	10/8/53
Linnet—ad	2 females (1 gravid)	—	12/8/53

An additional specimen which avoided capture was seen on a juvenile Chaffinch (bred on the island), about July 15th. It is interesting to note that so few specimens of Hippoboscidae were taken. It appears that the migrants are peculiarly free from these parasites since all the specimens collected were from resident birds. Peter Davis tells me (*in litt.*) that very few of the birds bred on Lundy are caught in the traps and is of the opinion that bird flies would not prove particularly scarce if more breeding birds could be examined.

The single female of *O. avicularia* taken on a Meadow Pipit had a specimen of *Brüelia* sp. (Mallophaga) attached to the posterior margin on the abdomen. Mites (Epidermoptidae) were noted on the wings of the specimens collected from the Linnet and the Meadow Pipit taken on August 12th.

### MALLOPHAGA (Bird Lice)

A number of specimens were collected from the smaller passerines which are not at present identifiable. These specimens are none the less valuable. The following species have been determined.

Host	Parasite
Blackbird	<i>Menacanthus</i> sp.
	<i>Brüelia</i> sp.
Kestrel	<i>Laemobothrion tinnunculi</i> (Linn.)
Shag	<i>Pectinopygus</i> ( <i>P.</i> ) <i>brevicornis</i> (Denny)
Guillemot	<i>Quadriceps obliquus</i> (Mjöberg)

### IXODOIDEA (Ticks)

A total of forty-one birds, representing eight host species, were found to have ticks attached about the eyes and gape. The total number of birds examined for ticks on the head was 1,034. The percentage of infested birds is therefore, 3.96 per cent.

Host	Date	Species of Tick	
Meadow Pipit	19/4/53	<i>Dermacentor reticulatus</i> (Fabr.)	2N+
" "	31/5/53	<i>Ixodes reduvius</i> (L.)	2N
Whitethroat	22/4/53	" "	1N
" "	6/8/53	" "	2L+
" "	13/8/53	" "	3L
" "	19/8/53	" "	2L
" "	19/8/53	" "	3L
" "	26/8/53	" "	1L
Blackcap	12/11/53	" "	4L
Willow Warbler	1/8/53	" "	2L
" "	1/8/53	" "	2L
" "	3/8/53	" "	1L
" "	3/8/53	" "	1L
" "	3/8/53	" "	1L
" "	3/8/53	" "	1L
" "	3/8/53	" "	1L
" "	4/8/53	" "	2L
" "	5/8/53	" "	1L
" "	6/8/53	" "	1L
" "	6/8/53	" "	1L
" "	6/8/53	" "	2L
" "	6/8/53	" "	1L
" "	13/8/53	" "	1L
" "	16/8/53	" "	1L
" "	30/8/53	" "	1L
" "	30/8/53	" "	2L
Blackbird	18/8/53	" "	1N3L
" "	27/8/53	" "	2N8L
" "	4/9/53	" "	1N34L
" "	5/10/53	" "	1N
" "	5/10/53	" "	2N12L
" "	7/10/53	" "	1N
" "	11/10/53	" "	3N1L
" "	11/10/53	<i>I. frontalis</i> (Panzer)	1N
" "	25/10/53	<i>I. reduvius</i> (L.)	1N
Song Thrush	12/10/53	" "	1N
" "	18/10/53	" "	1N
" "	19/10/53	<i>Ixodes</i> sp ?	1 male
Robin	6/8/53	<i>I. reduvius</i> (L.)	2L
" "	18/8/53	" "	5L
Quail	27/5/53	" "	1N

+ N=nymph + L=larva

These records probably represent the largest single collection of ticks from birds and are of considerable interest. All the specimens collected were nymphs and/or larvae and the dates of collection fall within two periods—May 19th to 22nd, June 27th to 31st, and August 1st to 30th, September 4th, October 5th to 25th and November 12th—these periods correspond roughly with the seasonal activity of the immature stages of *I. reduvius*. From small samples

of *I. reduvius* collected on the island, from cow, cat and dog, which serve as hosts for the adult stages, it is evident that there is a source of infestation on the island but when it is remembered that the greater number of the hosts are spring and autumn migrants and that they only spend periods ranging from hours to a few days on the island all the ticks cannot be acquired by the birds while on the island. The approximate period of time spent by nymphs and larvae in feeding on these bird hosts is between four and six days. It seems, therefore, very probable that some ticks are acquired at the breeding grounds and brought to the island whereas others are acquired by the birds during their brief sojourn on the island. A more detailed account of this tick collection will be published at a later date. In order to complete the story of the ticks it will be necessary to know the movements of the various bird hosts involved and to collect considerably more material on the island from domestic animals, deer, etc.

The above remarks refer to *I. reduvius*. The record of *I. frontalis* from a Blackbird lends support to the possibility that this bird is a breeding host of this tick. The record of *D. reticulatus* is interesting because it is only known from Devon, Somerset and the Aberystwyth district of Wales. In the adult stages it is parasitic on domestic animals and it is common in Europe.

*Note.*—Four females of *Ixodes* were obtained from the cat. One female is *I. reduvius*, the other three females are thought to represent an undescribed species. If this proves to be true it will be a most interesting discovery and will be dealt with in a separate paper by my friend Dr Don R. Arthur, to whom I am indebted for considerable help with the determination of the ticks.

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*Correction.*—In the last sentence on p. 35 of last year's report the word 'not' should be deleted.