Insects, Man and the Earliest Settlement of the Faroe Islands: a case not proven

P. C. Buckland

Introduction

The time of the first settlement of the Faroe Islands has been the subject of much discussion and the historical and archaeological evidence has recently been extensively reviewed by Símun Arge (1989). Both the place name Faereyjar, islands of sheep, and the historical record seem to indicate settlement before the arrival of the first Norse settler, Grímur Kamban. The Irish monk, Dicuil, writing at the court of Charlemagne's successors in France ca. 825, (Tierney, 1967) refers to islands two days sailing from the outer Scottish islands, once occupied by Irish monks *(papar / culdees)* but, by his time, abandoned to sheep and seabirds because of the activities of Norse pirates. His comments are usually taken to refer to the Faroes, yet these papar remain curiously elusive in the archaeological record. The palaeoecological record, however, appears to have been more productive. The detailed pollen studies of Jóhannes Jóhansen have not only established the sequence of changes through the Holocene in the Faroe Islands in some considerable detail (cf. Jóhansen, 1975; 1982; 1985), but also have provided evidence for the impact of Man since Landnám. Jóhansen (1971; 1979; 1985) has put forward arguments for the cultivation of cereals during a phase of Landnám, some two hundred years before the traditional date of Norse settlement in the ninth century. Despite the apparently conclusive nature of the palaeoecological record, the interpretation has remained contentious (Jóhansen, 1986; Krogh, 1986).

If the apparent historical reference is taken to refer to elsewhere (e.g. Arge, 1989; Krogh, 1986), then all rests upon the palynology, since any archaeological remains may have been obscured by subsequent Norse activities. The Paper may have been so thinly spread as to be virtually undetectable in the archaeological record, and their artifacts are likely to be indistinguishable from most early Norse pieces. Similar problems exist in Iceland, where, despite references in Íslendingabók and a further comment of Dicuil's (Sveinbjarnardóttir & Buckland 1983), the early Irish settlers have likewise remained elusive in the archaeological record (Sveinbjarnardóttir, 1972; Eldjárn, 1989). Rec-

Fróðskaparrit 38.-39. bók (1989-90): 107-113

ent claims by Margrét Hermanns-Auðardóttir (Hermannsdóttir 1986; Hermanns-Auðardóttir 1989) for early settlement of Vestmannaeyjar by Merovingians are not well supported by palynological evidence (Hallsdóttir, 1984) and have engendered heated debate in the Icelandic national press (1989).

In both Iceland and the Faroe Islands, the impact of Man and his domestic animals on the natural vegetation are well documented in the palynological record (cf. Hallsdóttir, 1987; Jóhansen, 1985), but Man does not travel alone, and, along with his domestis animals, he brings a rich harvest of uninvited guests, from the lice referred to in the same geography by Dicuil (Sveinbjarnardóttir & Buckland, 1983), to his fleas (Buckland & Sadler, 1989) and the ectoparasites of his stock (Buckland & Perry, 1989). All are recognisable in the archaeological record, indeed, where bone preservation is poor, as at post-medieval Reykholt in Iceland (Sveinbjarnardóttir, Buckland & Sadler, in prep.), the only evidence for domesticates may lie in their well-preserved ectoparasites. Such animals, however, are largely restricted to the immediate proximity of settlement, and, although the sheep ked, *Melophagus ovinus,* may be found at the present day in shed fragments of fleece over the Faroese countryside, the chances of examples surviving in the fossil record or being recovered during sampling seem infinitely remote.

The fauna liable to take advantage of Man or be casually, unwittingly transported by him is not restricted to parasites, and the sailing ships of the recent past have accounted for the worldwide distribution of many plants and animals (cf. Elton, 1957). Much of this fauna of tramps and hitchikers consists of insects, many of which survive in identifiable form as fossils. This has allowed not only some refinement to the work of Lindroth (1957) in documenting introductions as a result of transatlantic trade, but has also indicated the large scale of earlier anthropochorous dispersal around the North Atlantic (Sadler, in press). The casually dispersed fauna, preserved in anaerobic sediments, particularly the insects associated with hay and dung, provide a powerful potential tool in the study of human dispersal, settlement and ways of life (cf. McGovern et al., 1983; Buchland et al., in press; Buckland, 1988). Where independent dating is available, the earliest deposits in Iceland and Greenland produce extensive anthropochorous insect faunas, not only in immediate association with the archaeology, (cf. Buckland et al., 1983), but also in the landscape around the farms (Buckland et al., 1986; in press). Dunnage and ballast provided abundant suitable habitats for the transport of invertebrates, as well as the occasional small vertebrate (cf. Berry, Jacobsen & Peters, 1978). Changes at Landnám are readily apparent in the fossil insect faunas and involve not only introductions, but also the expansion of species previously restricted to such places as the nutrient enriched areas around bird colonies, to the similar, if not more diverse habitats around farms (Buckland et al., in press).

As it appears possible to define Landnám in palynological terms in the stratigraphic record, it may be similarly defined by changes in the fossil insect faunas. In

the absence of mammalian herbivores before Man on both the Faroes and Iceland, the appearance of the dung and hay fauna, the former now ubiquitous on the islands, must clearly indicate the arrival of Man on more than a casual, occasional landing basis. In addition, changes in the frequency of the endemic (at least since the end of the last glaciation, cf. Buckland, 1988) insect fauna might also be useful indicators of the impact of Man.

Results

The modern beetle fauna of the Faroe Islands has recently been reassessed (Bengtson, 1981), providing the necessary background to research upon the fossil biota. With the model predicted, fieldwork was carried out in association with Jóhannes Jóhansen in 1985 at both his major pre-Norse Landnám localities, at Lambi and Uldalíð on Mykines and at Tjørnuvík on Streymoy. In addition, samples from deposits known to predate Landnám by several thousand years were recovered from sites in Saksunardalur on Streymoy to provide an indication of natural assemblages in the islands unaffected by Man. This note does not concern the detail of the faunas from the three localities, which will be published elsewhere (Buckland, Dinnin & Sadler, in prep.), but is restricted to the evidence for Landnám. Whilst pollen may survive in soil profiles, insects are rapidly eroded in such situations and rarely survive to be incorporated into younger sediments. Their contemporaneity with the enclosing deposit is therefore rarely in doubt.

Mykines

At Lambi, on the most westerly of the islands, Mykines, Dahl (1970) had suggested that a system of embanked fields were reminiscent of 'stone walls in the Celtic regions.' Jóhansen (1979) had sampled this site and, at a depth of 1.01 m, had obtained pollen of oats *(Avena sp.)* and, at 0.85 m, that of barley *(Hordeum sp.)*. The site was extensively disturbed by puffin burrows and no suitable deposits existed for the recovery of samples for examination for fossil insects. Similar problems attended the palynology to the extent that the sequence obtained for radiocarbon dating gave inconsistent results because of the incorporation of old carbon by slope wash. Deposits at Uldalíð, 1 km to the east, were correllated with Lambi by pollen analysis and further radiocarbon samples from this site gave consistent results. The latter section was an erosion scar, 1.2 m high, at 190 m a.s.l., on a slight south-westerly facing slope in short grazed grassland to the east of the modern farms, and adjacent to another field system. Jóhansen (1979) had obtained samples from the organic sediments at the site and constructed a pollen diagram. The radiocarbon dates from this section allowed a date of 600-700 A.D. to by proposed by interpolation for the Lambi fields by comparison of the two diagrams (Jóhansen, 1979; 1985, 56). The original sampling locality remained exposed in 1985 and was cut back and resampled by Buckland and Jóhansen. The upper part of the exposure consisted of oxidised, peaty slope wash, with much small gravel of basalt, and irregular bedding planes; its disturbed, aerated nature made it unsuitable for sampling for invertebrate remains

but, from the horizon regarded as equivalent to Landnám downwards, the deposits were more organic and invertebrate fossil preservation was better. Three 5 mm thick slices, each of 3 kg, were taken from the lower part of the section.

Despite the apparently consistent nature of the pollen diagram (Jóhansen, 1979; 1985, pl. 7) and the sequence of radiocarbon dates, the varied preservational state of the insect faunas from Uldalíð, with a wide range of preservation evident in individual samples, suggest extensive disturbance of the section. Some slope movement is evident in the inorganic content of the peat, which includes some gravel lenses and there is a clear break between the lowest part of the succession, with less evident slope wash, and the remainder. The insect faunal evidence, however, suggest the probability of further biogenic disturbance. The indicators of eutrophic conditions, including large numbers of individuals of *Cercyon* spp. and *Megasternum obscurum* (Marsh.), are present in all samples. It is probable that these relate to wet, nutrient-rich areas, the result of the activities of puffins burrowing into the hillside, a situation presently evident at Lambi, where the vegetation around the burrows is particularly lush. The extent of disturbance on the puffin cliffs, north of the modern farms, which in the recent past has lead to substantial collapses, makes it seem unlikely that Uldalíð has escaped similar attention before and after the arrival of Man. On balance, the fossil insect evidence cannot be regarded as suitably stratified.

Tjørnuvík

The sampling site at Tjørnuvík on Streymoy lies at the head of a short, north facing fjord at the north end of the island. Peat growth appears to have begun as the result of the development of a storm beach across the head of the fjord and been maintained by subsidence. As a result, in excess of three metres of organic sediments, with intercalated silts and gravels from the varying channels of the small stream which enters the head of the fjord, have accumulated, the area now forming the hayfields of the adjoining settlement. The locality is surrounded by steep slopes with outcrops of basalt with little remaining soil cover. The site has particular archaeological interest in that immediately adjacent to the sampling locality a group of pagan Viking graves had been uncovered (Dahl & Rasmussen, 1956).

– – –

Jóhansen's initial sampling in 1968 had been by augering but the results were of such significance that open profiles were dug to obtain radiocarbon samples (Jóhansen, 1971). The sampling locality, in the hayfield south east of the settlement was revisited by Jóhansen and Buckland in 1985 and a pit, 2 m by 1 m, nearly four metres deep, was dug through the rather unstable peat deposits, within two metres of the original trench. Sampling was begun just above the massive influx of inorganic sediment which Jóhansen had shown on the palynology to reflect Norse Landnám and was carried down to below the earlier inorganic horizon which had produced evidence for barley cultivation. In addition, sampling was continued in 10 mm slices down for a further metre in order to obtain

evidence for the nature of the pre-Man fauna.

The formerly waterlogged valley bottom situation of the Tjørnuvík site removes the possibility of direct disturbance by burrowing birds and the faunas can be taken at face value. The influx of sediment from the steep sides of the valley would not have carried insect material, other than that which was penecontemporaneous, but the depositional dip of the sectioned deposits led to some initial confusion over dating. The sample (Tj1/1) from 1.7 m provided an extensive fossil insect fauna, including one secure indicator of the presence of introduced herbivores. The dung beetle, *Aphodius lapponum* Gyll., was represented by several fragments of one individual and this was initially thought to reflect a pre-Norse introduction (Buckland, 1988). It is but one of the several species presently recorded from the Faroe Islands and the one species which is widely distributed at the present day (Bengtson, 1981); it occurs as a fossil immediately after Landnám in Iceland (cf. Buckland et al., in press). A re-examination of the recorded stratigraphy indicates that the sample containing *A. lapponum* lies firmly across the horizon of the earliest Norse Landnám; the dung beetle is one of Grímur Kamban's 'footprints'. The diversity of the insect fauna associated with this sample is also remarkable and contains one species, *Ochthephilus omalinus* (Er.), not currently recorded from the Faroe Islands, as well as one probable anthropochorous species, the small rove beetle , *Omalium rivulare* (Payk.). It contrasts markedly with the remaining samples from below the horizon of Norse Landnám, which contain few, if well-preserved insect fossils. The diversification of immediate habitats which the earliest Norse farmers provided, is not reflected earlier in the succession. Any pre-Norse Landnám is currently unrecognisable in the fossil insect record. The influx of inorganic sediment, dated by radiocarbon to ca. A.D. 600+/-100, is not accompanied by any anthropochorous elements in the insect fauna, nor by any major change in the endemic assemblage. If the Papar are to be found at Tjørnuvík, it is surprising that their stock had no apparent impact on the insect fauna.

The initial doubt about the relevance of *Aphodius lapponum* to pre-Norse Landnám was raised on biogeographic grounds, for it seemed an unlikely candidate to have been introduced direct from Ireland, although northern Scotland remains possible; the notorious world of probability suggests several other dung beetles if an Ireland, rather than Norway, to Faroe connection is sought.

Conclusion

It cannot be claimed that the fossil insect evidence in any way detracts from the palynological record. It is possible that Irish monks had so little overall impact on the landscape as to be undetectable in the entomology but, if the Færeyrar were the islands of sheep, it is surprising that they were without their dung beetles. It is possible that, if we were to sacrifice our one specimen for an accelerator radiocarbon date (cf. Elias & Toolin, 1900), a different

conclusion would be reached but, presently Papar remain as elusive in the Faroes as they are in Iceland.

Acknowledgements

This research would not have been possible without the ready cooperation and assistance of Jóhannes Jóhansen of the Faroese Natural History Museum. Assistance in sampling was provided by T. Addyman and J. M. Buckland and further fieldwork was carried out in 1986 by M. H. Dinnin, who, with J. P. Sadler, did much of the identification work upon the fossils. A. Moss assisted in the arduous task of sample processing. The author is grateful for the comments of Símun Arge, D. Gilbertson, J. Hansom, Jóhannes Jóhansen, Guðmundur Ólafsson, and Guðrún Sveinbjarnardóttir upon the paper.

References

Arge, S. V. (1989) Om Landnamet på Færøerne. *hikuin*,15, 103-128.

Bengtson, S.-A. (1981) Terrestrial Invertebrates of the Faroe Islands. 3. Beetles (Coleoptera). *Fauna Norvegica*, B28, 52-82.

Berry, R. J., Jacobsen, M. E. & Peters, J. (1978) The House Mice of the Faroe Islands. A. Study in Mice Differentiation. *Journal of Zoology*, 185, 73-92.

Buckland, P. C. (1988) North Atlantic Faunal Connections – Introduction or Endemics? *Entomologica Scandinavica, Suppl.* 32, 7-30.

Buckland, P. C. Dinnin, M. & Sadler, J. (in prep.) Holocene insect faunas from Faroes and the origins of the Faroese biota.

Buckland, P. C., Dugmore, A. J., Perry, D. W., Savory D. & Sveinbjarnardóttir, G. (in press) Holt in Eyjafjallasveit. A palaeoecological study of the impact of Landnám. *Acta Archaeologia*, 61.

Buckland, P. C., Gerrard, A. J., Larsen, G., Perry, D. W., Savory, D. R. & Sveinbjarnardóttir, G. (1986) Late Holocene palaeoecology at Ketilsstaðir in Mýrdalur, South Iceland. *Jökull*, 36, 41-55.

Buckland, P. C. & Perry, D. W. (1989) Ectoparasites of sheep from Stóraborg, Iceland and their interpretation. *hikuin*, 15, 37-46.

Buckland, P. C. & Sadler, J. P. (1989) A Bigeography of the Human Flea, *Pulex irritans* L. (Siphonaptera: Pulicidae). *Journal of Biogeography*, 16, 155-120.

Buckland, P. C., Sveinbjarnardóttir, G., Savory, D., McGovern, T. H., Skidmore, P. & Andreasen, C. (1983) Norseman at Nipiatsoq, Greenland. *Norwegian Archaeological Review*, 16, 86-98.

Dahl, S. (1970) The Norse Settlement of the Faroe Islands. *Medieval Archaeology*, 14, 60-73.

Dahl, S. & Rasmussen, J. (1956) Víkingaaldargrøv í Tjørnuvík. *Fróðskaparrit*, 5, 153-167.

Eldjárn, K. (1989) Papey. Fornleifarannsóknir 1967-1981. (Guðrún Sveinbjarnardóttir bjá til prentunar og samði viðauka). *Árbók hins íslenzka fornleifarfélags*, 88, 35-188.

Elias, S. A. & Toolin, L. J. (1990) Accelerator Dating of a Mixed Assemblage of Late Pleistocene Insect fossils from the Lamb Spring Site, Colorado. *Quaternary Research*, 33,122-126.

Elton, C. (1957) *The Ecology of Invasions by Animals and Plants*. Chapman & Hall, London.

Hallsdóttir, M. (1984) Frjógreining tveggja jarðvegssníða á Heimaey. *Árbók hins íslenzka fornleifarfélags, (1983), 48-68.*

Hermannsdóttir, M. (1986) Merovingertida bosättning på Island. *Viking*, 49, 135-145.

Hermanns-Auðardóttir, M. (1989) Islands Tidiga Bosättning. Studier med utgångspunkt i merovingertida-vikingtida gårdslämningas i Herolfsdalur, Vestmannæyjar, Island. *Studia Archaeologica Universitatis Umensis,* 1.
Jóhansen, J. (1971) A Palaeobotanical Study Indicating a Previking Settlement in Tjørnuvík, Faroe Islands. *Fróðskaparrit,* 19, 147-157.
Jóhansen, J. (1975) Pollen diagrams from Shetland and Faroe Islands. *New Phytologist,* 75, 369-387.
Jóhansen, J. (1979) Cereal cultivation in Mykines, Faroe Islands AD600. *Danmarks geologiske Undersøgelse, Årbog* (1978), 93-103.
Jóhansen, J. (1982) Vegetational development in the Faroes from 10000 BP to the present. *Danmarks geologiske Undersøgelse, Årbog,* (1981), 111-136.
Jóhansen, J. (1985) *Studies in the vegetational history of the Faroe and Shetland Islands.* Føroya Fróðskaparrit, Tórshavn.
Jóhansen, J. (1986) Føroya fyrstu búseting – eina ferð enn. *Mondul,* 12, 3-6.
Krogh, K. J. (1986) Um Føroya fyrstu búseting. *Mondul,* 12, 33-36.
Lindroth, C. H. (1957) *The Faunal Connections between Europe and North America.* Wiley & Sons, London.
McGovern, T. H., Buckland, P. C., Sveinbjarnardóttir, G., Savory, D., Andreasen, C. & Skidmore, P. (1983) A palaeoecological Study of the Faunal and Floral Remains from Two Norse Farms in the Western Settlement, Greenland. *Arctic Anthropology,* 20, 93-120.
Sadler, J. S. (in press) Beetles, boats and biogeography; insect invaders of North Atlantic islands. *Acta Archaeologia, 61.*
Sveinbjarnardóttir, G. (1972) Papar. *Mimir,* 11, 2-20.
Sveinbjarnardóttir, G. & Buckland, P. C. (1983) An uninvited guest. *Antiquity,* 58, 127-130.
Sveinbjarnardóttir, G., Buckland, P. C. & Sadler, J. (in prep.) Insect faunas from post-medieval houses floors at Reykholt, Iceland.
Tierney, J. J. (ed.) (1967) *Dicuilus, Liber de mensura orbis terrae. Scriptores Latini Hiberniae,* 6. Dublin.

Úrtak

Skordýr er vanligt at finna steinrunnin í mógv í Føroyum. Av tí at sløgini hvørt í sínum lagnum kunnu hava serstakan tørv á búlendi, kunnu tey geva góðar og gagnligar ábendingar um mannaárin á náttúruumhvørvið. Við at kanna tílíkar fundir kunnu vit gera greiðari ta mynd, sum sáðgreiningin gevur. Kanningar av skordýraleivdum úr Mykinesi og Tjørnuvík hava ikki sannað búseting eldri enn hina norrøna, sum sáðgreiningar hava sýnt, tó at vera kann, at annað fekst burturúr við víðtøkari rannsóknum.

P. C. Buckland
Dept. of Archaeology & Prehistory
University of Sheffield
Sheffield S10 2TH
UK