

# Breeding distribution and numbers of wren (*Troglodytes troglodytes*) in the Faroe Islands

Útbreiðsla og tal av Músabróður (*Troglodytes troglodytes*) í Føroyum

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## Úrtak

Føroyski músabróðurin (*Troglodytes t. borealis*) er stöðufuglur og eitt egið underslag. Hann er vanligur um allar Føroyar. Grundað á kanningar gjøgnum tey seinastu 20 árin verður mettt, at stovnurin telur millum 650 og 800 pør, kanska fleiri. Umleið 28% eiga á bygdum økjum og í bønnum, 49 % í haganum (einaeist niðri í bakkanum), og 23% í bjørgunum. Bert heilt fá pør eru halda til í plantasjum. Á smáum oyggjum eru lutfalsliga fleiri pør. Møguligar orsøkir til hetta (t.d. sjófuglur, ketta, grótgardar o.s.fr.) verða umrøddar. Broytingar í stovninum millum ár kunnu vera 15-30%, men ikki síggjast langtíðar broytingar í tølunum. Líkt er to til, at flyting hevur verið burtur frá bygdum og út í haga og fuglabjörg.

## Abstract

The sedentary, endemic subspecies, of wren (*Troglodytes t. borealis*) is common and widespread all over the Faroe Islands. The total breeding population was estimated, on the basis of field-data collected during the past 20 years, as being between about 600 and 850 pairs, and probably more. About 28% are found at settlements and on cultivated land surrounding them (infields), 49% in the outfield areas (mostly near the shores), and 23% on sea cliffs. Few pairs are to be found in plantations. Small islands have relative many breeding pairs; possible reasons (e.g. presence of seabird colonies, cats, stone walls etc.) are discussed. Annual fluctuations in the order of 15-30% occur but no long-term significant changes in numbers are discernible, though a possible shift from breeding at settlements to outfield areas and sea cliffs is suggested.

## Introduction

The sedentary Faroese population of wren (*Troglodytes t. borealis*), recognized as a subspecies endemic to the islands, is widely distributed and common in the Faroe Islands, as stated by early as well as recent authors (e.g. Landt, 1800; Holm, 1848; Müller, 1862; Feilden, 1872; Salomonsen 1934; Williamson 1948; Joensen 1966; Bengtson and Bloch, 1983). The same sources also describe, in general terms, habitats and habits of the wren in the islands; e.g. that it is common in many of the villages (especially outside of the breeding season) and how it is often seen sneaking into barns, drying-houses and other buildings in search for food and shelter (hence its Faroese name *músabródir* i.e. "the brother of the mouse"). It is also to be found on coastal and inland cliffs, among rocks and in boulder-fields, in gullies and ravines, and along small streams. Already Landt (1800) exhibited ecological reasoning by claiming that the wren was more abundant on the northern islands and in

places where there were no rats and therefore no need to keep cats. Since then many authors have emphasised the negative effects the presence of cats have on the abundance of wrens in the islands (*e.g.* Müller, 1862; Feilden, 1872; Andersen, 1898; Klinckowström, 1911; Ferdinand, 1947; Patursson, 1948; Williamson, 1948).

Besides scattered, short references to local concentrations of breeding wrens no quantitative studies have been made until 1981, when a census of the landbirds of the entire Faroes, involving a large amount of field-work, was conducted (Bloch, 1981). With reference to the wren this census yielded a total of 250 singing males and the breeding population was estimated at 250-500 pairs (Bloch and Sørensen, 1984); later this estimate was revised to 500 pairs, no explanation given (Bloch *et al.*, 1996). During the past 20 years I have intermittently been studying wrens in the Faroes. The primary aim of the present account is to estimate the size of the total breeding population during this period (*i.e.* an overall average for the 1980s and 1990s) as well as to describe the geographic distribution and habitat-use. In addition, data on the magnitude of annual fluctuations in numbers are given but will not be elaborated on in this paper. Finally, possible long-term changes are discussed.

### The islands

The Faroe Islands, situated in the North Atlantic between Shetland and Iceland, consist of 18 islands (and some small islets), separated by narrow sounds and short

stretches of water; the maximum W-E and S-N distances are about 75 km and 115 km, respectively (Fig. 1); the total land area is 1401 km<sup>2</sup>. The islands range in size from 0.7 (Lítla Dímun) to 374 km<sup>2</sup> (Streymoy) and with the highest peak at 882 m a.s.l. (about 2% of total area > 600 m), the northern parts of the archipelago being the most mountainous. The coasts are rugged with high, vertical sea cliffs on the W and N sides of many islands, whereas on the E sides the coastal cliffs are usually lower, with sloping grasslands. Typical features of the landscape are: the many small to large crevices and gullies (*gjáir*, singul. *gjógv*) that cut deep into the coastal and inland cliffs and mountains, the ledges or "steps" (*hamrar*) caused by differences in the properties of the tuff and basalt series giving the mountain sides a stratified appearance, and the infields or "home fields" (*bøur*) with their settlements. The infields encompass the cultivated land surrounding the individual farmstead or larger settlements and are usually encircled by stone walls or modern wire fences. The settlements are almost invariably located by the sea, and the infields stand out as habitat-islands covering a total of about 7% of the Faroes (see Enckell *et al.*, 1987:Fig. 1). Within the infields the vegetation is often relatively lush, as it is in some sheltered sites such as in *gjáir*, on cliff-shelves or in seabird colonies. Natural shrubs or birch woods are absent, but on some islands there are small plantations of introduced coniferous and deciduous species of trees; total area is about 100 ha. The rest of the land consists of outfields (*hagi*) extending from the shores to the mountain



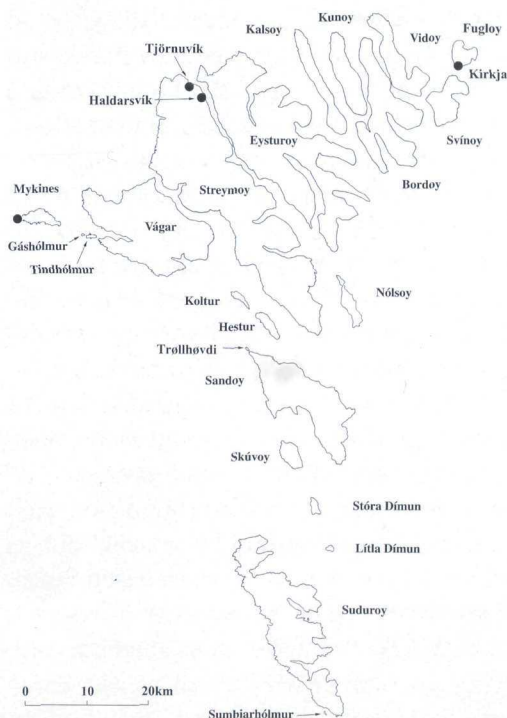


Fig. 1. The Faroe Islands. Dots give the locations of selected study plots on Mykines, Streymoy (Tjørnuvík and Haldarsvík), and Fugloy (Kirkja).

plateaus, being dominated by different kinds of grassland (mostly of heath type) except at the highest altitudes where the vegetation is sparse. The climate is oceanic with cool summers (mean temperature  $11^{\circ}\text{C}$  in July-August), mild winters ( $4^{\circ}\text{C}$  in January-February), high mean annual precipitation (about 1500 mm; nearly all of it falls as rain), frequent and strong, mostly W-SW, winds, and often mist. For details on the environmental conditions on the Faroes, see Rutherford (1982).

## Material and methods

Since 1978 I have visited the Faroes > 30 times, each island on several occasions (Lítla Dímun only once), and effectively all parts of the islands. Much time (especially in the 1980s) was devoted to studies of individually colour-banded wrens in four selected small plots (Fig. 1), viz. W of the village on Mykines in an area dominated by seabird colonies, on northern Streymoy at Tjørnuvík in immediate vicinity of the settlement and S of Haldarsvík in an outfield area with plenty of stone walls and screes, and at Kirkja on Fugloy in an area encompassing the settlement and the infield, and northwards the outfield steep slopes with ravines along the coast. Throughout the study wrens were systematically searched for and recorded in all districts of the Faroes. The wren may be heard singing at all times of the year and the loud and vehement song makes it relatively easy to establish its presence and the approximative location of singing by, presumably territorial, males; subject to terrain and weather conditions. The censuses were carried out in March-July and I frequently used a tape-recorder and play-back technique. In the smaller settlements all singing males in the village and the surrounding infield (and even more distant ones) could often be heard from a single vantage point, and repeated visits yielded reasonably reliable estimates of numbers. Censuses in the outfield habitats and along coastal cliffs were much more problematic because of distances and difficulties in accessibility. For instance, under favourable condition (*i.e.* calm and clear weather) males singing from

sea cliffs that are several hundred meters high can usually be heard from a boat below or from the top of the cliff, but the exact positions of the individual males are often difficult to pinpoint. While the counts from the infields, provided the circumstances (*e.g.* season, time of day, number of visits, weather) during census-taking were favourable, are considered reasonably accurate, those from cliffs and some other outfield sites are of unknown accuracy.

In addition to the plotting of singing males, observations of fledged young (especially in July when the family still keeps together and the food-begging young are easily located) and single birds were also noted.

In calculating the total numbers I have simply added the estimates for each unit of area. For places visited in two or more years the estimate was given as the lowest and highest numbers. A field-note saying "at least 2 males" or 2+ was in the end put down as 2-3 males. The final totals for the islands and the Faroes are thus based on observations from different years and can be seen as a sort of overall average for the past 20 years. The estimates are given as number of pairs, although the censuses mostly refer to singing males and no corrections for unpaired males (not uncommon) or polygamous males (rarely found in the Faroes; *pers.obs.*) have been made. All estimates are considered conservative.

Each plotted pair was assigned to one of four habitats; *viz.* settlements, infields, outfields, and sea cliffs. The settlements, located within the infields, may consist of anything from a single farmstead or small

cluster of houses to a small village (< 50 houses) or a town (the largest, the capital Tórshavn, has about 15000 inhabitants) with gardens, sometimes small plantations, a church and graveyard, patches of grassland, often a small stream coming down from the hills, houses for stores, boats *etc.* In this context the settlement habitat is restricted to the built-up area. The infield habitat is here defined as the cultivated land surrounding the settlement often with some solitary, old, sometimes delapidate houses for sheep and cattle, barns and crofts made of stones, or modern buildings made of wood or concrete. The perimeter, and boundary between infield and outfield, is often a stone wall or modern sheep fence. Parts of the infield are often intersected with dykes. The outfields as a habitat category are here defined as all areas outside the infields, with vertical cliffs, *gjáir*, mountain sides with ledges and screes and often boulder-fields further down, steep grassland slopes intersected with ravines and small brooks, and some scattered houses like those in the infield. The fourth habitat, the sea cliffs, is defined as the more or less vertical, in some places several hundred meters high, cliffs facing the sea, with ledges and crevices (*incl. gjáir*) and often with numerous rocks and boulders above the high-water mark. The habitat classification adopted is based on the geographical position of the birds rather than characteristics assumed to fulfil the requirements of the wrens. This was out of necessity since time did not permit me to follow individuals long enough to assess the limits of their territories. Thus, a number of border-cases



had to be dealt with when singing males were seen moving in and out of settlements, across the fences delimiting the infield or between coastal and inland cliffs. In such cases I usually spent some extra time watching the bird before making a subjective decision. Among the shortcomings of the classification, the position-based plotting and assignment of pairs to different habitats, with an overlap in features considered essential to requirements of the wren, considerably limits its usefulness for, for instance, analyses of habitat preferences. In fact, the adopted description of habitat-use is more of a supplement to the geographic distribution patterns. Another drawback, that follows from the topography of the islands with many wrens having "vertical territories", is that meaningful inter-habitat comparisons of breeding densities are seriously hampered.

## Results

The wren occurs in all the major islands (Fig. 2) and also on the small Trøllhøvdí (0.20 km<sup>2</sup>) but it has not yet been recorded on Tindhólmur (0.66), Gáshólmur (0.07), and Sumbiarhólmur (0.11). Wrens are spread all over the islands but the majority of breeding pairs are found along the coasts and also many of the inland pairs breed within < 1-2 km of the nearest shoreline. Wrens also breed at some altitude, though they are less numerous on the higher plateaus and mountains (< 15% found higher than 300 m a.s.l. and < 1% above the 600 m level; Bengtson and Bloch, 1983). Thus, empty space is mostly to be found in



**Fig. 2.** Breeding distribution of wren in the Faroe Islands in the 1980s and 1990s. Each dot represents one or several territorial males.

the central parts of the larger islands, such as Streymoy, Eysturoy, and Vágar (Fig. 2).

About 18-19% of the pairs were found within the settlements and another 9-10% in the infields, thus nearly 3 of 10 pairs breed in close association with man (Tab. 1). The outfields hold about half (47-50%) and the sea cliffs nearly a quarter (22-24%) of the total breeding population (Tab. 1).

Total population size for the Faroes was estimated as between 614 and 852 breeding

Island	Area (km <sup>2</sup> )	Habitat (%)				
		Settlement	Infield	Outfield	Cliffs	Pairs (#)
Suduroy	166.3	15	13	35	38	56 - 80
Lítila Dímun	0.7			100		6 - 10
Stóra Dímun	2.6	6	24	18	53	9 - 17
Skúvoy	10.2	14	7	29	50	19 - 28
Sandoy	111.3	27	23	32	18	27 - 44
Trøllhøvdí	0.2					1 - 1+
Hestur	6.1	9	16	43	31	21 - 32
Koltur	2.4	29	14	29	29	3 - 7
Vágar I	78.7	25	19	35	21	50 - 72
Mykines	10.6	5	3	34	58	43 - 59
Nólsoy	4.4	7	7	76	10	20 - 29
Streymoy	374.3	27	8	56	10	97 - 126
Eysturoy	286.3	29	4	57	10	76 - 97
Kalsoy	30.7	24	16	42	18	35 - 50
Kunoy	35.3	15	9	58	18	24 - 33
Bordoy	95.5	22	7	66	6	43 - 55
Vidoy	41.3	8	5	67	21	31 - 39
Svínoy	27.4	16	13	38	34	24 - 32
Fugloy	11.2	10	10	61	20	29 - 41
<b>Total</b> <b>(min.pop. – max.pop.)</b>		<b>18-19</b>	<b>9-11</b>	<b>50-47</b>	<b>22-24</b>	<b>614 - 852</b>



pairs (Tab. 1). The 5 largest islands, together constituting about 80% of the total area, hold about 50% of the population. The 8 smallest islands (each < 11 km<sup>2</sup>), corresponding to 3-4% of the total area, hold about 25% of the total population. Mykines stands out as perhaps the most prominent island for wrens in the Faroes.

Fluctuations in breeding numbers between years were observed in the four plots monitored for 5-10 years (Tab. 2). No significant differences between the plots were found and the pooled number of pairs varied between 18 and 26 (variation being 17%) in those 5 years when all four plots were censused, and CV ranged from 15 to 28% in the individual plots. Increases in 1985, 1987, and 1989 were in the order of 18-37% and the decrease in 1988 was 27%.

## Discussion

Breeding wrens are widespread in the Faroes occupying all islands and found

along all coasts or not far from the shoreline, at and around settlements, on sea bird cliffs, in puffin colonies, in crevices and gullies (*gjáir*), on screes and among rocks and boulders below cliffs, and in ravines along the small water-courses descending the sloping grasslands. They also breed, although more scattered, inland in the same crannied environments just described, where damp, sheltered conditions and frequently luxuriant vegetation at altitudes up to 300 m a.s.l. (occasionally higher), prevail. Nearly 25% of the pairs are estimated to breed in the sea cliffs and about 50% in the outfields (the remaining 25% being found at the settlements and in infields) which, in its habitat-use, makes the Faroese wren very much a rock bird. Interestingly enough, the small plantations found on some of the islands have attracted several other woodland species of birds that do not normally breed (or have just started to do so) in the Faroes, e.g. robin (*Erithacus rubecula*), goldcrest (*Regulus regulus*), and

**Table 2.** Numbers of breeding pairs of wren in four plots censused over 5-10 yr in the Faroes. Calculations based on < 4 plots are given in brackets and ? refers to lack of data.

Year	Mykines	Tjørnuvík	Haldarsvík	Kirkja	Total	Change (%)
1983	?	4	?	?	?	?
1984	5	3	4	6	18	(- 25)
1985	?	4	6	10	?	(+ 54)
1986	6	3	5	8	22	(- 20)
1987	7	4	6	9	26	+ 18
1988	5	2	5	7	19	- 27
1989	6	5	7	8	26	+ 37
1998	?	2	4	?	?	?
2000	?	4	5	?	?	?
2001	?	4	7	?	?	(+ 22)
# years	5	10	9	6	5	
Range	5-7	2-5	4-7	6-10	18-26	
CV (%)	15	28	21	18	17	

siskin (*Carduelis spinus*), but surprisingly few pairs of breeding wrens. This contrasts with the Icelandic wren (*Troglodytes t. islandicus*), another endemic, sedentary island subspecies, which has attained high densities of breeding pairs in several of the relatively recent plantations of coniferous and some deciduous trees, e.g. in Skorradalur and Hallormsstaðarskógur (pers. obs.). Elsewhere in Iceland the wren breeds in many of the once much more extensive native woods and shrubs of birch (*Betula pubescens*), but also on cliffs and gullies as well as in lava fields. The Faroes has not had any native trees or higher shrubs since the wren colonised the islands (i.e. in post-glacial time), which leads one to speculate whether the lack of response to the plantations might have a genetic component to it. Genetic aspects have been invoked in discussions of the success of biological invasions (Williamson, 1996).

All the small islands ( $< 11 \text{ km}^2$ ), except Koltur for some unknown reason, exhibit relatively high breeding numbers of wrens (Tab. 1). This negative correlation between numbers and island size has previously, on the basis of the survey data from 1981, been associated with the favourable shore-line length to area ratio, and as the wrens disperse to, and defend winter-territories along the shores, small islands can hold relatively larger numbers. Furthermore, on a small island the distance to the shore is invariably short and there are fewer inland, mountainous areas unsuited for breeding than on larger islands (Bengtson and Bloch, 1983). The present study suggests alternative, non-exclusive explanations to the

small-island effect. The smaller islands usually have an abundance of cliffs, *gjáir* and generally craggy terrain, and of breeding seabirds (e.g. Mykines, Skúvoy, and Fugloy). The puffin-wren association (see e.g. Williamson and Boyd, 1963) is conspicuous also in the Faroes, notable examples are Lamba on Mykines, Urðin Mikla on Fugloy, and Urðin on Nólsoy where wren densities are particularly high; sometimes 5-10 singing males within a couple of hundred meters. On Koltur seabirds are abundant but wrens relatively few in number. Trøllhøvdi supports dense seabird colonies and the wren breeds there, but in unknown numbers (Bertelsen, 1965; Bengtson and Bloch, 1983). Also, the human populations on these islands are small and the single (two on Fugloy) settlement consists of relatively few, often old-style, sod-roofed houses and lots of stone walls. Such settlements often hold several pairs of wrens in contrast to the expanding communities of the larger islands, where modern buildings and wire fences seem less attractive to the wrens. However, settlements of the former kind also occur on the larger islands (e.g. Gjógv, Elduvík, and Funningur on Eysturoy, Bøur on Vágar, Skarvanes and Húsavík on Sandoy, others on Kalsoy, Kunoy etc.) and all these small settlements, irrespective of island size, may or may not have a good number of breeding wrens. The presence of cats has for a long time been considered a menace and threat to wrens at the settlements (see Introduction), for instance by Andersen (1898; 1905) with regard to Nólsoy and Mykines and today in Sumba on Suðuroy (Aksal Poulsen, pers.



comm.) and in several other places. On Skúvoy, where Feilden (1872) at the end of May 1872 inspected as many as 7 or 8 nests with eggs or young at the small settlement, the recent removal of cats may well be the main cause for the increased birdlife around the village (Højgaard, 1995). However, there are settlements where breeding wrens are common despite many cats, for instance at Kirkja on Fugloy and on Kunoy (pers.obs.). In this context it can be noted that rats (*Rattus norvegicus*) occur on most of the larger island but are absent on the smaller ones (Bloch, 1999). At present it is not known whether the presence of rats has any effects on wren densities. Furthermore, some local informants claim that the number of breeding wrens in the settlements is negatively correlated with the number of house sparrows (*Passer domesticus*), a species that has colonised effectively all settlements during the past 50 years (Jensen and Kampp, 1997). This hypothesis remains to be tested.

The total Faroese breeding population of wren, based on data collected throughout the 1980s and 1990s, is estimated to be between about 600 and 850 pairs (Tab. 1). This estimate is a conservative "overall average", and in view of the methodological limitations (e.g. a difficult survey terrain in combination with frequent bad weather), that presently can not be corrected for, it seems quite possible that the number of pairs, especially in sea cliffs and remote outfield areas could be at least a hundred more. For the Faroes the estimate (Tab. 1) equals about 4-6 pairs/10 km<sup>2</sup>. There are no comparable estimates for neighbouring ar-

reas, but in Shetland (almost exactly of the same size as the Faroes), where the wren (*Troglodytes t. zetlandicus*) is common and breeds in the same types of habitats, counts of singing males on some of the smaller islands and inland observations suggest that the breeding density is about the same as in the Faroes (Armstrong, 1952; Venables and Venables, 1955). For instance, on Fair Isle (8.5 km<sup>2</sup>) the local subspecies of wren (*Troglodytes t. fridariensis*) was represented by 45-50 singing males (Williamson, 1965), which is about the same number as on the slightly larger Mykines, perhaps the best wren-island in the Faroes (Tab. 1). Further south, on St. Kilda, the wren (*Troglodytes t. hirtensis*) is abundant with about 230 pairs in the four islands (Hirta 638 ha, Dun 32 ha, Soay 99 ha, and Borerey 77 ha), and 116 on Hirta alone in 1957 (Williamson, 1958), and for Hirta about the same numbers in 1960 and 1962 (Harris and Murray, 1978). Thus, the wren population on Hirta is four-fold that on Hestur (6.1 km<sup>2</sup>) and twice that of the slightly larger Mykines. As to the wren in Iceland, Petersen (1998) has made an educated guess at 500-2000 breeding pairs, corresponding to 0.05-0.2 pairs/10 km<sup>2</sup>.

Wren populations in Scandinavia, on the European continent, and in the British Isles frequently exhibit marked fluctuations in breeding numbers, especially in response to winter weather conditions (e.g. Sharrock, 1976; Glutz *et al.*, 1985; Nilsson, 1986; Cramp, 1988; Marchant *et al.*, 1990). In Shetland fluctuations occur; for instance, on Fair Isle in 1979 the number of singing males, following the severe winter

1978/79, dropped by about 75% from a previously rather stable level at about 50 males, but since 1981 (10 pairs) the number has been increasing (Dymond, 1991). For St. Kilda, where many census-takings have been attempted over the years, it has been claimed that the number of pairs in the "Village area" remained stable over a long run of years and that this reflected the situation in the rest of the population (Fisher, 1947; 1948). This was later refuted by Williamson (1958), who claimed a subsequent, decreasing trend in the "Village area" and argued for fluctuations also in the population breeding in the cliffs (about 85% of total population). Also from Iceland fluctuations have been reported (*e.g.* Bengtson, 1970). As to the Faroes, the annual fluctuations reported for the four study plots (Tab. 2) represent the only information available. The plots were selected for special studies of colour-banded individuals, and thought to represent wren strongholds. Therefore the plots should, according to the theory of "ideal-free distribution" (Fretwell and Lucas, 1970; Fretwell, 1972) exhibit less variation than more marginal areas with lower densities. The variation (CV) for the four plots and the pooled numbers all fall in the range 15-28% (Tab. 2), which is considerably less than the 63% variation recorded in Sweden (Nilsson, 1986), and lower than the about 45% calculated from data from Iceland (Bengtson, 1970). It is not the purpose of this study to discuss the population dynamics of the wren in the Faroes but to note that in favourable wren-areas in the Faroes the magnitude of annual fluctuations usually

appears to be in the order of 15-30%. Whether this holds also for less favourable areas and for the wrens breeding on the sea cliffs is not known.

During the course of present study, *i.e.* the past 20 yr, no single years stand out as being particularly "good" or "poor" with respect to the number of breeding wrens, nor is there any obvious trends in numbers. The previous total estimates at 250-500 and 500 pairs (Bloch and Sørensen, 1984; Bloch *et al.*, 1996) most likely underestimated the true numbers and should not be taken as evidence for a recent increase. A literature search for other evidence of fluctuations or long-term changes produced little of value. Most authors refer to the wren as "common" or "abundant" without giving any numbers. Dare (1966), who made a fortnightly visited to several islands (*viz.* Streymoy, Eysturoy, Vágar, and Nólsoy) in Maj-June 1965, found the wren to be uncommon with < 10 records. Williamson (1953) visited Streymoy, Nólsoy, Skúvoy, and Stóra Dímun in late July and early August 1947 and found the wren more abundant than in any of the years 1942-1945, in spite of exceptionally harsh weather conditions in the early months of the year. On Mykines in 1900 the wren occurred "in no small numbers" and in the following year it was found "in rather few numbers; fewer it seems than in the previous year" (Ander sen, 1901; 1902); not stating whether it refers to breeding birds or includes young (in the Faroes, recruitment, and thus autumn and early winter numbers, may vary considerably between years according to pers.obs.). Two published accounts, dating



even further back in time, are possibly of some relevance in this context. In the summer of 1828, the German ornithologist Graba travelled all over the Faroes and made careful observations, published in great detail but with only one reference to wren; several singing birds at Vidoy on 1 July (Graba, 1830:208). Five year later, during the first week of June 1833, George Clayton Atkinson, accompanied by an ornithologist of reputation, William Proctor of Durham, visited the Faroes en route to Iceland. Atkinson's diary, recently published for the first time by Seaton (1989), includes an, according to the author, imperfect list of about 35 species of birds which does not include the wren; though cats were reported to be particularly common. This might simply be an omission, but, like Graba, the two Englishmen surely must have been most familiar with the wren from their respective home countries. However difficult it is to interpret these two anecdotal observations they could indicate that the wren had some poor years around 1830, or that the wren has not always been as numerous as it is today. For Orkney it is claimed that the wren has not changed significantly over the past two hundred years (Booth *et al.*, 1984). No such claim can be made with regard to the Faroes.

However, it seems quite possible that some recent changes in the distribution of breeding wrens have taken place. Many settlements have, as described above, undergone changes and rather than erecting new stone walls around the infields and building new barns of stones the old ones are being pulled down and replaced by

more modern arrangements. Several local people claim in interviews that wrens were more abundant around settlements before World War II than they are today. A shift in breeding distribution from infields to outfield inland areas and sea cliffs is perfectly possible as several colour-banded wrens have been found to disperse even between island (pers.obs.; though *cf.* Cramp, 1988:528). So far no change in wren numbers on the sea cliffs and in the outfield breeding grounds have been documented.

### Conclusions

The wren is widely distributed all over the Faroes being particularly abundant on small islands in association with seabird colonies. The total breeding population is estimated to be between about 600 and 850 pairs but, considering annual fluctuations in the order of at least 15-25% and a probable underestimate of numbers on sea cliffs and in some inland districts, it is suggested in some years to be just short of a thousand pairs. No periodic or long-term trends are discernible, though years with exceptionally low numbers may have occurred from time to time. Furthermore, a decrease in the proportion of pairs breeding in built-up areas may have taken place.

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