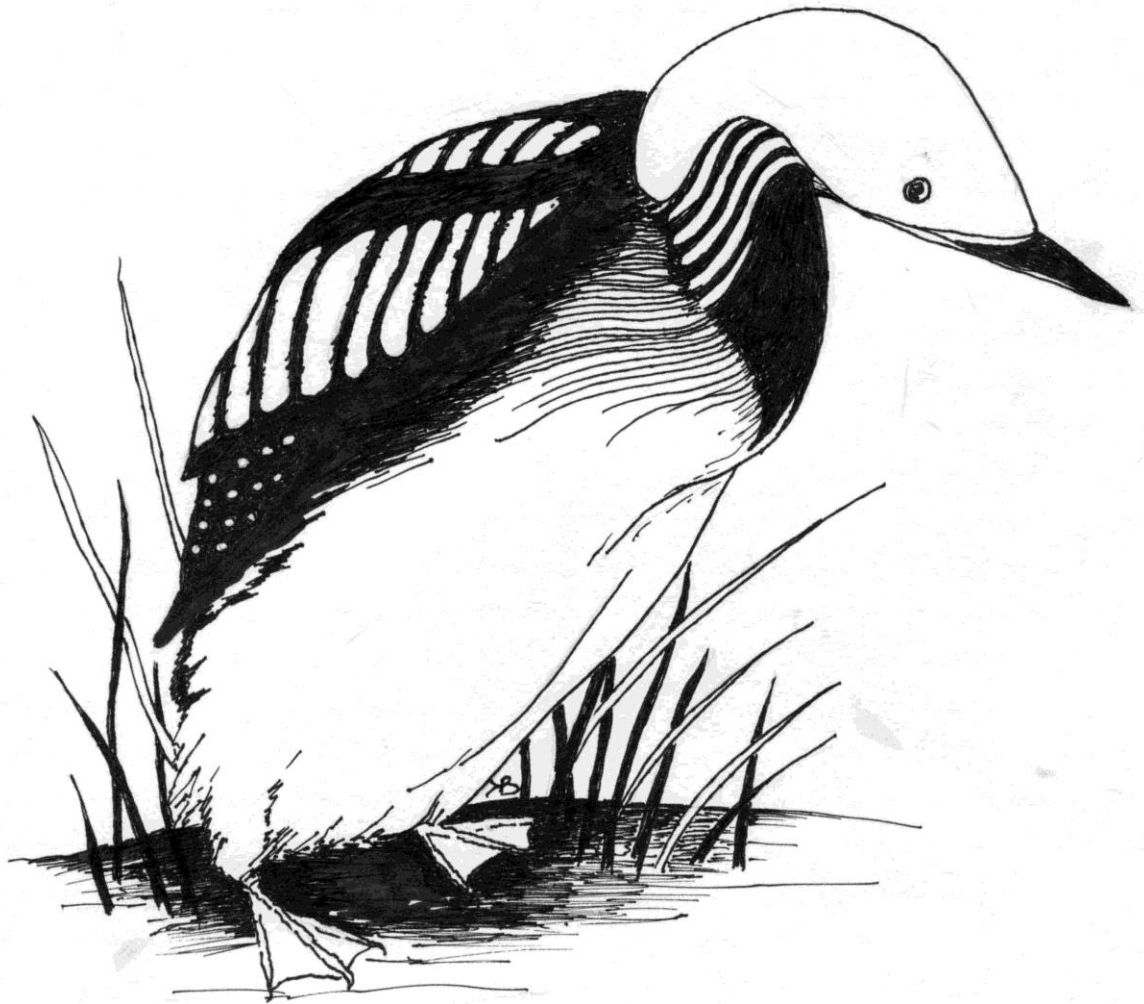


The Orkney Naturalist



BULLETIN OF THE ORKNEY FIELD CLUB

2004

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The Editor expresses his thanks to Kate Barret for the front cover illustration.

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Orkney Field Club

Founded in 1959



Aim: To encourage the study and causation of the natural and culture heritage of the County

OFC OFFICE HOLDERS

President:	Elaine R Bullard	
Vice-presidents:	Mildred Cuthbert	Ted Kellock
Officers (2003)	Peter Ford	Chairman
	John Crossley	Vice-chairman
	Kate Barrett	Secretary
	Dennis Paice	Treasurer/Membership Secretary
	Alison Skene	Junior Membership
Committee:	Sally Hallam	Jeff Barrett
	Chris Booth	Dick Matson
	Sidney Gauld	David Peppitt

SUBSCRIPTIONS (2003): Adults £10, Family £15, Concessionary £6, Student £3, Juniors £2.

Membership Secretary: Dennis Paice, Ardleigh, Dounby, tel. 771535, who can also provide copies of the Club Constitution.

CLUB NIGHTS are usually held in Kirkwall on the third Friday of the month, with talks, slides, demonstrations and discussions. All are welcome. Meetings are advertised in the Orcadian under Club/Society notices and on Radio Orkney.

FIELD MEETINGS are held approximately monthly to a wide range of locations, including the outer isles.

Orkney Field Club was a partner of the Orkney Biodiversity Records Centre, which enters records of Orkney species, sites, habitats, etc., into its database. This valuable data is available to all interested parties. The Biological Recording Sub-committee, made up of the Orkney County Recorders, welcomes and encourages amateurs to participate in the collection of data. The Club promotes, and is actively involved in, conservation by means of a native trees plantation, reserves, study and fieldwork.

NEWSLETTERS: normally sent out three per year, free to members. These give Club news, information, and programmes for activities and Junior's notes.

JUNIOR MEMBERS: special adventure activities, challenges and an indoor programme are offered.

RESOURCES: these include the Library Folder in the County Library Reference Room. This contains copies of wildlife publications and OFC committee meeting minutes. The Archives include slides, equipment and textbooks. Members also have access to a comprehensive range of reference books, and equipment, including microscopes, in the Orkney Biodiversity Records Centre, also situated in the Library.

PRESIDENTS LETTER

Only another five years and Orkney Field Club will be fifty years old. Yet, "if only" the Club would not have been needed at all.

The County has an unusually long tradition of producing local amateur naturalists, as far back as the enigmatic Jo Ben in the 16th Century and the first serious attempt to publish an account by James Wallace in 1693. These early amateurs were clergymen, doctors, dominies, business en and farmers in "real life" and pursued their interest as a hobby often to standards recognised and respected well outside Orkney. In 1837 they started the Orkney Natural History Society which still flourishes today making it the second oldest in the country. The Society's "objects" published in its first Annual Report were "...investigating the natural history and antiquities of the County and stimulating the inhabitants of these Islands to the study of the Almighty's works", almost identical to that of Orkney Field Club's which are "To encourage the study and conservation of the natural and cultural heritages of the County".

By the outbreak of war in 1939, several of the leading personalities in ONHS had died, others were called away on war duties and the Society became more or less dormant. When I came to Orkney in 1950 it was still almost impossible to gain access to the Museum. But there was now a new generation of amateur naturalists, many keeping careful records and some of whom had never been members of ONHS. They had no easy means of cooperation or of the publication of their work. In 1958 some of them, particularly Eddie Balfour, were working with the Biology Department of the University of Aberdeen's study of Fulmars on Eynhallow. The Head of the Department, George Dunnet obtained the help of the then OCC's Department of Education and early in 1959 a public meeting was called which resulted in the founding of OFC. And here we are in 2004. Ironically, ONHS revived almost at the same time, but although much of the Museum is still devoted to Natural History, the Society now concentrates rather more on "the antiquities" of the County while OFC has gradually moved away from archaeology and concentrates on the "natural heritage".

EDITORIAL.

We have altered the cover style and have included more photo reproductions than usual, and the humorous!

I would suggest that all read the article by Pippa Bell on "The Origins and evolution of wild turnip" for its the insights into possible GM crop hybridisations.

The Editor thanks all who have contributed to the 2004 Bulletin, without you, the Bulletin would not exist.

OBITUARY

Nora F. McMillan MBE MSc, who died in August 2003 at her home in Bromborough, Cheshire, was a distinguished and expert conchologist. She was born in Ireland.

Nora Fisher joined the Conchological Society in 1930, and contributed an article about the marine mollusca of County Derry to that Journal in 1935.

Nora was a self-taught naturalist and became an expert on Mollusca - land and fresh-water snails, as well as marine ones. She worked in the Liverpool Museum and was honoured for her work in 1991 with an MBE and rewarded with an honorary M.Sc. She was at one time Marine Recorder of the Conchological Society, and also the society's President.

Nora had ties with Orkney for many years. She was identifying shells for Robert Rendall in 1956 when she was Marine Recorder. Her interests ranged widely because she botanised with Elaine Bullard and Odid¹ birds with Eddie Balfour. She visited Orkney nearly every year for at least 25 years.

During this time her help to Alan Skene and the Skene family in collecting and identifying shells was enormous, starting in 1967. Not only did she do beach surveys, often with the Skenes; she also covered most of Orkney including nearly all the islands and compiled a very full list of land and fresh-water mollusca. (Her list is in the Kirkwall library).

Publication: British Shells, London 1968

She contributed many articles to the Conchological Society's publications, and also to the Field Club bulletins: starting with one in 1968 about snails in Egilsay. The last one was in 1985 - a report of land mollusca.

Nora was an indefatigable worker, with an extensive knowledge of her subject - shells. She was always helpful, and delighted in all things natural.

A.S.

FRIEND IN NEED INDEED

Peter Ford

Second week of September 2003: I am working on the computer in the hut as a hefty thump sounds against the glass of one of the windows. Wandering outside to glance around, there is nothing to notice at first, till I see the tiny body of a Goldcrest lying on its back on the path. These little birds start to turn up here at Kirkhope bay at about this time of year, travelling south from Scandinavia to winter in southern Europe but then getting blown off course westwards to Orkney, where they make landfall before picking up their bearings.

The little creature's claws are curled up and my first thought is that it's broken its neck for sure. As the body is lifted, however, there is still a detectable tremor. For the next hour I'm pursuing an activity neither planned nor expected: with the computer gone into sleep mode I nurse the smallest possible avian casualty in these regions securely in the palm of a hand so it benefits from shared body warmth.

Finally the bird seems able to crouch and blink in a dazed sort of way. I transfer it to a shoe box with a lot of screwed-up newspaper. Half an hour later there comes a sound of scrabbling. The box is transported to a corner of the garden where there's plenty of adjacent shelter. The lid is removed. Instantly the bird perches briefly on top of a scrumple of newsprint before, with a shrill chirrup, it takes off vertically like a helicopter and disappears across the bay.

How astonishingly tough these tiny scraps of bone, flesh and feather must be as they make their journeys across goodness knows what seas. My thanks to Eric Meek for confirming I followed correct procedures in resuscitating a Goldcrest. A few weeks later the drill was repeated with an over-inquisitive Fieldfare that got into the sun room and knocked itself cold. On this occasion recovery time was only half an hour.

OBRC FIELD COURSES 2003

Effy Everiss

The Orkney Biodiversity Record Centre (OBRC) biodiversity and habitat recording courses were very popular this year and all participants had an interesting and enjoyable time helped by the splendid weather and the excellent tutors that were attracted to Orkney. These courses were a continuation of the series that have been co-ordinated by the OBRC with support from SNH, Orkney Field Club, ICIT and Orkney College over the past five years.

The first course was held over the weekend of 14-15 June and covered moth caterpillars and their food plants. The tutor, Keith Bland is a nationally recognised micro-moth expert. There was an introductory talk on the Friday night followed by field trips over the weekend to Ocklester Moss, Dingy's Howe and Redland, Firth. In the field the tutor guided the participants through the key characteristics of micro moth mines in their food plants, identifying the moths from these mines and from adults on the wing. Macro moths were also recorded. Over the course of the

weekend four new species had been added to the Orkney Lepidoptera list along with an update of a record from 1895.

The second course was held over the weekend of 11-13th July. The tutor, Dr Alistair Lyndon is a lecturer in the School of Life Sciences, Heriot-Watt University and learnt his trade by examining the contents of fish stomachs whilst researching fish parasites. After the introductory talk on the Friday night the participants spent the weekend sampling various aquatic habitats both marine and freshwater with time spent working up the specimens in the laboratory. The weekend kicked off with the opportunity to look in the Bush, Brig o' Waithe and observe a research student from ICIT, Andrew Upton, land specimens using a beach seine net.



Large quantities of three-spined sticklebacks, a flounder and common gobies were caught and examined in the laboratory, including the stomach contents which yielded an interesting array of worms and invertebrate parts. A corkwing wrasse caught by Andrew and a new record for the Loch of Stenness, a beautiful fish with colourful

marking was also observed. Sites at Houton, Kirbuster, Durkadale and Scapa were visited and wide variety of invertebrates caught, examined and keyed out. Over the weekend most of the participants acquired a good level of competence in the identification of a wide variety of water creatures as well as having a pleasant and enjoyable weekend with a tutor who has a very broad and deep knowledge base. Alistair is hoping to return to Orkney this summer to take part in the community biodiversity course that will be held in Sanday

The final course, on seaweed was held over the weekend of 29th-31st August. The tutor was Martin Wilkinson, Senior lecturer, School of Life Sciences, Heriot-Watt University. Martin has been studying the seaweed of Orkney since the 1970's and is the local recorder for the group. He has a vast knowledge of the marina flora and of the Orkney shores. His dynamic style and enthusiasm has been the inspiration for many a trainee phycologist over the years and he did not fail to perform (and entertain) his willing victims on this occasion either. The course commenced with a short and interesting talk on the Friday night followed by an introduction to the seaweeds in the laboratory on the Saturday morning. The class looked at specimens gathered by Martin and his PhD student Paul Wood, were introduced to the various keys and the broad selection of literature available for the keen marine phycologist, including Martin's own explanatory text.

Martin demonstrated the various methods of extracting boring algae from shell and rocks and other obscure and unusual places. He gave detailed instructions on



exploring the diverse habitats and niches within the inter-tidal zone to look for these very adaptable algae. The afternoon was spent at the Sands of Wight, South Ronaldsay putting into practice the wise words of the morning where the now 'expert' team identified over 100 different species. The specimens collected were worked up the next day before the entire group

went to the Ouse, a quite special marine habitat, in Finstown for the launch of the Ouse walk as part of the Orkney Science Festival.

THREE-SPINED STICKLEBACKS (*GASTEROSTEUS ACULEATUS*) IN THE LOCH OF STENNESS

Andrew Upton

INTRODUCTION

From June to September 2003 the fish in the Loch of Stenness were sampled using a variety of techniques; the aims were to record a comprehensive species list and to say as much as possible about the species found. The study was an MSc dissertation from ICIT (Heriot Watt University) in Stromness, which enabled a concentrated effort to be made using university equipment.

The loch is a candidate Special Area of Conservation as the largest UK example of a saline lagoon, but there has been little published information regarding its fish fauna. For comparison, fish sampling was also undertaken in the adjacent fresh and marine waters. In all, six sites were selected round the shores of the Loch of Stenness, one in the Loch of Harray, one in the Bush (below the Brig of Waithe), two in the Bay of Ireland and also in the Ouse, Finstown. Additionally, sampling was undertaken offshore in deeper water in the Loch of Stenness.

The Loch of Stenness is a brackish water body, with an annual cycle of salinity levels; summer salinities have been measured at up to 23 parts per thousand (roughly two-thirds full seawater strength), falling to about 8 parts per thousand in the winter. This cycle is thought to be largely due to seasonal differences in freshwater input. During

this study, surface salinities of between 17.7 and 20.8 parts per thousand (ppt) were recorded from each sample site within the loch between mid-June and mid-July. The readings were not necessarily static at a given site and, from one day to the next during dry weather, changes (up and down) of up to 1.7ppt were recorded.

This article presents the results relating to the Three-spined Stickleback and the fish parasites found, which were mostly confined to this species. It is anticipated that the other species of fish, along with aspects of the loch's ecology, will be covered in an article for the next OFC Bulletin.

POPULATION STRUCTURE

The Three-spined Stickleback was the fish most commonly caught in the early part of the summer (to mid July) and comprised the bulk of all fish recorded. It was captured at every sample site, with hundreds from each shore site within the loch. There were somewhat fewer caught in the Loch of Harray (by a factor of about five) and very few out in the deeper waters of the Loch of Stenness. Although probably real, this last result is affected by the timing of the deep-water sampling, which took place from mid-July onwards. In total 3077 sticklebacks were measured and, from the sizes of the breeding adults, it was evident that two year-groups of sticklebacks were breeding within the Loch of Stenness. The size frequency plot, based on all sticklebacks measured between 13th June and 26th August, highlights this very well – figure 1.

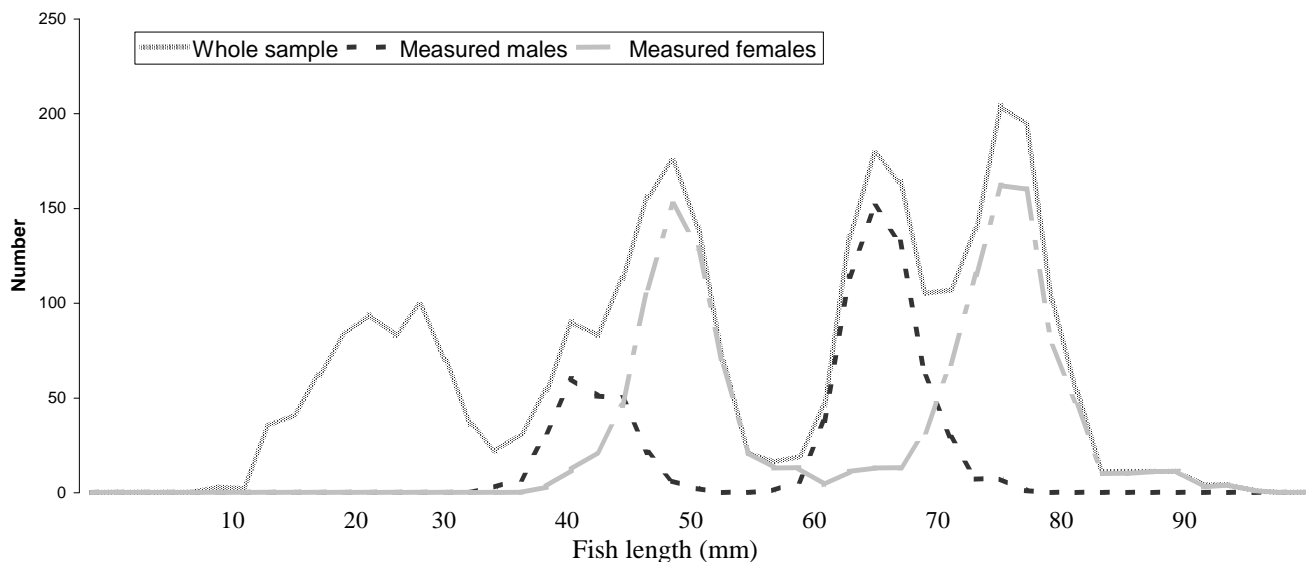


Figure 1. Three-spined Stickleback *Gasterosteus aculeatus* size frequency plot.

The first peak on the whole sample line relates to juvenile fish hatched during the summer of the study, termed 0+ fish. The second peak is of the fish hatched in the previous summer i.e. entering their second year and termed 1+. The third and distinctly double-headed peak is of fish entering their third year and termed 2+.

The double modes in the 1+ and 2+ year classes are due to the differential sizes of the sexes, with the females in both year-groups significantly larger than the males.

Occasional larger fish early on in the sampling period, e.g. one of 91mm at Deepdale on 26th June, may have been 3+ years.

MORPHOLOGY

Sticklebacks do not have scales but can have a variable number of bony plates along their flanks. Examination of samples from the 1+ and 2+ year-groups in the Loch of Stenness showed consistent differences in lateral plating between the fish from each of the older year groups. Of seventy year 2+ fish examined, sixty-nine were fully plated, with 22 to 23 plates running the full length of the flanks from head to tail, and with a distinct keel either side of the tail; the remaining fish was fully plated but had no keel. This type of stickleback is referred to as the *trachurus* or rough-tailed morph and is widespread in marine and estuarine environments throughout the species' range.

Of fifty year 1+ fish examined, forty-nine had 4 to 5 plates on each flank and no hint of a caudal keel. One was intermediate in form, with 13 plates on each side and a very slight keel. The typical 1+ fish in Stenness, with 4 or 5 lateral plates, is termed the *leiurus* or smooth-tailed morph and occurs in many regions, particularly in freshwater. Figure 2 illustrates a typical specimen of each morph.

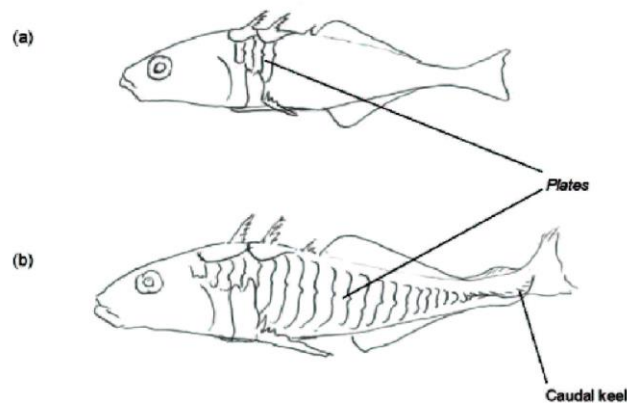


Figure 2. Typical smooth-tailed (a) and rough-tailed (b) stickleback morphs from Stenness Loch.

These differences indicate that, rather than there being a single stickleback population in the loch, which might breed in its first and/or second year, the two year-groups comprise distinctly different populations. This was supported by the fact that the new 0+ fish could be readily separated into the two morphs, from as little as 22mm total length, by the presence or absence of caudal keels and of developing lateral plates.

LIFE HISTORIES AND POPULATION MOVEMENTS

The results of the study indicated that, as elsewhere, the two morphs exhibit different life histories and population movements. In the Loch of Stenness about 25% of all adults in mid-June were smooth-tailed fish, but this had increased to 100% by August. The Loch of Harray was the only area to have predominantly smooth-tailed adults in June. The shoals of sticklebacks in the Bay of Ireland in June were all of rough-tailed fish, and the very few that could be found there in early September were also rough-tailed. These findings suggest that the smooth-tailed morph may be essentially resident in the Lochs of Harray and Stenness and that the rough-tailed population is probably anadromous, i.e. entering Stenness from the sea to spawn, but scarcely penetrating into Harray.

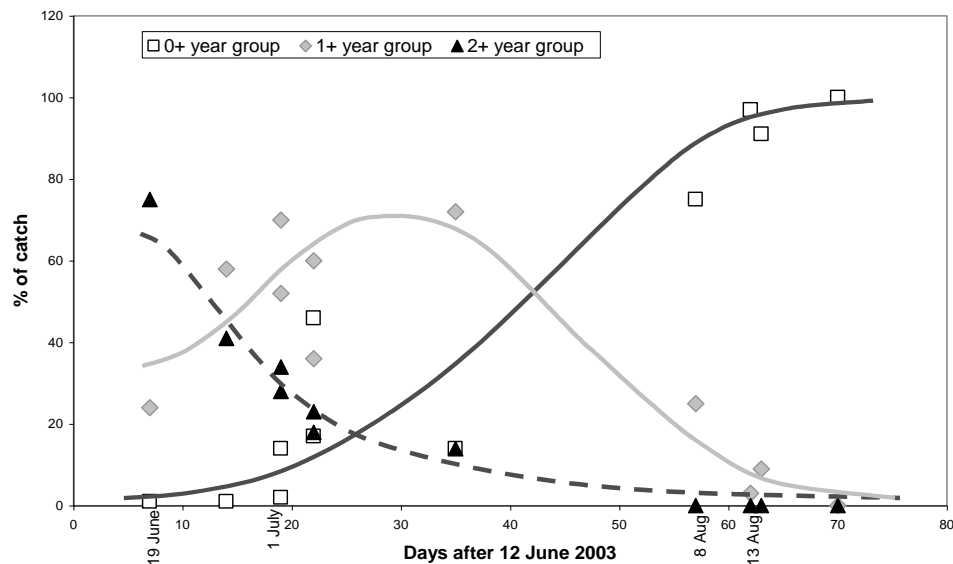


Fig 3. Changing proportions of adult and young sticklebacks in the Loch of Stenness.

Throughout the whole of the Stenness system adult sticklebacks became increasingly hard to find as the summer progressed, and figure 2 shows the changing proportions of rough-tailed and smooth-tailed adults and all 0+ fish combined. The decline in adults of both types by the end of the summer was presumably due to death and/or dispersion after spawning. From 26th June dead fish were noted in the loch, but not in large numbers. Many of the adults in the Loch of Stenness appeared to be in post-breeding condition even from 19th June (although gravid females were still being recorded as late as 12th July from the Bush), and were often in poor shape. It seems likely that already by mid June, the high numbers in the Bush and the Bay of Ireland were rough-tailed adults moving back out to sea.

There is evidence that the spawning times of the two morphs differ, as shown by the later disappearance of smooth-tailed adults (see figure 3), and as indicated by the changing proportions of each morph in the 0+ fish throughout the summer. In the Loch of Stenness close to 100% of the 0+ fish were rough-tailed in early July, even up

at the very head of the loch (Voy), but by mid August all of the 0+ fish examined in the loch were of the smooth-tailed form.

This also implies that the 0+ rough-tailed population moves out of the loch only a few weeks after hatching, and over a very short timescale. The fact that 0+ sticklebacks were very difficult to find in the Bush and the Bay after mid-August indicates that these young fish do not linger on their way out to sea. The implication for the 0+ smooth-tailed fish is that they probably remain in the loch through the winter. Densities of smooth-tailed 0+ fish were still high on the last sampling date (6th September) when 157 were caught in one pull-net at Voy.

In the Finstown Ouse all the adults noted were year 2+ (presumably rough-tailed) indicating that this small tidal basin may not support a resident smooth-tailed population.

It has been assumed that the rough-tailed morph comes into the Loch of Stenness to spawn at two years old, based on the size differential between it and the smooth-tailed fish. This is supported by the occasional occurrence of smaller rough-tailed females, which are presumably year 1+ fish making an early return; e.g. five caught in the Bush on 12th July measured between 56 and 61mm, when the more normal rough-tailed female length was around 74mm.

PARASITES

The two populations of sticklebacks showed markedly different patterns of parasitisation, presumably a result of their different lifestyles leading to differing exposure to various parasites. The most obvious parasite of the sticklebacks was *Cryptocotyle*. This uses fish as an intermediate host between a gastropod primary host (usually a winkle *Littorina*) and an avian final host. It is not active on the fish but forms small black cysts on the skin and fins. In the stickleback the host's system reacts by depositing melanin around the site so that a larger black spot or smudge develops. Transparent nematodes were also very apparent when analysing gut contents. The percentages of infection by these two organisms, in each stickleback morph, are shown in table 1 below.

Table 1 Proportions of infection in sticklebacks in the Loch of Stenness; differences by morph.

	Noticeable <i>Cryptocotyle</i> infection rate (i.e. 5 or more spots)	Nematode infection rate
rough-tailed (adult)	43%	59%
smooth-tailed (adult)	67%	7%

There were also differences in infection rate by site; *Cryptocotyle* infection was much less in the Ouse than in the Loch of Stenness, and almost non-existent in the Loch of Harray. The situation in Harray presumably reflects the absence of the primary host in freshwater. Infection rates were also variable around the Loch of Stenness, but with no clear pattern, the highest noticeable infection rates being recorded on either

side of the loch at Redland and the Ring of Brodgar (68%), being lower at Voy (52%) and lower still, but variable, around the southern side of the loch (27 – 46%).

The protozoan parasite *Glugea* was also frequently noted. This organism forms white, spherical colonies attached to a fin, under the skin or attached to an internal organ of the fish. The incidence of *Glugea* at Voy, by both percentage of infected fish, and burden per infected fish was very significantly greater than elsewhere. 14% of the stickleback population there was infected compared to less than 3% (often less than 1% and sometimes zero) from all other sites. Forty-four fish from Voy had more than one externally visible *Glugea* lump, compared to only five from all the other sites combined.

Subadult tapeworms (*Schistocephalus*) were found only occasionally, presumably overlooked or mistaken for gravid fish. However, of the handful of cases noted, three were from the rather small sample from the Loch of Harray, perhaps indicative of higher infection rates there.

Cryptocotyle was the only infection noted on any other species of fish, being seen on Butterfish and Two-spotted Goby by the Brig of Waithe, but not on the much more numerous Common Goby and Flounder.

DISCUSSION

The departure of adults from inshore spawning grounds from the end of May, followed by the young later in the summer, is considered to be a general feature of marine-living sticklebacks in the UK, as observed for the rough-tailed morph in the Loch of Stenness. The smooth-tailed fish would appear to be annual in the Loch of Stenness, and this again is typical of the morph e.g. five low-plated populations sampled in the 1980s throughout the west of Scotland were all annual.

The occurrence in the same spawning area of two different stickleback morphs is not particularly unusual, examples having been found in the Outer Hebrides and in both river and lake environments in Kamchatka. In the Kamchatka River the migratory rough-tailed morph spawned earlier than the resident smooth-tailed morph, as appears to be the case in the Loch of Stenness. In Lake Azabachije, Kamchatka, resident smooth-tailed fish and anadromous rough-tailed morphs are also known; the lack of intermediate forms is considered to be indicative of reproductive isolation. However, in the Loch of Stenness a low incidence of intermediate fish was found, about 2.2% overall in the sub-samples checked (7 out of 324 fish). One of these, a year 1+ fish in the Bush on 12th July, was gravid, suggesting that such intermediates may be fertile. Thus although two clear morphs are visible, exhibiting very different life histories, full reproductive isolation does not yet appear to have occurred.

CONCLUSION

The Three-spined Stickleback has long been known to be abundant in the Loch of Stenness, and there is now evidence for two ecologically distinct populations there. One appears to be annual and probably resident in the loch (a low-plated smooth-tailed or *leiurus* morph), and the other longer-lived and anadromous (a fully-plated

rough-tailed or *trachurus* morph). Based on this study the rough-tailed morph outnumbered the smooth-tailed morph at spawning time; the two occur in the same areas, but rough-tailed fish spawn earlier, and the spent females begin to leave soon afterwards (probably as early as the beginning of June). The rough-tailed 0+ exit from the loch before the end of August.

The full text of the dissertation, entitled “An Investigation into the Fish of the Loch of Stenness” is held in the ICIT library, Stromness.

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ELECTRO-FISHING ORKNEY BURNS

Malcolm Thomson

The Orkney landscape is drained by an extensive network of lochs and burns which support only a few species of native freshwater fishes. Since the last ice age, only those with migratory lifestyles have been able to colonise Orkney freshwaters, ie the brown trout, *Salmo trutta*, the European eel, *Anguilla anguilla*, and the three-spined stickleback, *Gasterosteus aculeatus* (the Atlantic salmon, *Salmo salar*, probably occurred here too but its current presence is uncertain). In recent decades, two alien species, the stone loach, *Barbatula barbatula*, and the common minnow, *Phoxinus phoxinus*, have also appeared in Orkney. Despite the small number of species, there is a glaring lack of information on their distribution and abundance, and a lack of regular surveys means that there is no way of telling if native (or alien) populations in different catchments are expanding or in decline.



There is a pressing need to start collecting more information on our freshwater fishes, especially in a more regular manner. Trout fishing for brown and sea trout is an important part of the local economy. The fact that fishing in Orkney is free, and open to the public, is an unusual situation, and a fortunate product of our Islands' cultural heritage. Increasing pressure on freshwater environments means that the health of Orkney's trout stocks needs careful monitoring. The distribution and abundance of alien species is some cause for concern and it is unclear if they are having an impact on native species. The recent declaration by the International Council for the Exploration of the Sea (ICES) that the European eel is now below "safe biological limits" calls for more knowledge of its current abundance in Orkney. While several studies have collected valuable information, there is an urgent need to update and continue monitoring work in order to better protect this aspect of Orkney's biodiversity.

The Orkney Trout Fishing Association (OTFA) will this year begin a regular monitoring programme of freshwater fishes inhabiting Mainland and the outer isles. With funding from SNH, OTFA members have been trained in electrofishing methods through the Scottish Fisheries Co-ordination Centre (SFCC). Electrofishing is an established method of freshwater survey, which is a highly effective way of catching the majority of fishes present in burns and small rivers. The method is used by fishery biologists' worldwide, and particularly by biologists in Scotland, often to collect information on salmon and trout, but catching other species in the process. A major advantage of this method is that it is effective at catching small fishes, eg trout fry and parr, which are often the stages for which least data exist. The two freshwater

aliens in Orkney are also small and would be more difficult to catch using other methods. The theory behind electrofishing is described below.

ELECTROFISHING

The first thing that should be stated is that properly conducted, electrofishing survey is not fatal to the fishes! The method does however, demand respect from a health and safety point of view and only properly qualified personnel should carry out or help on electrofishing surveys. Electrofishing works by creating an electric field in the water, which as we all know, conducts electricity extremely well! Any fishes within that field are attracted to the source of the electricity and scooped out of the water. Burns are ideal survey sites as the fish find it difficult to escape the influence of the electricity, especially if stopnets are used. The power supply can be a battery in a backpack system or a petrol generator, and is generally set to supply 240V. Backpacks have the advantage of being more portable, but have less longevity compared to a generator. The power supply is connected to an anode (positive electrode) and a cathode (negative electrode). The anode is held by operator and is the device to which fish are attracted when the power supply is on, while the cathode is simply placed in the water at any point along the survey site.

When the two electrodes are in the water and the power supply is on, an electric field is created with electricity running through the water from the anode to the cathode. In most situations it is necessary that the operator and any assistant be in the water. Therefore, to insulate their body from the electricity, rubber waders need to be worn (which do not leak of course) and all other body parts must be kept clear of the water while the power is on (resist the temptation to pick up any fishes you see!). The hand-held anode creates a circular “zone of influence” around it, within which fish are stimulated by the electric current to swim towards the anode, where they can be scooped out of the water by the operator or an assistant using a handnet (with a non-conductive handle) and placed in a bucket of water to recover. It is also important that fishes caught within the zone of influence are not left there for too long, as permanent damage could result. Generally, fish will be attracted to the anode from an area within a one meter radius. However, the zone of influence varies with several factors, eg the voltage being applied from the power supply, the water temperature and the conductivity of the water. When planning a survey it is crucial to consider the conductivity of the water you are working in. High water conductivity, eg several hundred microsiemens, increases the draw on your power supply. If working with a battery, it’s charge is drained more quickly than in low conductivity environments. Fortunately, conductivity in most burns is usually low enough to allow several sites to be surveyed, even using batteries. An operator and assistant working in a typical Orkney burn would be able to survey several 100m stretches, moving the anode from side to side whilst working upstream.

Water temperature is also a crucial factor to consider. It is generally accepted that electrofishing surveys should be carried out in the summer/late summer. This ensures that water temperature is high enough for fishes to be active and therefore more likely to respond to an electrical stimulus. Most surveys in Scotland are carried out between

late June and September. In colder water temps, fish metabolism is slower and they are less likely to respond to electrical stimulation, so the effectiveness of electrofishing is reduced. The recommended lower limit for electrofishing for salmonids is approximately 8°C.

FISH HANDLING AND MEASUREMENTS



A successful electrofishing survey from a relatively healthy burn will produce many dozens of fishes from which a large amount of data can be collected. Firstly, one must ensure that they have plenty of cold aerated water to keep them alive while they are out of the burn, especially on hot days. It also helps to keep them shaded. Then information can be collected. Obviously, fishes would be identified and counted in order to calculate density information, eg number of fishes per m² of burn (as you would estimate the area of your survey site). Weight and length data would also normally be collected. In specific cases, tissue samples may be collected or tags fixed. Through the handling process, fishes are anaesthetised to prevent excessive movement while measurements are made. They are then transferred to another container of freshwater to recover prior to being returned carefully to the burn.

Data can be used in a number of ways. Simple presence/absence data gives a useful indication of the distribution of different species within and between different catchments. For trout populations in Orkney, even this very basic layer of information is absent from many localities, especially burns running directly into the sea, which generally have not been looked at until recently. There is much concern over the health of wild sea trout stocks in Orkney but at the moment, it is unclear which burns still support viable populations. Electrofishing can help identify where these exist. Amongst other things, this information can be fed into local policy with regard to the siting of salmon farms, one factor which has contributed to the decline of wild sea trout elsewhere. The distribution of alien freshwater species can also be determined.

Barriers to fish migration, eg dams, road culverts, can also be identified by electrofishing upstream and downstream of the site. Barriers prevent the upstream migration of spawning trout, in some cases blocking access to spawning habitats and limiting the production of a catchment. Length and weight measurements can be used to estimate growth rates which can be compared for the same species at different sites or between different years. In the same manner, quantitative information on fish density can be compared. Good time-series information can be used to identify sites where fish numbers are low or in decline, and may benefit from habitat improvement works. Such projects are currently being planned in Orkney through the Orkney Freshwater Group, a collaborative project between SNH, the OTFA, FWAG, the Orkney Field Club, SEPA and Scottish Water. Electrofishing survey will form a necessary part of any improvement works, not least being a tool to monitor the success of different methods of burn restoration.

Whatever the context, electrofishing surveys need to be designed carefully. It is important that specific aims and priorities are clearly identified, as it can be counter-productive just to go out and collect information indiscriminately. This is particularly true in Orkney where for the time being, the number of people who are qualified to use electrofishing equipment limits us. Those same people are volunteers and can only conduct electrofishing surveys in their spare time. The OTFA work scheduled for the summers of 2004 to 2006 will select a number of burns in which the same sites will be surveyed each of the three years. In addition, each year we will pick a number of additional burns, which will only be surveyed once in a three year period. Although we are limited in manpower, we aim to have information on the species present in most of the main burns in Orkney by 2006 that will provide a good basis for continued monitoring work.

HOUSE MARTIN PROJECT-YEAR THREE REPORT 2003

Dick Matson

BACKGROUND.

The UK House Martin population has declined by 38% since 1970 and the species is now on the amber list of conservation concern. The birds repeatedly attempt to nest in Orkney, usually without success. Therefore in 2001 the OFC committee decided to undertake a project to enhance breeding success in the County. We believed that the dry weather conditions often experienced in early summer made nest-building difficult through lack of mud and that completed nests were frequently brought down by gales and rain. We, therefore, installed 40 artificial weatherproof nests on houses where House Martin's had habitually tried to nest. Mr Swanney of Twatt made and put up a further four nests.



The areas targeted were: Stromness, Dounby/Twatt, Finstown and Holm/Graemshall. The "under-the-eaves" situation favoured by House Martin's in the south only exists on a small number of houses in Orkney, so here the birds tend to choose the apex of the gable-ends of houses where a substantial roof overlap provides shelter from the elements. This was where we placed the majority of the artificial nests.

For the 2003 breeding season we had hoped to improve the uptake of artificial nests by enlarging the entrance holes on some nests and putting up a new type of nest we had constructed, based on quarter sections of spherical creel/net floats. Regrettably we were unable to implement these measures because the birds pre-empted us by arriving 3 weeks early and our volunteers had become involved in more pressing environmental and domestic projects.

NESTING IN 2001 AND 2002.

In both years the very unsettled weather of late spring and early summer in southern UK and north-west Europe may well have been responsible for the small numbers and late arrival of House Martin's in Orkney, some breeding birds apparently arriving as late as early July. The earliest reported nesting activity in either of these years was on 26th May 2001, but most nest building did not get under way until mid-June. In 2001 8 pairs successfully fledged single broods on Mainland (none nested in the Isles). Of these, 2 pairs nested on top of artificial nests and 2 on the opposite gable-ends to where artificial nests had been placed. Of the 6 natural nests built in 2001 2 fell down in bad weather.

In 2002 there were 11 successful nests on Mainland (again none in the Isles). This is 2 more than stated in the 2003 OFC Bulletin - they only came to light after publication. Three of the 11 nests were "on-top" nests and 2 of these almost certainly fledged 2 broods each; thus 13 broods were fledged in total. There were 4 nest collapses during bad weather.

BREEDING IN 2003.

In contrast to 2001 and 2002 the spring and early summer of 2003 were abnormally mild, and warm southerly winds prevailed. Nevertheless it came as a great surprise to us to be told that 2 nests in Dounby had been completed by 16th May and that pair in Holm was feeding young on 28th May.

At least 9 nests were under way by the end of May and there were widespread sightings of House Martins in the County. A picture of the year's breeding record is best given by locations:

Dounby/Twatt

Activity in Dounby started on about 10th May. A total of 12 nests were built. There was an apparent lull in building activity for several days in late May caused, we believe, by lack of mud. One new house had nests on all 3 gables, including 2 on one gable. All were successful and one had a second brood. As in 2002 the nest on the high, exposed gable at the surgery fell down in bad weather, distressingly with the loss of at least 3 nearly fledged chicks. (The nest at this location had collapsed in 2002. This year once again the birds defeated us. As in 2002 we arrived with ladders to put up an artificial nest only to find the birds had just started building). The nest was re-built, only to be taken over by house sparrows. A nest on a lower gable was successful but both came down in bad weather.

The nest on a house in close proximity to the two above fledged 2 broods.

A house in the south of the village had 2 very early, successful, nests. Second broods at this house were not possible because one nest was taken over by sparrows and then both came down in bad weather.

A nest built above a window of a house in the village centre at the end of June was successful.

Another house in the village centre with 2 artificial nests had some activity as early as 4th May. Sparrows terminated this. (This house had had 2 successful double-brooded "on-top" nests in 2002). The sparrows did not however take up residence and House Martin's built an "on-top" nest in mid-July, which was successful.

House Martin's started building beside a homemade artificial nest at a house in Twatt on 27th July. This was successful.

These late nesters were probably second-brooders that had been evicted by sparrows.

Holm/Graemshall.

Here 2 natural nests and 2 "on-top" nests were built and a nest, which had withstood the winter, was re-occupied.

A house near Graemshall that had had a successful nest in 2002 had no nest in 2003.

We had high expectations of another house near Graemshall, which was two-storey with proper eaves; we had put 5 eaves nests there in 2001 but none had been tenanted. In 2003 birds started building next to one of these but discontinued at an early stage.

At a house near Netherbutton a natural nest which had withstood the winter was re-occupied on about 12th May and remarkably fledged 3 broods.

At a house nearby a pair built an "on-top" nest at the end of May. We are uncertain whether they managed to get a brood off before the nest was taken over by sparrows. Nests were also built on the other 2 gables of this house; one was taken over by sparrows, the other almost certainly fledged 2 broods.

Another house in the area with an artificial nest had an "on-top" nest built in early June, but we think that sparrows evicted the pair at an early stage.

Stromness.

Five natural nests were built and a nest that survived the winter re-occupied. Sparrows were again blight on successful nesting.

A nest on the back gable of a house in Garson Drive in mid-May had one brood while nest on the front gable completed in early June raised two. At a house nearby a re-occupied nest and a newly built nest were both taken over by sparrows. A nest on Stromness swimming pool was taken over by sparrows and then came down in bad weather.

A nest built in mid-July on the eastern outskirts of the town fledged one brood.

Sanday.

There appear to have been 2 or 3 nests built on Sanday School, which fell down in bad weather. It was probably the 2 pairs involved that re-built on the telephone exchange and a nearby house. These were the first successful breeding records for Sanday that we are aware of.

The nest on the BT exchange (an eaves nest) almost certainly fledged 2 broods. These were the third and fourth breeding attempts by this pair.

The nest on the nearby house fledged one brood.

Westray.

There have been previous breeding records for the island but events here in 2003 took everyone by surprise. Not only were there 3 nests built on one house (one on a gable-end and the other 2 on the sloping eaves adjacent to this nest), but we believe that all 3 fledged 2 broods. We think that this house is the most northerly breeding site for House Martins in UK in recent years!

STATISTICS.

In 2003 nests built or re-occupied were as follows: 12 in Dounby; 5 in Holm; 6 in Stromness; 4 in Sanday and 3 in Westray. This makes a total of 30. There were also a few nests started and abandoned at a very early stage. At some stage (ie before or after fledging) 10 nests were taken over by sparrows and 7 fell down in bad weather. The end result was that there were at least 30 successful broods in Orkney in 2003 compared with 8 in 2001 and 13 in 2002. So in 2003 approximately 105 young were fledged.

Year	Nest completed or re-occupied	Successful Broods	Young fledged			Nests collapsed
			Est. min.	Est max.	mean	
2001	9	8	24	32	28	2
2002	13	13	40	53	46	4
2003	30	30	90	120	105	7

OBSERVATIONS.

The availability of a mud supply close to the nest site (perhaps no further than 300m) is essential.

Nest building at several sites has been delayed or prevented by mud supplies drying up and we think that this problem has prevented birds coming back to previously occupied sites. In Finstown for example before improvements to the area were made there was a persistent muddy puddle round the edge of the sea-front car park used by House Martins. The puddle has gone and so have the House Martins. Householders and farmers can help by ensuring that muddy puddles are present on their land. A more aesthetic option than digging a hole in the lawn is to use a receptacle such as an upturned dustbin lid in which to create the puddle; but it must be out in the open away from cover that can be used by cats or Sparrowhawks.

It would be unreasonable to ask householders to change their colour schemes but it has become apparent that the great majority of House Martin nests are built on walls that are white or very light in colour! Possibly this is a precaution against nests being overheated by the sun.

Sparrows have been a real problem in 2003, having frustrated at least 10 House Martin nesting attempts. In all 3 years sparrows have also nested on top of some of our artificial nests, denying these situations to House Martin's. On the plus side they are a red list species and we have provided them with extra nesting opportunities although this unlikely to have a significant impact on the UK population as a whole! However we have demonstrated that a dedicated sparrow nest-box project could increase the Orkney population. Interestingly, although some sparrows commandeered HOUSE MARTIN nests for breeding others merely used them for roosting. In either case they have to expand the nest hole to be able to gain access.

FUTURE DEVELOPMENTS.

- For 2004 we hope to install at least 4 artificial nests based on net/creel floats.
- Mr Swanney of Twatt has made a potentially valuable discovery. A mixture of earth and builder's glue when dry forms a material that is virtually indistinguishable in appearance from the mud of a House Martin's nest and is as hard as wood. The mixture can be used to re-inforce nests still in place after the breeding season; to build up and strengthen the entrance hole of nests being harassed by sparrows and to provide our homemade artificial nests with a natural-looking exterior coat.

CONCLUSIONS.

In 2003 the factor that was different to the previous 2 years was the abnormally benign spring and summer weather. This encouraged early migration and nesting so that there was time for several second broods and even a third brood to be raised. At the same time, if the number of nests built is anything to go by (30 in 2003, 13 in 2002

and 9 in 2001) far more birds must have arrived in Orkney in 2003. Was the OFC project a factor? It is impossible to say. The uptake of artificial nests has been disappointing but they have undoubtedly acted as a magnet. In Dounby in 2002 there were two double-brooded "on-top" nests, which would have fledged 16 to 20 young. Perhaps these successful nests helped to raise the local breeding population to a level that resulted in 12 nests being built there in 2003.

Although 2003 saw a dramatic increase in breeding success we must not rejoice prematurely. House Martin's are short-lived birds, some only surviving for one breeding season. It would only take one disastrous migration or one Orkney summer of really coarse weather (not unknown!) to undo the progress of the last 3 years. The provision of a core of artificial weatherproof nests is therefore essential.

Technically this 3-year project is now time-expired, but it has become too fascinating and rewarding to give up at this stage. However volunteers, preferably under 60!, are still needed to help put up artificial nests and monitor these and the naturally built nests.

We would like to express our particular thanks to SNH, the RSPB, Orkney Enterprise, and the OFC committee for their financial support. Thanks also to Dennis Paice and Brian Ribbands for their invaluable assistance.

Finally, I must pay tribute to the householders who have put up with, not only my repeated visits and enquiries, but also the mess made by a nest-full of young House Martins. It is truly heart-warming to see how attached householders become to their visitors, how concerned they are for their welfare and how much they look forward to the return of the birds in the early summer of the following year.

REDRESSING THE BALANCE – YEAR 7

Dick Matson

The growing of sacrificial winter bird crops through private initiatives, RSPB schemes and the Rural Stewardship Scheme is now widespread in Orkney; it is doing much to compensate for the loss of winter food supplies for seed-eating birds which occurred when efficient modern agriculture took over and the binder, the stack yard and weedy winter stubbles and turnip fields disappeared. Once more flocks of Finches, Buntings and Skylarks are a common sight in the Orkney countryside in winter.

In my 10-acre field at Dale on the east side of Swannay Loch I am in my seventh year of experiment to find the most valuable crops to sustain birds through the leanest months of the winter and results so far have been written up in the previous 5 OFC Bulletins. This time I won't repeat the detail but merely highlight some developments in the winter of 2003/4.

Numbers of most species have been similar to those of the previous few winters. Twite peaked at around 700, Reed Buntings about 200, Greenfinches 17, Bramblings 22, Linnets 44 and Rock Doves at 550. The pattern of visits by Hen Harriers, Sparrowhawks, Merlins and Kestrels has also been similar. A count of 34 Skylarks on 24/02 (the time of writing) was the best for the species. Both Skylarks and Jackdaws normally peak in late March but numbers so far are well down on previous years. Mallard numbered around 200 at times (and seriously damaged the cereal crop).

OUR OBSERVATIONS AS REGARDS THE VARIOUS CROPS ARE AS FOLLOWS:

Triticale - ripens late and has a very strong straw, which stands up to Orkney gales; it penetrates thick coverings of snow and both Twite and Reed Buntings were still able to feed on the exposed ears after several inches had accumulated in blizzard conditions.

Linseed - seeded well in 2003 and was again popular with these species after the first moderate snowfall, but the blizzard at the end of January stripped and covered the remaining seed.

Fodder Radish - can be sown late and is very easy to grow even on poor soil; the thick skin of its seed-pod protects the seed against the weather through the winter until late spring; the strong stems keep at least some seed-pods above moderate coverings of snow; popular with Finches, Buntings and Rock Doves and it is on this crop that Doves are often taken by Harriers.

Kale - Buntings and many Finch species like to feed on cereals and weed seeds, particularly when they are interspersed with kale at least 20 inches high; kale provides shelter from the elements and also vantage-points from which the birds can watch out for predators; the problem is to get the cereal-to-kale ratio right; too little kale provides insufficient shelter and too much swamps the cereals and weeds; a sturdy kale crop not only protects the cereals from the weather so that they last longer through the winter but also from depredation by Geese and Ducks.

Keeper Kale and Caledonian Kale are tall and sturdy and the latter is resistant to clubfoot.

Mustard - this has been grown mixed in with cereals and kale; also a variety called Albatross Mustard has been sown in separate strips; mustard (like oilseed rape) is so attractive to Finches and Buntings that it tends to be exhausted by mid-December.

Cereals - Oats and barley are very important for Reed Buntings and are vital for wintering Yellowhammers; they are essential components of winter bird-crops.

Quinoa this plant is grown for food in the high Andes; the flower plumes are capable of yielding large quantities of seed; although it will grow at Dale, to date the yields have been modest but we will continue to experiment.

Buckwheat - Although it germinated and flowered well insufficient seed was produced for it to be a useful crop.

Millet - Over the last 3 years we have sown red millet, white millet and tanka millet and as far as we know not a single seed has germinated; time to give up on millet!

We now regard fodder radish as an important component of our winter bird-crop and well suited to Orkney conditions. Triticale is also valuable in case significant snowfall blankets other crops.

For 2004/5 we will continue to put half our field down to the standard cereal/kale/mustard mix and try to ensure that the kale component is strong enough to keep out the ducks and geese. In the other half we will sow an increased acreage of fodder radish and triticale and small strips of linseed and quinoa plus any other experimental crops that look promising.

As well as benefiting the more common Orkney species, bird-crops have also attracted a Bunting which until 1975 used to breed in Orkney and as far as is known has not wintered for many years. In the autumn of 2002 and into the early part of 2003 up to 6 Yellowhammers regularly appeared on the RSPB bird-crop at Bluebraes in Rendall. In the autumn of 2003 two started visiting the bird-crop and bird-table at Queenamidda in Rendall; one of these stayed the winter.

Meanwhile at Dale we started to see 4 individuals from the middle of November; but by early January the Mallard had exhausted all the cereals and that is when the Yellowhammers disappeared from Dale. If wintering numbers continue to build up in future we might just see Yellowhammers return to the list of Orkney's breeding birds - a very exciting prospect.

The winter of 2003/4 has been fascinating and rewarding, but our investigations will continue into bird-crops that can withstand the worst of Orkney's winter weather. We are always on the look out for new ideas and would welcome any suggestions (please contact me on 01856751426). Amongst other things we would like information on varieties of oats and barley which have a particularly strong straw and which hold their seed late into the winter. Similarly information on mustard and rape varieties that are robust and late ripening would be very useful.

AN AMERICAN VISITOR

Dick Matson

Blackcaps were unusually scarce in the 2003 autumn migration so I was glad to see a handsome male at Dale on 14th October. Between the farm buildings and my bird-crop field is a line of tree enclosures one of which contains sycamores, willows and a few other species; migrating Sylvia Warblers favour this area. By mid-October insects were becoming scarce and so on the edge of the trees I inserted bamboo canes into the ground and impaled half-apples on them to supplement the food supply. The Blackcap soon cottoned on and fed heartily, along with several Blackbirds. He stayed several days and a few more took his place.

On the 17th the Blackcap was joined by a juvenile Barred Warbler with unusually smart, clean-cut plumage, - at this stage they often have an untidy, dumpy appearance. This bird disregarded the apples and fed actively on insects and aphids but departed after 4 days.

During a late afternoon stroll on the 20th I spotted a starling-sized bird with a crest sitting bolt upright on a *Rosa rugosa* hedge - it was a Waxwing, the first ever recorded at Dale, and it was joined on the 23rd by 3 more. Waxwings were present for almost a month. They soon located the apples and my visits to Safeways became very frequent! By 21st October a Garden Warbler and a Chiffchaff were also in evidence and on the 24th a second Barred Warbler appeared. He had the scruffy appearance typical of a juvenile and was also minus a tail, however new tail feathers started to appear after a couple of days. He fed voraciously on the apples for several days but gradually became more interested in aphids and insects. Increasing restlessness and absences indicated his desire to move on which he did on the night of 5th/6th November. The morning of 31st October dawned wet, windy and overcast. I started to do my rounds putting out seed for finches and buntings and replacing the apples. Through my binoculars I scanned the bamboos; on the first was the Barred Warbler and on the second a Waxwing. I focused on the next and couldn't believe what I was seeing in the early morning murk. I shook my head, rubbed my eyes and refocused; it was still there and definitely not on the British or even European list of breeding species. I was looking at a bird the size and shape of a large stocky Willow Warbler with grey streaked upper-parts with 2 white wing bars, pale under-parts with bold dark streaks on the rear upper flanks, a pale supercilium, an almost white throat and just discernible in the gloom a slightly yellow wash to the forward upper flanks. It had obviously come a long way as it was not so much devouring as attacking the apple on which it was perched. I rushed indoors, seized the bird books and turned to the North American pages. At this stage I had not picked out the defining feature and in any case the image in my mind of what I had seen in the murk was fairly fuzzy. Blackpoll, Blackburnian and Yellow-rumped Warblers all seemed possibilities. I was unable to ask the audience so I decided to phone a friend and Brian Ribbands dropped everything and set out for Dale. With the benefit of improving light and the use of our telescopes we were able to make out the diagnostic feature, - the colour of its rump. It was indeed a first winter female *Dendroica Coronata* or Yellow-rumped Warbler and Eric Meek who arrived shortly afterwards confirmed this. The lines were soon buzzing and local birdwatchers started to turn up. The bird behaved impeccably making only the briefest of absences to rest or feed on insects before returning to the apples and the audience. The next day, 1st November, the weather was on the mend, - fortunately for the planeload of birders from York, the couple who had driven up from Lancashire overnight and a few carloads from mainland Scotland. After a few hours on the apples the bird became more adventurous and difficult to find. By early afternoon the wind had died and the sun shone from a clear sky. I managed to relocate it 150m away down by the shore of Swannay Loch. It had now reverted to the fly catching mode and was launching itself energetically from waterside vegetation at insects in the air or high up on an electricity pole. It gave a

superb flying display and in the brilliant light showed off its plumage to perfection to the assembled watchers. The bird was seen sporadically the next day but by early afternoon had disappeared. But that wasn't quite the end of the story. The weather on the afternoon of the 6th was a repeat of that on the 1st and after 4 days of fruitless searching I spotted it high in some willows launching itself at airborne insects. It continued to do so until the sun's warmth ebbed away and that was the last I saw of it.

Why all the fuss and why did we feel so privileged? The Yellow-rumped Warbler (this was of the Myrtle sub-species) is a New World Wood-warbler and occurs across North America although favouring the eastern side. It is common in many areas. Most of the population moves to the southern USA in winter, although some birds go as far as Central America and the Carribean. It breeds in open coniferous or mixed woodland and winters in a wide variety of habitat and can survive snow if suitable cover and berries are available. This bird like other North American vagrants probably got into a North Atlantic westerly jet stream and could have been conveyed towards Europe at speeds of up to 180mph. It was probably fortunate to have made landfall. It was the second to be recorded in Orkney, the 6th in Scotland and 26th in UK. The previous Orkney record was on North Ronaldsay in 1995. This latest bird wasn't merely a rarity to be "twitched" at all costs, but a delightful bird to watch and enjoy.

HELPING GARDEN BIRDS SURVIVE THE ORKNEY WINTER

Dick Matson

There can be few of us who don't enjoy having birds in our gardens. It gives us a chance to see at close quarters wild creatures of great beauty, elegance and charm. We can greatly enhance these opportunities by putting out food for them. More importantly birds need a reliable winter food supply in order to withstand the deadly combination of strong winds, driving rain and near-zero temperatures. So we have the satisfaction of knowing that we are not just contributing to their well being but may well be ensuring their very survival. Because of Orkney's strategic location as regards bird migration and movement we also have every chance of a really special bird, such as a Waxwing, Hawfinch or Crossbill, putting in an appearance.

So, When should we feed?

Although birds are obviously most at risk in the lean months of winter and spring it has recently been established that feeding can be continued throughout the year, - but don't put out whole peanuts in the breeding season as they can choke small chicks. Country folk need to be more diligent than town-dwellers. There are lots of householders feeding birds in Kirkwall and Stromness, so it does little harm if one supply dries up for a while. In the country in the depths of winter the local bird population can become reliant on a particular source. If that source disappears in severe weather the birds can suffer real hardship. The other point is that lying snow,

beautiful though it may appear to us humans, can be deadly to birds by cutting off their food supply, making it extremely difficult for them to obtain nutrition when they most need it. If the ground is blanketed in snow we must do our best to keep an area of lawn, drive or patio clear where birds can find the food we put out. The exercise with broom or spade benefits us humans as well! Food can be scattered directly on to the ground, but don't do this if you have a rat problem. We must also avoid putting food near cover where cats can lurk.

The next option is to use a wooden bird-table (roughly 18ins square). A wooden rim, 1ins high, fastened all the way round, will help to retain the food in strong winds. Place the bird-table where you would normally scatter food so that any that does blow off is not wasted. To allow water drainage drill half a dozen holes in the table and when putting on the rim leave small gaps at the corners. The table can be made from tongued-and-grooved or similar planking, and battening used for the rim. It can be mounted on an agricultural fence post.

Birds in Orkney readily utilize peanut-feeders. If you have a rat problem use the wire mesh variety. Again site them out of range of cats. Also try to obtain feeders that have a conical rather than a flat base. After a time in wet weather a mushy mess builds up in the bottom of the flat-based kind. If you are able, fix the feeder to the side of or above the bird table. Birds like Robins, Collared Doves, Blackcaps and Dunnocks don't normally take nuts from the feeder but just love the peanut crumbs which drop onto the table when other birds use the feeder.

Seed-feeders are easily made at negligible cost out of plastic 2-pint milk cartons (obtainable from a well-known supermarket). Cut a hole 3/4ins square in the centre of one side of the carton at the bottom and secure the carton to a stick roughly 18ins long with thin garden wire or string. Push the stick in to the lawn so that the hole is at ground level. An 8ins square slate placed under the carton prevents the area from becoming muddy. In any case move the feeder a few feet every fortnight or so. After prolonged rain the seed at the bottom may get damp and clog the feeder. Try unclogging it with a screwdriver or knife. If this fails it takes just a few minutes to replace the carton with a new one. For refilling the feeder cut the top third off a plastic squash bottle and use this as a funnel and the bottom section as a scoop for the seed. Keep the feeder top secured to prevent ingress of water.

What are the most beneficial and economical food items?

Peanuts (whole or ground-up) are enjoyed by finches and many other birds. In Orkney they will attract: Greenfinches, Chaffinches, Bramblings, Siskins, Robins, Dunnocks, House Sparrows and Starlings, and, if we are very lucky, a Goldfinch, Great Tit, Blue Tit or Coal Tit. If we are very, very lucky a Hawfinch, Great Spotted Woodpecker or Crossbill might appear. It is worth shopping around for your peanuts and buying them in bulk, ie in not less than 1kg bags. Make sure that they are of a brand approved by the BSA (Birdcare Standards Association) or similar organisation. Sunflower seeds are also very useful. They can be put in a feeder either separately or

with peanuts and are particularly popular with Greenfinches, Chaffinches and Bramblings.

Most commercial birdseed mixes contain seed of cereals, millet, rape and sunflower, as well as crushed peanuts and maize and other goodies. Scattered on the ground or the bird-table these mixes may attract all of the above plus Blackbirds, Song Thrushes, Redwings, Wood Pigeons, Rock Doves, Rooks, Jackdaws, Gulls and very occasionally a Fieldfare. Members of the Bunting family are mainly seedeaters in winter, so in rural areas or the outskirts of towns we can expect Reed Buntings and an even more exciting possibility is a Yellowhammer. Again in rural areas Twite and Linnet are likely. Twite in particular like small seed such as rape or millet, so make sure your seed mix contains these. Again shop around for your supply and, if possible, buy in bulk. Seed mixes can be made to go further by adding 50:50 bruised barley which is less than half the price and readily obtainable from farmers. In fact if you don't want to go to the expense of buying commercial birdseed you can still attract most seed-eating species with bruised barley alone.

Cooked kitchen scraps are not recommended as they attract cats and rats; likewise, fat. It would, however, be worthwhile to try fat if you get a visit from a member of the Tit family to give it a change of diet from peanuts. Melt lard or dripping into an empty yoghurt carton and fasten this to a tree branch or to the bird-table. Leftover cake, pastry, etc, can be put on the bird-table and bread is useful as a carbohydrate supplement in cold weather. It can also be used to divert Sparrows and Starlings away from more expensive food items. But avoid items, which contain salt, such as crisps or chips. Salt can be harmful to many bird species.

Many birds enjoy fruit but it is expensive. Most economical is the cheapest variety of apple, but if you are feeling generous pears, bananas and dried fruit are also popular. Apples (cut in half) and peanuts can be used to sustain birds such as Waxwings, Great Spotted Woodpeckers and Blackcaps right through the Orkney winter. These individuals, who have remained here while others of their kind have migrated to more temperate latitudes, would otherwise almost certainly perish. Apples are also attractive to members of the Thrush family and certain Warblers.

Now to the chores which is part-and-parcel of bird feeding.

A container of clean water for drinking and bathing, placed out of range of cats, is very important. The water should be at least 2ins deep. Stones placed in the water allow birds of different sizes to use it comfortably. They need to bathe and preen regularly to keep their feathers in good condition and maintain their insulating properties. This is particularly important in sub-zero temperatures, so try to clear any ice 2 or 3 times a day.

Inevitably bird-tables and feeders become grubby. Periodically scrub them with a bristle brush and plenty of water. If the problem gets really bad try the sterilising fluid based on sodium hypochlorite used for babies' bottles. If you regard Starlings as unwelcome guests provide only seed and peanuts. They will still come to these but not as readily as to bread, fruit, scraps and fat. Attracting Sparrows is unavoidable,

but many people enjoy their cheeky antics (they are also on the Red List of conservation concern).

Last May I looked out of my kitchen window and there was a Blue Tit on one of the peanut-feeders; it stayed a week. A year previously a Goldfinch turned up on the same feeder. In mid-winter we put food on the window-sill as well as on the bird-table and here we regularly get Twite, Reed Buntings, Greenfinches, Bramblings, Chaffinches, Robins and Sparrows - we have even had Pheasants staring in at us! These visits are really rewarding and make the effort worthwhile; and to have a bird such as a Waxwing or Hawfinch a few yards away is a fantastic thrill. By regular feeding you are not only adding to your own enjoyment but are helping birds survive the severe winter weather in good condition ready for the breeding season; and a healthy bird is likely to raise a good strong brood.

Your garden can be made even more attractive to an even wider selection of birds by growing certain trees and shrubs - but that is another story!

There can be few of us who don't enjoy having birds in our gardens. It gives us a chance to see at close quarters wild creatures of great beauty, elegance and charm. We can greatly enhance these opportunities by putting out food for them. More importantly birds need a reliable winter food supply in order to withstand the deadly combination of strong winds, driving rain and near-zero temperatures. So we have the satisfaction of knowing that we are not just contributing to their well-being but may well be ensuring their very survival. Because of Orkney's strategic location as regards bird migration and movement we also have every chance of a really special bird putting in an appearance, such as a Waxwing, Hawfinch or Crossbill. So when should we feed? Birds are obviously most at risk in the lean months of winter and spring.

If you have any questions or comments on bird feeding please call me on 751426.

KIRKHOPE: ANECDOTAL OBSERVATIONS

Peter Ford

Call me a naive amateur. I happen to think that, in general terms, the presence and behaviour of bird species in any location is an indicator of its environmental health or otherwise.

Kirkhope bay, 22 March 2004: there is a flotilla of 38 Wigeon on the north side of the bay, but my attention is taken more by small groups of wading birds foraging at a very low tide. They interest me because they are feeding, probing down into the sand and silt. There are 9 Oystercatchers, a dozen or so Redshanks, a scattering of Curlew, and several Ringed Plovers spread out and busily occupied.

Such patterns of feeding behaviour used to be commonplace in the bay. Then they ceased to be seen altogether. The cessation coincided with the expanding presence of

fish farm salmon cages. Then the cages were removed just over three years ago, and now, three years later, we begin to see signs of environmental recovery even as we receive confirmation that the salmon farm company will not be pursuing its most recent application.

Of course, observations like these are classed as merely anecdotal, and cannot count in any record - they are only what is noticed personally by someone who lives on the bay and sees it round the year in all its moods.

It is not for me to say whether such signs of environmental pressure are inevitable with a fish farm operation, but these thoughts coincide with the news that the first planning application in the UK has been made for an enclosed land-based system - in Wales (species to be grown as yet unidentified). With this all the detritus can be dealt with and controlled, not just left for the local tides to cope with as if they were some giant lavatory cistern. Someone is getting the message that, if there is to be a respectable way forward for viable aquaculture, it must be radically different from how it has been in the past.

There are signs of recovery at Kirkhope, but how long will it be yet before the sands at low tides can be stalked once more for Spoots or Seatrout leap again in the sun in the run-up to the burn?

RECORDING ETHICS

Elaine R Bullard

The Rev. James Wallace was, I suppose, the first serious biological recorder in Orkney whose lists were first published in 1693, then revised and updated by his son, Dr. James Wallace, and published in 1700. Others had made notes about the island wildlife but none had attempted to list it.

From then on, sometimes at long intervals, sometimes on top of each others' heels there followed a succession of list-makers, which continues today. Sometimes they followed their own inclinations, sometimes they were encouraged by some learned person in Edinburgh or even further south, who wished to gain information about these northern isles but had neither time nor the ability to come here themselves. Others acted as kindly sponsors and did so purely for the joy of extending their interests to others. That still happens today when the big national "learned societies" promote schemes to introduce new "recruits" to their ranks or when people are employed to undertake specialist recording in a given area.

A characteristic of the primary list-makers in places like Orkney was "one-upmanship". They took considerable delight in finding one more species than their predecessors and equal delight in trying to prove those same predecessors wrong in some point, usually of identification. But, compared with the total number of list-makers, hardly any were guilty of intentional plagiarism or of stealing another's records, the notable exception being those who published, without acknowledgment,

the meticulous work of the Rev. George Low who in despair cried out. "But stay
xxxxxxxxxxxxx.

I know of no examples where these early "recorders" deliberately altered records made by others. Indeed, if they thought the record wrong they might leave it intact to "shame" the person who made it.

Of more recent recorders, especially among the botanists with whose work I am most familiar, there is still some evidence of faultfinding - Magnus Spence was inclined to dismiss some of Wallace's records - very recently many have been refound! Col. Henry Halcro Johnston was perhaps even more inclined to find fault, although he was sometimes justified. Nevertheless even with the faultfinders, there is no tendency to actually change, or, as we might describe it to day, to "edit" records made by others, let alone claim them as their own property.

The ability to harvest large numbers of records into a modern computer seems to be blunting what could be called the ethical attitude to biological recording. Those coming into this hobby, without the old "learned society" traditions behind them, often feel justified either in a "finders - keepers" belief, or that the sheer work of collating and putting into a computer database, allows them to take over ownership of all the records that come their way and to do what they like with them.

No one so far seems to come up with a foolproof legal method of controlling this situation. Nevertheless, all the big present day national societies and conservation organisations adhere to the principle that "the intellectual ownership of the record remains for ever with the person who made it". This allows the originator to give permission for a record to be "used" by others but not to be changed in any way without further express permission. The major recording societies draw up formal contracts permitting their use of records but allowing the originator to retain "ownership". Of the two biological recording databases now in widest use, "MapMate" assigns an "ownership" tag on every record shared with another user while "Recorder" is in the process of doing exactly the same. (Or may have done so by the time this is in print).

Until every computer-using Recorder becomes familiar with the idea, this "labelling" device may cause disquiet but in practice it is very similar to the networking methods used in many business situations. The computer on your desk allows you to use data that was set up on a computer some distance away and is, in fact, still there. You cannot alter that data yourself but if the person who set it up alters "their" copy, it will be altered on your copy as well. If you do not like the record given to you, you can suggest to the person who gave it to you that they change it. If they agree they can send you the changed version and - hey presto! - the old one you did not like has vanished!

HOW I CAME TO KNOW WILDFLOWERS

Elaine R Bullard

The first thing I can remember in my life is a tuft of annual meadow-grass growing in the cracks of a pavement, and the next, is of ants scurrying at the base of clumps of cowslips. When I was old enough to be interested in pictures, I was given "Flower Fairies of the Spring" by Cicely Mary Barker. Her books, recently re-published as a set, were a unique combination of fantasy and botanical accuracy and even her "fairies" were based on very real children. Each fairy had a small, easily memorised poem about their particular flower and even their attitudes somehow personified it. No doubt modern children would reject these books but before the age of seven I could identify all 20 flowers in the book. My parents were keen gardeners and enjoyed wild flowers and I just grew up learning them, mostly their common names but a few scientific names such as *Antirrhinum* rather than Snapdragon without being "put off" by them. Technical terminology was also accepted in such things as petals and sepals, stamen, anther, stigma and style. Involvement in things horticultural and agricultural raised a sketchy awareness of grasses, rushes and sedges.

During the war, in the Library of the nearby town, (Basingstoke) someone had placed a stand holding jars of water. The public were invited to put wild flowers they wanted identified in these jars and the next day they would come back to find them labelled. This was the work of a local watchmaker and he introduced me to a book I still treasure (little realising at the time it had strong connections with Orkney) It was in the series of "pocket books" published by OUP and was "A Flower Book for the Pocket" written by Prof. Macgregor Skene and beautifully illustrated. For the first time I was introduced to the use of real "keys" as an aid to identification and to a much wider technical terminology yet presented in a gentle and unafrightening way.

This little book kept me going many years. Coming to Orkney I met several Orcadian ladies, now dead who raised my curiosity about the local flora and earlier Orcadian botanists like Magnus Spence and Henry Halcro Johnston, one who had written a book the other who had made the magnificent "Orkney Collection" in the Herbarium of the Royal Botanic Garden in Edinburgh and I set out to re-find many of their plants in Orkney.

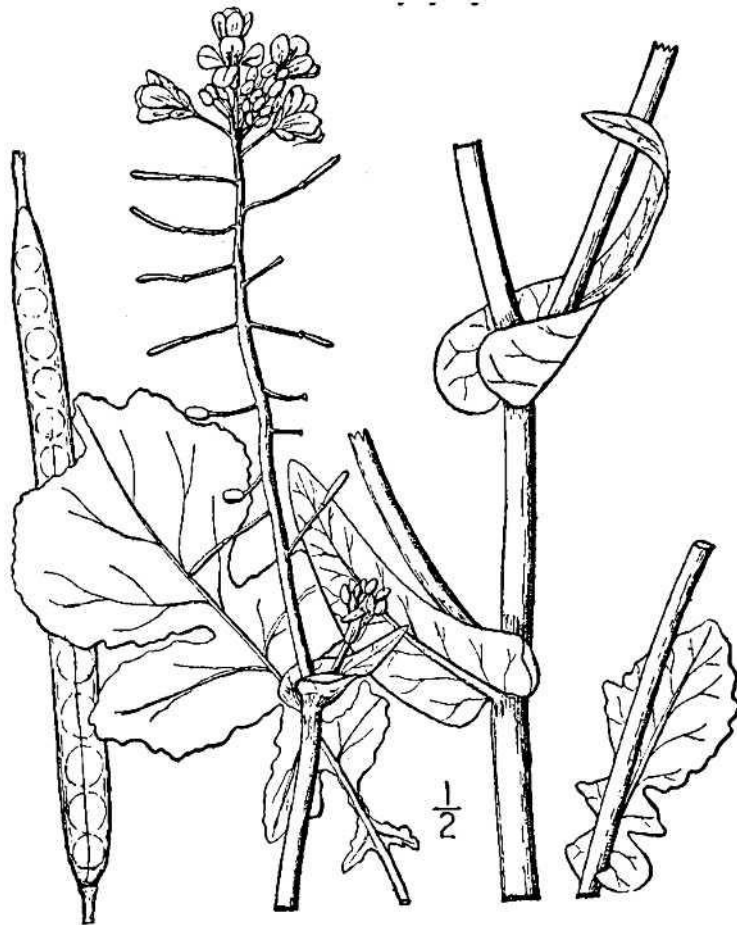
Meantime enormous Press publicity was being given to the first ever attempt to show, in map format, the distribution of every wild plant species in the UK and Ireland, undertaken by the Botanical Society of the British Isles. It created terrific public interest and many new members were recruited into its ranks, I among them. Almost immediately I was pitchforked headfirst into recording, first "my square" but very soon the whole of Orkney with only two years to complete the work. At first it was alarming although the Society's members were and are very helpful to beginners. I soon found that I needed to recognise far more plants than were shown in my little pocket book and to understand far more technical terminology than it gave. And each spring I realised I had forgotten, during the long winter, half of what I had learned the previous year. That forcing period over I went through the familiar stages of

"knowing not, and knowing not that I knew not" to "knowing that I knew not" and eventually to gaining confidence in true knowledge yet knowing when to ask for help.

A UNUSUAL LOCAL WEED, AND SOME NATIONAL RESEARCH INTO GENEFLOW

INTRODUCTION, BY JOHN CROSSLEY

In 2003 I responded to a request in the Botanical Society of Britain and Ireland's *News* for records of wild turnip *Brassica rapa*, and later sent to the researcher, Pippa Bell, some plant material collected in Sanday and South Ronaldsay. This I had identified as *B rapa* ssp. *campestris* (L.) A.R.Clapham., the wild precursor of the



cultivated turnip *B rapa* ssp. *rapa*. According to the New Atlas of the British and Irish Flora (Preston *et al*, 2002) the species is common in England, but relatively scarce in Scotland; however the distribution recorded in the Atlas is of all varieties or subspecies, including the cultivated form, so does not give a clear picture of the distribution of the wild form. In England the wild form most commonly grows on riverbanks, and both Rich (1991) and Preston *et al* (*op.cit.*) refer to its occurrence also as an arable weed. Some recent work by the *Brassica* Geneflow Consortium (see below) found the wild form on many riverbanks in England but not in Scotland. The plant's occurrence as a weed proved much more elusive, with records in response to Pippa's efforts only from Orkney and Humberside. I have seen that

the plant is widespread in Orkney, though rarely common, except perhaps in Sanday.

It is likely to be overlooked amongst the other yellow-flowered cruciferous weeds. The precise identity of the plants in Orkney is perhaps not clear, and it is possible that more than one form occurs locally. The Orkney population is potentially very important in relation to the *Brassica* Geneflow Consortium's work, and I would welcome records of this plant, preferably in the form of fresh or dried specimens, and any with ripe seeds would be especially welcome.

References:

Preston, C.D., Pearman, D.A. & Dines, T.D. 2002. *New Atlas of the British & Irish Flora*. London: University Press.

Rich, T.C.G. 1991. *Crucifers of Great Britain and Ireland. BSBI Handbook No. 6*. London: BSBI.

THE ORIGINS AND EVOLUTION OF WILD TURNIP *BRASSICA RAPA* IN THE UK

Pippa Bell

Some crops in the United Kingdom are able to cross-fertilize with wild relatives to form hybrids. If such hybrids are formed from GM crops, there are concerns that the transgene they contain could move into the wild species and ultimately change its ecology in some way. The effect of this would depend on the gene used, and there are many factors involved in whether a transgene from a crop plant could be stably incorporated into a weed by cross-fertilization. Whilst the presence of hybrids is not necessarily a problem in itself, it is important to quantify hybrids if we are to be able to predict the nature, speed and location of transgene movement.

There are several plant species that are able to hybridise with rape seed (*Brassica napus*) in the UK, although all but one of these has never formed spontaneous hybrids in the wild. There are many barriers to cross-fertilization between two species and often even if hybrids are formed they can be genetically unstable and sometimes infertile. These species can be classified in order of likelihood of hybrid formation with oilseed rape:

Bargeman's cabbage, *Brassica rapa* (most likely)

Wild cabbage, *B. oleracea*

Ethiopian rape, *B. carinata*

Chinese mustard, *B. juncea*

Black mustard, *B. nigra* (least likely)

My work focuses on the species with highest likelihood of hybrid formation, Bargeman's cabbage *B. rapa*. Natural hybrids between oilseed rape and Bargeman's cabbage can easily be formed when the two species grow side-by-side. This work is part of a research project by the '*Brassica* Geneflow Consortium'. The consortium consists of 8 institutions, funded by the Biotechnology and Biological Sciences

Research Council (BBSRC) and the Natural Environment Research Council (NERC). The research uses *Brassica* as a model to describe the pattern and consequences of potential transgene movement into the environment. The aim of the research is to quantify the 'pathways to ecological change' arising through transgene movement from GM crops, providing a risk assessment of the likelihood of impact on wild and weedy plant populations.

The first step towards this quantification is to estimate how many hybrids are formed in the UK between conventional oilseed rape (no commercial GM oilseed rape is yet grown in this country) and Bargeman's cabbage, by using data from real populations and extrapolation using distribution maps of the species and the distribution of conventional oilseed rape fields in relation to the weed populations. This study by the 'Brassica Geneflow Consortium' provided the first national estimate of the frequency and distribution of hybrids between conventional rape seed (oilseed rape, *Brassica napus*) and wild bargeman's cabbage (*B. rapa*) in the United Kingdom in a paper published in Science 2003, 302:457-559.

Field work revealed that there are two main ecotypes of Bargeman's Cabbage. The most common grows in semi-natural populations beside water whereas the more scarce form appears as an agricultural weed and typically flowers in oilseed rape fields.

My study aims to discover the origins and identity of these *B. rapa* in the UK. This involves genetic and morphological analysis of the wild and weedy ecotypes.

The first year of research involved mapping the distribution of *B. rapa* in the UK, in particular the distribution of the weedy ecotype. The identification of *B. rapa* is often overlooked, for it is very difficult to distinguish from oilseed rape, *B. napus*, and can be mistaken for volunteer rape if growing on field margins.

The distinguishing features of *B. rapa* are the bright green leaves, much hairier than those belonging to *B. napus*. The upper stem leaves are also found to be deeply clasping, lanceolate to oblong in shape. The petals of *B. rapa* are dark yellow in contrast to the pale yellow flowers of *B. napus*. Whilst in flower the open flowers of *B. rapa* are found to overtop the unopened buds, whereas the unopened buds of *B. napus* are found overtopping the flowers.

The morphological analysis is designed to identify any significant distinction between ecotypes. To do this I measured various morphological characters. This has been completed. And I am now using molecular methods to identify the genetic variation between the two ecotypes. I am also using cultivars of turnips (*B. rapa* var. *rapa*) and turnip rape (*B. rapa* var. *oleifera*) in order to identify possible routes of origin.

I am still trying to obtain seed from cultivars used around the 1930's of turnip oil seed rape (*B. rapa* var. *oleifera*).

I hope my work can provide an understanding to the origin and evolution of *B. rapa* in the UK.

So far the distribution work has not uncovered many new populations of the 'weedy' *B. rapa* ecotype. However we have had one positive result from Orkney. We believe that the population is *B. rapa* and due to the habitat in which it was found there it may be a 'weedy' form. I hope to confirm this using molecular techniques. It will be interesting to compare the Orkney population with our Humberside population. My hope is that the origins of the 'weedy' *B. rapa* is from *B. rapa* var. *oleifera*, or turnip oilseed rape hybrids.

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Acknowledgement for line drawing:

USDA-NRCS PLANTS Database / Britton, N.L., and Brown, A. 1913. *Illustrated flora of the northern states and Canada*. Vol.2:193.

STONEWORT RECORDS 2003

Effy Everiss

One of the wonderful delights of becoming a county recorder is that you can become inspired to visit many different places within the islands as you strive to become an expert in your chosen field. There are only a handful of Orkney stoneworts and they can at first be a bit tricky to identify, but with a bit of practice, plenty of friendly expert advice and experience the identification process becomes less of a chore. However the really special offshoot of looking for these algae is that you are motivated to visit odd and unusual places you really would not think of going to under normal circumstances with the bonus of finding records for other groups as well. This is due to the wide ranging complexity of habitat that this group occupies. Orkney has a very special and rich aquatic flora, with several UK priority species and one Red Data Book species of stonewort. So, stoneworting can be a very rewarding, if a somewhat damp occupation, and is highly recommended.

This year I have visited many abandoned quarries, lagoons, ditches and schoenus flushes in order to record this group, not to mention hilltops, gullies and the odd bog or two! The number of records does not reflect effort, many sites may take some time to get to only to find they are heavily polluted, in-filled, dried up or used for fly tipping. The rewards are sweet when you find a really special site brimming with stoneworts, potamogeton spp. callitriche, carex spp etc, garnished with the odd dragonfly or damselfly and even, if lucky, toadspawn. There is a memorable aura of calm and peace about these 'untouched' oases that is quite magical. There are still a few of these sites around and I am sure there are many more to be explored. The Russadale, Graemsay and Flotta quarries are particularly fine and well worth a visit. This year I spent some time on Westray and managed to get to most, but not all of the water bodies I could find on the map. Most of the small quarries were very badly polluted and very disappointing, the grapnel optimistically thrown yielding various

shades of obnoxious slime. The lochs and hill pools were much more rewarding and although there were no new records for the island most of the older records were updated and given an accurate grid reference. I hope to return to the island this year to visit the sites missed, and of course revisit the really special sites too! Eric Meek contributed new records for Papay Westray, one new for the 10K square, John Crossley for Sanday, there was a new record for North Ronaldsay too.

I was saving the pools and flushes around my house for my dotage but realising that I was in danger of being subjected to the embarrassing possibility of my home patch being recorded by others I took the opportunity this year to sample the area. I was rewarded with a good selection of records and I have never seen so many dragonflies, and damselflies together at one site before. This area between Wasdale Loch and the Howe Road, Firth is botanically very rich and well worth a visit by any botanist/naturalist at any time of the year, I am sure there is plenty more to find. The land is within the Hen Harrier Scheme, the reduced grazing has improved access and restricted the degradation of the poolside habitats.

So once again a very satisfying year on the stonewort front. Many thanks once again to Rosemary and Neil McCance (RMcC), Barry Jones (BJ), Ethel Mowat, Sydney Gauld (SG) for their encouragement and patiently putting up with my grapnelling company; to Eric Meek (EM) and John Crossley (JEC) for their records and Nick Stewart for being such an excellent mentor. Fellow stoneworters welcome anytime!

<i>Chara virgata</i> var. <i>virgata</i>	Stenness, pool behind community school, HY30857 11263, 9.02.03 (EE)
<i>Chara vulgaris</i>	Common of Kirk, S. Ronaldsay, quarry near coast, ND46523 88392, 29.03.03, (EE&RMc)
<i>Chara virgata</i>	Common of Kirk, quarry near coast, S. Ronaldsay, ND46523 88392, 29.03.03, (EE&RMc)
<i>Chara virgata</i>	Dennis Loch, N. Ronaldsay, HY789 553, 10.05.03, (EE)
<i>Chara hispida</i>	Plain of Fidge (North), Sanday, HY704 422, 12.06.03, (JEC)
<i>Chara vulgaris</i>	Upper Syradale, Firth, HY354 159, 21.07.03, (EM)
<i>Chara</i> var. <i>longibracteata</i>	Head of Burn of Geo, concrete storage tank, Firth, HY362 157, 21.07.03, (EM)
<i>Chara vulgaris</i>	Pool near Bonoquoy, Sanday, HY626 389, 24.07.03, (EM)
<i>Nitella flexilis</i> var. <i>opaca</i>	Dam pool up Mill Burn, Hoy, ND 2799 9616, 27.07.03, (EE&SG)
<i>Chara aspera</i>	Swartmill Loch, Westray, HY475 457, 08.08.03, (EE)
<i>Chara virgata</i>	Highlandmans Hammar, Westray, HY4270 45391, 09.08.03, (EE)
<i>Chara virgata</i>	Cuppin O'Cheor, Westray, HY42880 4620, 09.08.03, (EE)
<i>Nitella flexilis</i> agg.	Cuppin O'Cheor, Westray, HY42880 46200, 09.08.03, (EE)

Chara aspera	Loch of St Treadwell, Papay Westray, HY4920 5009, 10.08.03, (EE)
Chara contraria	Loch of St Treadwell, Papay Westray, HY4920 5009, 10.08.03, (EE)
Chara aspera	Loch of Burness, Westray, HY4310 4822, 11.08.03, (EE)
Chara var. longibracteata	Refuge Corner, Harray, HY3354 1565, 09.09.03, (EE)
Chara var longibracteata	Pool south of Rosebank, Harray, HY3346 1581, 09.09.03, (EE)
Nitella flexilis agg.	Pool south of Rosebank, Harray, HY3346 1581, 09.09.03, (EE)
Chara virgata	Pool south of Rosebank, Harray, HY3346 1581, 09.09.03,(EE)
Chara vulgaris	North Hill, Papay Westray, HY503 547, 02.08.03, (EM)
Chara virgata	North Hill, Papay Westray, HY503 547, 02.08.03, (EM)

All records verified by Nick Stewart, January 2004

THE SCARLET NEW ZEALAND TRUFFLE *PAUROCTYLIS PILA*

T.W.Eggeling

INTRODUCTION

Originally described by Berkeley from New Zealand in 1855, this fungus is said to be rare in mainland Britain (Pegler *et al.*, 1993), where it was first recorded from Holm Pierrpoint Park, Nottingham in 1973 (Dennis, 1975).

DESCRIPTION

Fruiting Body:

15-28mm across, scarlet or apricot to reddish or pinkish-brown, smooth and soft when fresh; internally white, usually with a few irregular chambers and indistinctly veined; globular or irregular in form, lobed and convoluted, becoming hollow; inedible.

Spores: 18-20µm, globose, smooth, released at maturity to form a creamy-yellow powder within the fruiting body. Habitat: partly buried in soil or under plant debris, in winter. Status: rare. (see Barker & Watling, 1993; and Pegler *et al.*, 1993).

DISCOVERY IN ORKNEY

On 1 December 1995, whilst talking to Hamish Flett about work due to be carried out at Boardhouse Mill, I saw what I thought was a piece of orange plastic partly obscured by vegetation. On prodding it with my foot, I realised that it was in fact something quite different and picked it up. It proved to be a very unusual fungus, which Roy Watling later identified as the scarlet New Zealand truffle *Paurocotylis pila* – at that time only the fourth record from the British Isles.

A year after that first sighting in Orkney, Sandy Towers reported the presence of an unusual fungus growing in his vegetable patch at the Loons, Stromness. I was contacted and, on 12 December 1996, noted about 35-40 scarlet-orange fruiting bodies growing half-buried in the soil amongst the cabbages and turnips. It was the scarlet New Zealand truffle flourishing in a second location in Orkney (Watling *et al.*, 1993) - the fifth or sixth record for the U.K.

In February 2002, after a five-year break in the Falkland Islands, I found that the fungus had resisted Sandy Towers' efforts to exterminate it and that a healthy population was still present in his vegetable patch at the Loons, Stromness. Later that year, in November, Chris Vasey sent me a picture of an orange-brown fungus, which

he had found growing partially buried in soil and plant debris in his back garden at The Knowes, Harray. Again it was the scarlet New Zealand truffle.



SEARCH IN SUITABLE HABITAT

The presence of such a rare species at three widely scattered sites in these Islands seemed to me to be quite extraordinary, and I started to search specifically for it in suitable habitat elsewhere on the Orkney Mainland and linked South Isles. That search included garden allotments and waste ground but gradually became more and more focused on nettle beds, with or without moss, umbels and dockans, on waste ground, rubbish tips and roadside verges.

FINDINGS

Distribution:

Since the beginning of November 2002, I have confirmed the continuing presence of the Scarlet New Zealand Truffle at the three original sites and, in addition, I have found the fungus growing in no less than fifty-two other locations scattered across the Orkney Mainland and the linked South Isles. These sites range from the Point of Buckquoy, Birsay in the north to the Bay of Herston, South Ronaldsay in the south (see Table 1: Report about selected Species).

Fruiting Bodies

The number of fruiting bodies recorded by me at any particular site has varied considerably. Between 1-5 were noted at forty-four (or 80%) of the fifty-five sites and

between 6-20 at eight (or 15%) of the remaining sites. At only three (or 5%) of the sites were more than 20 fruiting bodies observed, with a maximum of 35-40 noted at the Loons Stromness in December 1995.

The diameter of many of these fruiting bodies was larger than the upper limit of 28mm cited by Pegler *et al.* (1993), with at least two of them measuring as much as 60mm across, suggesting perhaps that it grows particularly well in Orkney.

Preferred Habitat

In almost every case, I found the fungus growing partly buried, in soil or under plant debris on well-drained sites, occasionally in vegetable beds but more usually on waste ground, rubbish tips or on roadside verges, under dead nettle stems (with or without moss, umbels and dockans). In other words, it appears to have a definite preference for habitats rich in nitrogen.

DISCUSSION

Distribution in Mainland Britain

First recorded from Holm Pierrpoint Park, Nottingham in 1973 (Dennis, 1975), it has also been found growing at Baildon Green, Shipley Glen, West Yorkshire in 1990 (Barker & Watling, 1993); and Bee Craigs, West Lothian in 1994 (Watling, pers. comm.).

It has since been recorded from Stochton, Durham in 1996; Derby, Derbyshire in 1998; Harrogate, Yorkshire in 2000; and Sheffield, Yorkshire in 2001 (Records held at Botanic Gardens, Kew, 2004). More recently, it has also been reported from several sites around the Edinburgh area, 2003 & 2004 (Watling, pers. comm.).

Local Expansion

At the original site in Yorkshire, it has spread into the next garden and farther down the road and, in the Edinburgh area, the fungus is now known from seven different locations, which suggests that once it gets into an area it spreads fairly rapidly (Watling, pers. comm.).

In Orkney, the fungus appears to have spread even more rapidly and has now been recorded in fifty-five 1km squares scattered across Mainland Orkney and the linked South Isles (see Map 1: Site Records, 14 March 2004).

Inner and Outer Isles

The absence of any records from the Inner and Outer Isles of Orkney may indicate that the fungus has not yet spread to these islands. On the other hand, it may simply reflect the fact that I have not been able to search for it on those islands – and only a concerted search for it there, in suitable habitat, will clarify the matter.

If you live on one of the Inner or Outer Islands, or live elsewhere but are visiting them in late autumn or winter, why don't you search for this colourful fungus and report any that you find?

CONCLUSIONS

How the scarlet New Zealand truffle arrived in Orkney is unclear. Perhaps it was introduced to these Islands accidentally by Captain Cook or by later visitors from New Zealand or by Orkney folk returning from holidays there.

Be that as it may, the number of records from Orkney is altogether extraordinary and makes one wonder whether the fungus has been present in these Islands, and perhaps elsewhere in the UK, for many years and has simply been overlooked.

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BRYOPHYTE REPORT 2003

Rosemary McCance

Things were fairly quiet in 2003 with no new bryophytes recorded for Orkney although site recording has been continuing. The recording of *Schoenus* flushes as requested by Elaine Bullard is also still going on –my thanks to Effy Everiss for help and to Eric Meek and John Crossley for grid references and plant lists.

A day in July for NVC classification has been proposed at which knowledge of certain bryophytes will be very useful. If anyone is going to this and would like to have a look at some bryophytes in advance, please contact me.

The British Bryological Society has a new website which is very good. It can be found at www.britishbryologicalsociety.org.uk/. Another one, which is good on bryophytes and their habitats, is “ Mosses and Liverworts in Wales.” The web address for this one is rather complicated so it would be easier to go to Google and type in the above name.

I am always happy to receive specimens- preferably separately packed and with grid reference, habitat and date.

Thanks to E.R.Bullard and H. Shearer.

THE LOCAL CHANGE PROJECT.

First put into action in the years 1987/1988, the Local Change Project was started by the Botanical Society of the British Isles in what they hoped would be a feasible attempt to monitor selected areas of the British Isles at intervals. So that over the years, changes in the vegetation would be recorded.

As with the various Distribution Atlas schemes used by many specialist societies, the project was based on a selection of 10 Km "squares" (Hectads) throughout the British Isles. Every ninth such square being chosen, starting in the Scilly Isles in the southwest and working northwards and eastwards. Within each 10 Km the same 3 tetrads (2 x 2 Km squares) were chosen for special recording although, at that first attempt, the whole 10km square was also recorded.

Inevitably, in an island group like Orkney, our small sea-girt land mass missed several possible squares. Of the four, which did fall on land, two tetrads in each were in the sea leaving only one tetrad in each to be recorded. In HY60, the entire 10 Km square was in the sea except the chosen, which just managed to include all of Copinsay and a small portion of Corn Holm. The others were parts of the Stenness and Orphir Hills, part of NW Rousay and part of Cross Parish in Sanday.

If the choice of tetrads to monitor had been left to us we might have preferred places richer in vulnerable species.

The 1997/98 recording effort saw little local enthusiasm for the scheme but a few members of the Society did spend part of their holidays, usually without any local consultation, recording "Local Change" tetrads in Orkney. They all chose the Stenness and Orphir tetrad. With little knowledge of local place-names, it is difficult to trace their records. Several other members of the Society kindly helped with Sanday and Rousay and I managed a brief visit to Copinsay on my own.

The scheme became due for repetition in 2003 and 2004 and this time was accepted as an Orkney Field Club Project. It was decided that to be useful for our own Biological Record Centre, each single 1 Km square in the tetrads would be recorded separately. Anything "special" found would be given full 6-figure Grid References, and that whenever possible, other Groups would be recorded. Copinsay, Rousay and Sanday tetrads were adopted for OFC summer field meetings while various valiant individuals and several visitors tackled the Stenness/Orphir tetrad. All these meetings were very well supported, were blessed with excellent weather, were lots of fun and generally very successful. Many of the trips (especially Copinsay) were also enjoyed by non-recording members whose participation was very valuable in sharing transport. Although intended to be spread over two years, only a little "tidying up" seems to be left for 2004 and hopefully individuals will be willing to do this.

At the time of writing, many records are still awaited from recorders. Generally, however, the far better coverage has resulted in many additional records for every tetrad. The exception being Copinsay where the one or two gains were offset by

losses and far fewer numbers of some species. A few "special" species were not re-found in other tetrads. *Primula scotica* in the Rousay tetrad and only the fact that we did have the 1987/88 records to compare enabled us to make very deliberate searches for Sea Speenwort, almost out of sight on sea cliffs in the north of Cross Parish. But, we also discovered some unexpectedly rich habitats especially in Sanday.

Altogether a very enjoyable project.

Although OFC Members' main efforts were cantered on the Local Change Project, individual recorders carried out much other work. It was not a year for spectacular "discoveries" but the attempt to record all the Vascular Plants listed on the OBAP Priority Species progressed steadily, with many specimens of Juniper and Alpine Bearberry. However, no records were received at our entire Orkney speciality - *Primula scotica*. Please update what is becoming an old Site List. Efforts are being made to understand and record our very difficult Eyebrights and Hawkweeds, but there has been no progress at all on our Orkney Dandelions.

What has happened to *Taraxacum orcadense*? To some extent our work on these is hampered by the difficulty the national Referees are finding to keep up with requests for identifications. Although Dandelion sub-species are fairly "difficult" and require patience and neat fingers to prepare for the Referee's identification., they really would make a good hobby for a beginner who could not face the task of learning the names of all the wildflowers in Orkney. Everyone knows a Dandelion when they see it and it takes just a little more concentration to "see" the subtle differences between the many types of sub-specie.

Work continued on the Schoenus Flush project and on Weeds of Cultivation. Some small., rather "nice" but unprotected sites, were listed, also proposed development sites in Firth including the Hill of Heddle above the quarry.

Many thanks to all who took part in any way: Bob Allan, John Crossley, Effy Everiss, Sydney Gauld., Nick Gould, Dick Matson, Rosemary McCance, Eric Meek, John O'Reilly, Bryan Ribbands, Jenny Taylor and several others whose names I did not know or cannot recall. Thanks, too, to those who provided transport. Local landowners for giving us permission for access and for providing parking places and often-valuable tips for the best routes to take.

ORKNEY WILDFLOWER LISTS.

Although my 1995 Checklist is out of print, I have a small database that holds updated records of the presence or absence of all wild flowers on the Orkney List in almost every Parish and Island in the County. These are plain lists with no other information except a "before or after" date symbol but are very useful if you want to know what species you are likely to find in a given area. These lists can consist of the full scientific and common name of each species or can be just an obvious abbreviation of the scientific name from which "recording cards" can be made. Providing you do not ask for more than two lists at a time I will try to provide them on request, by e-mail only. For the large islands like Hoy and Sanday, the three parish

lists will be combined. I also have lists of many of the smaller islands, made at varying dates so may not be very recent. Now is your chance to bring them up to date.

ORKNEY MARINE MOLLUSCA

Alan Skene

A record with a lot of interesting species has come, collected in Papa Westray. Mrs Christine Street, from Essex, visited the island in summer 2001, and has spent a lot of time since sifting through sand collected mainly in Moclett Bay area. She has identified 62 species of Gastropods. Here is a list of those that have not previously been recorded from Papey. Most of them are tiny and not easy to identify.

W 0139	<i>Tricolia pullus</i>	W 0152	<i>Margarites striatus</i>	W 0204	<i>Dikoleps pusilla</i>
W0338	<i>Alvania beanie</i>	W 0348	<i>Alvania semistriata</i>	W 0363	<i>Manzonina zetlandica</i>
W 0365	<i>Obtusella intersecta</i>	W 0376	<i>Pusillina inconspicua</i>	W 0418	<i>Caecum glabrum</i>
W 0669	<i>Vitreolina philippi</i>	W 0891	<i>Rissoella diaphana</i>	W0897	<i>Clima minima</i>
W 0901	<i>Omalogyra atomus</i>	W 0904	<i>Ammonicerina rota</i>	W 0920	<i>Bachystomia carrozzai</i>
W 0922	<i>Bachystomia eulimoides</i>	W 0963	<i>Ondina warreni</i>	W 0997	<i>Ebala nitidissima</i>
W 1043	<i>Philine punctata</i>				

Clima minima is of interest. It was dredged off Hoy in 40 fathoms (three specimens) in June 1967, when it was the first British live record of the 20th Century.

In the Bulletin 2002,1 took an opportunity to focus our attention on describing one bit of coastline, and what it's like for shells/molluscs. I then chose a sandy beach at Evie. Let us this year try a rocky coast, with very different mollusc species to find.

FOCUS ON A BEACH - BIRSAY

The beach at the Brough of Birsay makes a good family outing, or a pleasant wander. The best collecting spots are sandy drift-lines near the cliffs: cross the causeway and turn left. It is a good place to find cowries (groatie buckles) - as long as someone else has not been before you!

Here is a list of the shells that have been found there:
L means that it has been found Live.

The numbers I use to identify species are from the Ulster Museum Directory of Marine Fauna and Bora of the British Isles 1997 (edited C.M.Howson and B.E.Picton)

CHITONS

W 0082	<i>Tonicella</i>		rubra red mail shell
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GASTROPODS

W 0106	<i>Emarginula fissure</i>		slit limpet
W 0116	<i>Diodora graeca</i>		keyhole limpet

TOP SHELLS

W 0150	<i>Margarites helcinus</i>		small pearly top shell
W 0163	<i>Gibbula cineraria</i>	L	grey top shell
W 0182	<i>Calliostoma zizyphinum</i>	L	common/painted top shell

LIMPETS

W 0223	<i>Tectura testudinalis</i>		tortoiseshell limpet
W 0224	<i>Tectura virginea</i>		rayed top shell
W 0230	<i>Patella ulyssiponensis</i>	L	rough/china limpet
W 0231	<i>Patella vulgata</i>	L	common limpet
W 0234	<i>Helcion pellucidum</i>		blue-rayed limpet

WINKLES

W0289	<i>Lacuna pallidula</i>		pallid chink shell
W 0292	<i>Lacuna vineta</i>		banded chink shell
W 0296	<i>Littorina littorea</i>		periwinkle
W0302	<i>Littorina obtusata</i>	L	dwarf/flat winkle
W 0305	<i>Littorina saxatilis</i>	L	rough winkle
W 0309	<i>Melaraphe neritoides</i>		small periwinkle

RISSOAS &c

W 0312	<i>Skeneopsis planorbis</i>	L	flat coiled shell
W 0334	<i>Rissoa parva</i>		thick-lipped ribbed rissoa
W 0358	<i>Cingula cingillus</i>		banded rissoa
W 0371	<i>Onoba semicostata</i>	L	striated rissoa

COWRIES &c

W 0443	<i>Capulus ungaricus</i>		Hungarian cap
W 0459	<i>Trivia arctica</i>		white cowrie
W 0461	<i>Trivia monacha</i>	L	spotted cowrie, groatie buckie
W 0465	<i>Erato valuta</i>		smooth margin shell
misc.			
W 0491	<i>Polinices pulchellus</i>		shiny necklace shell
W 0680	<i>Trophon truncatus</i>		ribbed spindle shell

W 0687	<i>Nucella lapillus</i>	L	dog whelk, cattie buckie
W 0706	<i>Buccinum undatum</i>	L	waved whelk
W 0747	<i>Hinia incrassata</i>		hick-lipped dog whelk

[In the 1970-90 period we were accustomed to find occasionally these shells, noted also by Robert Rendall, but they have not been recorded since 1990: *Trichotropis borealis* (the hairy keel shell); *Simniapatula* (the so-called 'poached egg' shell); *Epitonium clathratulum* (a small wendletrap)]

BUBBLE SHELLS

W 1080	<i>Retusa truncatula</i>		truncated bubble shell
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SEA-SLUGS

W 1376	<i>Archidoris pseudoargus</i>	L	sea lemon
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BIVALVES

W 1662	<i>Area tetragona</i>		ark shell
W 1688	<i>Glycymeris glycymeris</i>		dog cockle, comb shell

MUSSELS

W 1695	<i>Mytilus edulis</i>	L	common mussel
W 1702	<i>Modiolus modiolus</i>		horse mussel
W 1721	<i>Musculus discors</i>		een crenella

SCALLOPS

W 1773	<i>Aequipecten opercularis</i>		Queen scallop
W 1776	<i>Chlamys distorta</i>		hunchback scallop
W 1786	<i>Pallium ligerinum</i>		tiger scallop
misc.			
W 1814	<i>Pododesmus patelliformis</i>	L	scale oyster
W 1875	<i>Kellia suborbicularis</i>		globose kelly shell
W 1880	<i>Lasaea adansoni [rubra]</i>		ruddy lasaea
W 1929	<i>Goodallia triangularis</i>	L	triangular astarte
W 1936	<i>Tridonta montagui</i>		flat astarte

COCKLES

W 1951	<i>Parvicardium ovale</i>		banded cockle
W 1975	<i>Spisula elliptica</i>		elliptic trough shell

TELLINS ETC

W 2023	<i>Moerella pygmaea</i>		little tellin
W2049	<i>Gari tellinella</i>		tellin-like sunset shell

VENUS SHELLS

W 2091	<i>Circomphalus casino</i>		pale venus
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W2100	<i>Clausinella fasciata</i>	banded venus
W2124	<i>Venerupis senegalensis</i>	pullet carpet shell
W2133	<i>Turtonia minuta</i>	minute kelly shell
misc.		
W 2166	<i>Hiatella arclica</i>	rock-borer
W 2233	<i>Thracia villosiuscula</i>	roughish lantern shell

Here is a list of molluscs which have been found at Birsay, but are less-easily identified, or tiny, for the 'expert':

<i>Gibbula tumida</i>	<i>Gibbula umbilicalis</i>	<i>Lothia fulva</i>	<i>Lacuna parva</i>
<i>Alvania beanie</i>	<i>Alvania puncture</i>	<i>Manzonia zetlandica</i>	<i>Onoba aculeus</i>
<i>Pusillina inconspicua</i>	<i>Lamellaria perspicua</i> (L)	<i>Marshallora adversa</i>	<i>Eulima bilineata</i>
<i>Trophon barvicensis</i>	<i>Trophon muricatus</i>	<i>Raphitoma linearis</i>	<i>Berthella plumula</i>
<i>Cadlina laevis</i>	<i>Modiolus barbatus</i>	<i>Modiolarca tumida</i>	<i>Limatula</i> <i>subauriculata</i>
<i>Chlamys varia</i>	<i>Heteranomia</i> <i>squamula</i>	<i>Gouldia minima</i>	

I hope this might inspire you to get out there and search. I welcome lists of any finds, or the specimens if you're not sure. Enjoy beachcombing!

ORKNEY COLEOPTERA (BEETLE) RECORDS 2001-2003

Keith Fairclough

In July 2001, Dr Mark Telfer of BRC Monks Wood, ran a course in Orkney entitled 'Ground Beetle Identification and Recording for Site Assessment'. During the course, many beetles were collected from a number of sites on Mainland Orkney. Some were identified on site whilst others were brought back to the laboratory for keying out.

I have recently (Mar 04) been in contact with Dr Telfer who is still in the process of compiling the data from the course. He has told me that there were several species of ground beetle (Carabidae) identified which were new to Orkney. He has promised me that a detailed list with extra notes on status, habitat preferences, etc will be sent in the near future. A summary of the details will be included in future OFC bulletins.

I have also been informed that the beetles collected in the pitfall traps set on Ward Hill, Hoy in 2001 are being identified by Dr Colin Welch, also of BRC Monks Wood. I will contact him to ensure that the OBRC receives full details of the data held on their national database.

The distinguished coleopterist, Magnus Sinclair, who has visited Orkney to collect beetles for many years, was again active in May 2003. He has compared his list with two others, those appearing in:

- Berry.R.J; The Natural History of Orkney, 1985, Collins New Naturalist series, London.
- The Orkney Biological Record Centre datasets.

In 2003, he recorded three species, which did not occur in either of these lists:

Boreophilia islandica	HY281109	05/05/03	Nr Brig O'Waithe	Seaweed
Bryaxis bulbifer	HY377067	03/05/03	Nr Waulkmill, Orphir	Saltmarsh
Sepedophilus nigripennis	HY377067	03/05/03	Nr Waulkmill, Orphir	Saltmarsh

In 2003 he recorded two species listed in Berry but not in the OBRC list (as full recording details eg date, location, finder, etc, were not included with the record):

Philonthus addendus	HY377067	07/05/03	Waulkmill	In rotting Razorbill
Pteridium pusillum	HY281109	05/05/03	B O'W	Seaweed above htl

He also listed a further 19 species which did not appear in the OBRS list but which have been or are about to be published by himself:

<i>Aleochara obscurella</i>	ND477992	25/05/91	Glims Moss	Gravel near htl
<i>Philonthus fimentarius</i>	HY234198	27/05/97	Bay of Skail	Grass nr shore
<i>Philonthus fimentarius</i>	HY379067	04/06/97	Waulkmill	Saltmarsh grass
<i>Staphylinus aeneocephalus</i>	HY222165	05/06/97	Yesnaby	Under stones
<i>Mycetoporus splendidus</i>	HY222165	05/06/97	Yesdnaby	Under stones
<i>Microdota liliputana</i>	HY360067	04/06/97	Waulkmill	Grass, saltmarsh
<i>Mocyta amplicollis</i>	HY222165	27/05/97	Yesnaby	Debris above htl
<i>Mocyta orbata</i>	HY234198	27/05/97	Bay of Skail	Grass by shore

<i>Aerotona aterrима</i>	HY234198	27/05/97	Bay of Skail	Grass
<i>Phyconoma immigrans</i>	HY379067	04/06/97	Waulkmill	Seaweed strand
<i>Pteridium punctatum</i>	HY379067	04/06/97	Waulkmill	
<i>Apion (protapion) fulvipes</i>	HY281110	20/08/02	Brig O'Waithe	Veg nr shore
<i>Datomicra celata</i>	HY299112	30/05/01	Stenness	Grass mowings
<i>Atomaria lewisii</i>	HY299112	30/05/01	Stenness	
<i>Carpelimus</i>	HY299113	30/05/01	Stenness	Horse midden
<i>Carpelimus pusillis</i>	HY299113	30/05/01	Stenness	
<i>Cypha laeviuscula</i>	HY312139	25/08/02	Biggings, Harray Swept	
<i>Falagria caesa</i>	HY299113	30/05/01	Longbigging,	Horse midden
<i>Philonthus rectangulus</i>	HY299113	30/05/01	Stenness	
<i>Pholonthus politus</i>	HY299113	30/05/01	Stenness	Horse midden

NB Microdota, Mocyta, Acrotona, Phyconoma, and datomicra are often treated as sub-genera of the large genus Atheta).

In March 2002, I was contacted by Howard Mendel, the Collections Manager, Dept of Entomology, Natural History Museum, London. He was interested in the Orkney list of Click Beetles (Elateridae), a number of which he didn't believe. He gave four species for which he was dubious and five species he was happy with. I sent him all specimens of click beetles in the Orkney collection.

One species has been removed from the list:-

Ctenicera pectinicornis turned out to be the very common *C.cuprea* var. *aeruginosa*.

The status of two other species were also in doubt as although purporting to be of Orkney origin, they were labelled as being from southern England. They were both collected by Vincent Lorimer and it is possible that he included non-Orkney specimens in the Orkney cases because he did not have specimens from Orkney. The two species are:

Athous haemorrhoidalis and *Agriotes obscurus*.

There is further confusion because Berry 1985 (see above) lists nine species of clicks whereas the OBRC lists only six. Also, two species with which HM was happy, appeared in neither Berry's nor OBRC's lists!

There is definitely much work still to be done to sort out the Orkney definitive beetle list!

A new species for Orkney was found by Gina Breck and J. Johnston in cracks in wood in Dounby. The species of spider beetle was identified by Keith Bland (Nat' Museum of Scotland).

<i>Niptus hololeucus</i>	HY2920	12/01/02	Head West, Dounby	10+
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This beetle is regarded as a nuisance rather than as a pest because although the larvae feed on starchy foods eg cereals, the pupae bore into harder materials and can do considerable damage, especially to textiles and upholstery.

There were a number of records throughout the period of some of our best-recorded species:

<i>Necrophorus investigator</i>	is the larger of the two Sexton or Carrion Beetles, black with 2 red bands on the abdomen. They are strong fliers and turn up in some numbers in light traps operated by Orkney's moth trappers. In 2003, they were reported from 13 th July to 14 th Sep. The highest numbers were 18 on 16 th Aug in a trap at Northolme, St.Ola (HY4409) and 13 on 11 th Aug at Viewforth, Swannay (HY2928). Also recorded at HY4410, HY3124, HY5632 and HY2925.
<i>Necrophorus vespilloides</i>	is the smaller of the two similar species. Singles were recorded at Skaill, Eday (HY5632) on 20/08/02; at the Kirkwall Golf Course (HY4311) on 21/07/01 and at Breck, Orphir (HY3403) on 29/07/00
<i>Necrophorus humator</i>	is the huge, all black sexton. Singles were caught in the Northolme moth trap on 19/05/03, 27/08/03 and 03/09/03. Another was found in a bedroom at North Flaws, South Ronaldsay (ND4585) on 06/11/01.
<i>Aphodius rufipes</i>	is a small, stocky dung beetle with reddish legs. This too was caught in small numbers in the traps at Northolme and Viewforth from June to August.
<i>Ocyopus olens</i>	the so-called Devil's Coach Horse is the largest of the UK's Rove beetles. I receive records every year because it is so distinctive, often curling up the tip of its abdomen like a scorpion. Records were received from High St, Kirkwall (HY4410) on 23/09/01 and 12/08/02; Rumen, Rackwick, Hoy (ND2099) on 02/10/02; Chapel Geo, Auskerry (HY679161) on 13/06/01 and at Mill House, Rendall (HY3918) on 14/10/01.
<i>Cicindela campestris</i>	the Green Tiger Beetle is an indicator of healthy heathland, so it was encouraging to receive reports of good numbers on the footpaths in the Rackwick area in both 2002 and 2003.

CONTRIBUTORS:

Bob Adam, Chris Booth, Gina Breck, Mike Cochram, John Crossley, Sydney Gauld, J and K. Johnston, Brian Ribbands, Julia Robinson-Dean, P.Owen Vaughan.

GRASSHOPPER AND CRICKET RECORDS: Keith Fairclough 2002 AND 2003

Meadow Grasshopper *Chorthippus parallelus*

This species is only known from Hoy. There were two new sites discovered during the last two seasons.

Chris Booth found about 20 insects on the drier patches amongst heather on the Moss of Whitestanes (ND213990) on 26/07/02.

Single insects were found by Dick Matson at two sites within the same 1-Km square on Cuilags, to the SW of Sandy Loch: at HY213024 on 02/10/02 and at HY215027 on 17/08/03.

Some of the well-established colonies were re-checked:-

25 were found on Broadi Face HY2100 in Aug 2003 and 15 here in Aug 2002.

The large colony on Lyrawa Hill, ND2799/2899, first discovered in 1971 and rediscovered in 1987 was still present but checks were brief and so only small numbers were.

This species has now been recorded from ten widely-distributed 1-Km squares on Hoy. They are listed below with the years recorded.

HY2001	Slope between Berriedale and Segal Burns	1991
HY2100	Broadi Face on Ward Hill	1999, 00, 02, 03
HY2102	Cuilags, SE-facing slope	2002, 03
HY2300	Nowt Bield Burn	1992
ND2195	North of Summer Burn	2000
ND2199	Moss of Whitestanes	2002
ND2796	Bailliefea, east-facing slope	1988
ND2799	Lyrawa Hill by plantation and road	1971, 87-03
ND2899	Lyrawa Hill to Betty Corrigill's grave	1993, 96, 97, 03
ND2896	Shell Hill/Burns of Bailliefea and White Horse	1988

NB. The Common Green Grasshopper, *Omocestus viridulus*, which was found on the grassy slopes above Rackwick, has now been extinct for more than a decade.

The Common Ground Hopper, *Tetrix undulata*, recorded on Hoy pre-1965, and suspected since then, has never been positively identified.

House Cricket *Acheta domesticus*

First recorded in Orkney in 1995 at two locations in Kirkwall. (See report in the 1996 OFC Bulletin). There have been no further records from Kirkwall and so it is to be assumed that these individuals or colonies did not survive.

On 10th Jan 2002, Megan Egging found a live individual (which later died) in Wilson's warehouse at Garson, Stromness. (Identification was verified by Keith Bland, National Museum of Scotland, Edinburgh).

Originated from North Africa and the Middle East but established in Britain for centuries. Widely distributed in England. Odd records for Scotland only as far north as Edinburgh.

Declining but widely sold as live food for eg pet reptiles and apt to escape. In Orkney, almost certainly imported in crates previously stored in warm warehouses.

Contributors: Chris Booth, Lee Shields, Dick Matson, OFC group, KF.

ANTS IN ORKNEY: 2001, 2002, 2003

Keith Fairclough

COMMON GUEST ANT: *LEPTOTHORAX ACERVORUM* (FABRICIUS 1793)

Between late August and early October 2001, a series of pitfall traps was set near the summit of Ward Hill on Hoy by the RSPB Warden, Chris Rodger. The contents of the trap at HY22876 02238, situated c100m from the summit cairn were examined by Dr Dave Beaumont (RSPB Scotland: Senior Reserves Ecologist), and was found to contain a single, winged specimen of the tiny (3-5mm) ant *Leptothorax acervorum*.

It is unlikely that there was a nearby colony or we would have expected to find some workers in the pitfall traps (perhaps the most efficient way of collecting ants). Nevertheless, this constitutes a valid record and brings the Orkney list of ant species to two!

This species is very common and widespread in UK and occurs in Caithness. The English name derives from the fact that it usually lives within the nests of other ant species, particularly wood ants, though they do also live in independent colonies. Nests are usually found in decaying tree stumps or in old, dry twigs. It is therefore unlikely that a colony was in existence near the Ward Hill summit. A more likely location would be in Berriedale wood or other areas with scrubby woodland including gardens.

In 1995, before any species had been positively identified, this was one of several species listed by the former UK Ant Recorder, Simon Hoy as being a possible/likely species to be found in Orkney.

When winged ants swarm and disperse, there is always the possibility of range expansion. It is definitely possible that more than just one ant made it to Orkney and

it is certainly possible that colonisation might occur in the future (if they are not established already).

MYRMICA RUGINODIS.

This red ant has shown itself to be very cosmopolitan in Orkney terms. It has now been recorded on ten islands including Mainland and has been found at all elevations from sea level to the high hills of Hoy. Nests/colonies have been found in a variety of habitats/vegetation from moss cushions (probably the commonest nest site) to hollow thistle stems and lochside flotsam.

There were 5 records in 2001, 10 in 2002 and 4 in 2003. Most records were of breeding colonies with nests containing, on occasions, hundreds of ants often with eggs and larvae.

There was a very interesting record from Dick Matson of an estimated 1,000 winged ants swarming over the Rackwick car park and tracks on Hoy on 18/08/02.

For the sake of completeness and to encourage people to go out and find new locations, I have printed the full list of 1-Km squares in which ant colonies have been located (45). The year given is the first year that the colony was recorded.

Mainland			Hoy		
HY2212	Burn of Selta, Stromness	1996	HY2100	Broadi Face	2002
HY2221	The Spord, Sandwick	2002	HY2102	CUILAGS	2003
HY2428	Skipi Geo, Birsay	1995	HY2103	Sandy Loch	1995
HY2724	Twatt	1995	HY2400	Drawfie.Stane car park	1995
HY2913	Ring of Brodgar, Stenness	1996	HY2401	White Glen plantation	1995
HY3024	Durkadale Burn, Birsay	2000	HY2001	Rackwick Burn	2002
HY3113	Harray lochside picnic area	2000	HY2402	Whaness Burn	1996
HY3114	As above	2001	ND1899	Stourdale area	1997
HY3225	Sleet Moss, Birsay	2000	ND2099	Rackwick car park	2002
HY3226	Burn of Ethrigeo, Birsay	2001	ND2692	Heldale Water	2001
HY3319	Burn of Corrigall, Harray	2002	ND2698	Upper Pegal Burn	1995
HY3320	Dale of Corrigall, Harray	1997	ND2896	Bailliefea/White Ho	2003
HY3324	Mid Hill, Birsay	1999	ND2899	Betty Corrigall	1995
HY3410	Gyrehouse, Stenness	1995	ND2998	Lyrawa Burn brig	1997
HY3415	Syradale, Firth	2002	Flotta		

HY3422	Kithuntlins Burn, Birsay	2002	ND3792	Stanger Head	2001
HY3423	Burn of Lushan, Birsay	2002	Shapinsay		
HY3620	Milldoe, Rendall	1996	HY5315	Holm of Burghlee	1995
HY3806	Waulkmill Bay, Orphir	1996	Egilsay		
HY3906	Hobbister, Orphir	2002	HY4730	S Geo of Canquoy	1997
HY4608	Wideford Burn, St Ola	1996	Rousay		
HY5202	Ochlester Moss, Holm	2003	HY3929	Muckle Water	2000
HY5403	Dingieshowe, Holm	2003	Sandy		
			HY6839	Quina Ho	2001
South Ronalday			Swona		
HY4384	Burwick	1997	ND3984	EAST SIDE	1998
			Auskerry		
			HY6716 or 6715		1998

Contributors (2001-2003): Andy Knight, Chris Booth, Chris Rodger, Dr Dave Beaumont, Dick Matson, Eric Meek, Lee Shields, Bob Adam.

DRAGONFLIES IN ORKNEY 2002, 2003

Keith Fairclough

Quite a lot was done during this period in an attempt to raise the profile of dragonflies and damselflies in Orkney. Early in 2002, a recording form was produced which gave some general information on the seven species which breed in Orkney and how to identify them. These were distributed to libraries and elsewhere. This '2002 survey' was, however, a little disappointing with very few forms returned, partly perhaps because details of the recording form written for The Orcadian's 'Nature Notes', never actually appeared in print!

July 2003 saw the completion of an identification chart illustrating all seven species, males and females, in full colour. The reverse side gives general information as well as specific information on status, habitat and flight period. The lion's share of the work involved in producing the chart was undertaken by Effy Everiss, to whom I am sincerely grateful.

Funding is now being sought to enable the production of a batch of A5 charts which will eventually be available for sale and which will hopefully encourage the collection of more Orkney records. If successful, there are plans for more such charts covering a range of Orkney's wildlife.

Considering that the weather during the last two summers was relatively good, 2003 being particularly spectacular, it was rather surprising that I received no records at all for either the **Golden-ringed Dragonfly** *Cordulegaster boltonii* or the **4-spot Chaser** *Libellula quadrimaculata*. However, these are both restricted-range Hoy specialities and I am sure that the lack of records simply reflects the fact that nobody went out specifically to look for these two gems.

The third species of the 'big three', the **Common Hawker** *Aeshna juncea* was well represented in terms of records, particularly in the dragonfly-friendly heat of 2003. Records were widespread on Hoy, sometimes well away from suitable breeding pools.



This is not unusual for such a powerful flier and voracious hunter, indeed Hoy is still the likely origin for most casual sightings on Mainland Orkney and South Ronaldsay. Having said this, breeding was proved at several new sites on Hoy: the loch at Sui Fea Trig'Pt (HY1903); Sui Fea Lochs (HY1901); Lochs of Grut Fea (HY1900); Water of Hoy (ND2899) and Glisters of Pegal (ND2698).

Breeding was possible but not proven at Mel Fea (ND2198) and Enegars corrie (HY2004). Away from Hoy, there is still only one proven breeding site; at

Button, Stenness, on a man-made pool where they first bred in 1997. Although they failed to return in 1998, they bred successfully in the next two years but were absent again in 2001 and 2002. It was good news therefore when one was sighted on two days in Sep, although breeding wasn't proved.

The story of the **Black Darter** *Sympetrum danae* is one of continued success and range expansion. Up to 1996, this species only bred at a few sites on Hoy. Then in 1997, they colonised the pool at Button in Stenness. This continues to be a stronghold with "plenty" and "good numbers" in 2003 (as described by the owners) being seen throughout the season which lasted from 11th July to at least 15th Sep. Also in 1997, a single fly was recorded by Liz Charter at Stembister/Ochlester Moss (HY530026) which she considered as a casual, non-breeding record. However, in Sep 2002 a pair were seen here in tandem at nearby pools (HY5300). 1998 saw establishment on a new island, South Ronaldsay where a newly-emerged insect was seen in Rinnibar Quarry, Hoxa (ND4153). Small numbers have continued here throughout, with breeding proved in 2003. As well as this, two new sites were occupied on South Ronaldsay in 2003: pools at edge of Blows Moss (ND4686) and at South Liddell (ND4683) where flies were in tandem as late as 11th September.

With the range expanding, it is to be expected that such mobile and powerful insects will be recorded casually in greater numbers and this has, in fact been the case.

However, records are only of real biological interest if they are of proved-breeding at suitable pool sites. This was the case in 2002 and 2003 at Rosebank, Harray (HY3315) where dragons were seen in tandem and ovipositing (egg-laying). Breeding was also suspected in both years at another site in Harray: the pools at the Lochside picnic area (HY3114/3113). Finally on Mainland, a single fly was seen at suitable pools on the north slopes of Muckle Billia Fiold, Birsay (HY3523) in Sep, which will certainly be checked out in 2004.

Not surprisingly, the range has also expanded on Hoy. Colonisation of Little Loch (ND2198) was to be expected, being very close to other well-established sites at the north end but records from Withigill (ND2496) and Glifters of Pegal (ND2608) are really exciting, being from pools both much further south and at much higher elevations than usual. Two pairs were in tandem at the latter site on 11-09-03 and it will be interesting to see if these new colonies can maintain themselves, especially if forthcoming summers are not as warm and sunny as was the case in 2003.

As usual, the first species to appear on the wing was the **Large Red Damsel** *Pyrrhosoma nymphula*. In 2002, this was on 4th June at pools near Rosebank, Harray (HY3315), a new breeding site. In 2003, flies emerged on 25th May on both Hoy and Mainland, reflecting the earlier development of warm weather. On Hoy, despite generally good numbers, no new breeding sites were discovered. This is largely because they breed on virtually every water body on the island, including high-altitude hill lochans. Exhaustive annual surveys of key breeding bird species such as red-throated divers have already ensured that all such pools have been discovered. There were however, several new breeding sites on Mainland besides the one detailed above: 2002: Corrigan, Harray (HY3321); Durkadale, Birsay (HY3023) and Queenamidda, Rendall (HY3720) on a pool dug out in 1997. In 2003, flies at Queenamidda bred in yet another new pool excavated the previous year, the third breeding site at this location. Also in 2003, there were a further two new sites in Rendall, at (HY3820) and Sweenalay Burn (HY3719) as well as: Mid Hill, Birsay (HY3424); The Knowe of Bosquoy, Harray (HY3118) and Muckle Billia Fiold, Birsay (HY3523). The latest date seen on the wing was 22nd Aug in 2002.

There was one new breeding site for the **Common Blue Damsel** *Enallagma cyathigerum* on Hoy, at Little Loch (ND2198) where they bred in both 2002 and 2003 with up to 10 individuals present. It has always surprised me that this super little dragonfly loch has not held this species before. Red damsels have always been present and on Hoy it is not unusual for both species to occur together. This has always been a hawkler site and with the recent colonisation by the black darter, the loch now hosts four odonata breeding species.

The Muckle Billia Fiold pools in Birsay turned up trumps again being the only new site away from Hoy. Just one record of a single fly in July does not constitute a breeding record but this is some distance from the nearest known breeding site and so is worthy of a very careful check-out in 2004.

Not necessarily the most numerous but certainly the most widespread of the three damselfly species, the **Blue-tailed Damsel** *Ischnura elegans* also appeared in several new sites over the 2-year period. Up until very recently on Hoy, the species was confined to about six sites south of the Hoy parish. However, in 2003, three new sites became occupied: Water of Hoy, (ND281999) just on the parish boundary where one fly was seen on 17th Aug by a Field Club party; Rackwick road pool (HY202001) and Sandy Loch (HY2103). Records were also received from the long-standing site at the Mill Burn pool (ND2995).

On Mainland, three known sites were again occupied in 2003: at Button, Stenness; Crantit Pools, St Ola (HY4409) and Harray Lochside picnic site (HY312140). Amazingly, there were four new breeding sites illustrating yet again what a superb year of weather we had in 2003. The four sites were: a roadside pool at the Sweenalay Burn, Rendall (HY3719); Swannay Loch, Birsay (HY318277); The Knowe of Bosquoy, Harray (HY311188) and the Russadale Quarry, Stenness (HY337098) where up to a dozen flies were seen ovipositing on 26th July.

On South Ronaldsay, breeding occurred again in the Rinnibar Quarry, Hoxa but a new site was the nearby frog pond (ND4193).

Details of all 2002 and 2003 records were supplied to Sydney Gauld for inputting into the OBRC database. By the time the 2004 report is due, I hope to have totals for at least the number of 1Km squares holding at least one breeding site and perhaps these could be plotted on Orkney maps.

Contributors: Andy Knight, Brian Ribbands, Chris Booth, Chris & Linda Vasey, Chris Rodger, Dick Matson, Effy Everiss, Eric Meek, John Crossley, KF, Lister Hogarth, Orkney Field Club, Bob Adam, Pam and Rob Crichton, Tim Dean, T.Fettes.

LEPIDOPTERA REPORT FOR 2003

S.V.Gauld

This past year must have been one of the warmest years we have had in a long time, and it showed in the moths and butterflies that have been seen. There was a weekend course held in June taken by Keith Bland, looking at moth larva. The weekend proved to be a very enjoyable and fruitful few days, for all who participated. Regularly run traps totaled 12 this year, additionally, traps were run at several other locations for short periods. Once again records were received from Sule Skerry, which now has *Plutella xylostella* Diamond Back Moth, *Agriphila straminella*, *Vanessa atalanta* Red Admiral, *Cynthia cardui* Painted Lady, *Abraxas grossulariata* Magpie Moth, *Diarsia mendica* Ingrailed Clay, *Xestia sexstrigata* Six-striped Rustic, *Cerapteryx graminis* Antler Moth and *Mythimna impura* Smoky Wainscot, recorded from there.

This year saw seven new species to Orkney - *Blastobasis decolorella*, *Xanthorhoe designata* Flame Carpet, *Hyles lineata livornica* Striped Hawk-moth, *Anaplectoides prasina* Green Arches, *Agrochola lota* Red-line Quaker, *Gortyna flavago* Frosted Orange, *Phytometra viridaria* Small Purple-barred being added to the list. Of these *Anaplectoides prasina* Green Arches, *Agrochola lota* Red-line Quaker, *Phytometra viridaria* Small Purple-barred are mentioned by Ian Lorimer in his book "Unfinished Business" as being moths that were recorded in Sutherland and Caithness and could turn up in Orkney at any time.

BUTTERFLIES

Butterflies were seen in large numbers for Orkney and over a long period with the first sighting being of an *Aglais urticae* Small Tortoiseshell on the 24 Mar and the last of a *Vanessa atalanta* Red Admiral on the 16 Oct.

Pieris brassicae Large White was seen from 26 Apr through to 30 Sep, with the largest count of 15 on 12 Jul Queenamidda, Rendall. *Pieris napi thomsoni* Green-veined White was seen from 16 Apr through to 14 Sep, with the largest count of 48 on 13 Jun Muckle Ocklester Moss, Tankerness. *Polyommatus icarus* Common Blue was seen from 11 Jun through to 18 Aug. *Vanessa atalanta* Red Admiral was seen from 26 Apr through to 16 Oct, with the largest count of 108 on 21 Sep Graemeshall, Holm. *Cynthia cardui* Painted Lady was seen from 30 May through to 30 Sep, counts of up to 12 were seen in a few places. *Aglais urticae* Small Tortoiseshell was seen from 24 Mar till 14 Sep with a gap during Jun when there were no records. The largest count was 19 on 20 Jul Marwick Head, Birsay. *Maniola jurtina* Meadow Brown was seen from 18 Jun through to 26 Aug, with the largest count of 36 on 15 Jul Orphir. *Coenonympha tullia* Large Heath was seen from 14 Jun through to 27 Jul. Of the eleven sites recorded this year nine were on Hoy.

In the list that follows the following abbreviations are used: -

R Resident	I Immigrant	C Recent colonist
R? Resident Uncertain	RI Resident + Immigrant	C Recent colonist Uncertain
V Vagrant	U Status Uncertain	

Recorders names are given in full the first time they are mentioned, there after they are abbreviated.

NEW TO ORKNEY 2000

Blastobasis decolorella (R); One, identified by Keith Bland on going through unidentified specimens from past years, was taken by light on 22 Jul 2000 at Quoyberstane, St Ola (S.V.Gauld). Fifty-one were taken by trap between 14 Jun and 30 Jul 2003, Quoyberstane, St Ola (SVG).

NEW TO ORKNEY 2003

Xanthorhoe designata Flame Carpet (V); one adult was caught during the course weekend on a field trip to Muckle Ocklester Moss, Holm 14 Jun. It is mentioned in:

"The Lepidoptera of the Orkney Islands", as probably a misidentification by Traill (1869) with no records since. It is recorded as far north as Caithness and the Hebrides. The food plant is wallflower, cabbage and associated species with the adult on the wing as one generation in Scotland during Jun and Jul.

Hyles lineata livornica Striped Hawk-moth (I); one flew into the cab of a tractor topping grass on Egilsay on the 25 Jun (Per A Mitchell). This is an immigrant from mainland Europe and can be seen in southern Britain most years.

Anaplectoides prasina Green Arches (V), one taken by trap 18 Jul, Quoyberstane, St Ola (SVG). It occurs in Caithness near Wick. The larvae feed on various plants including honeysuckle, dock and primrose feeding between Aug and May, and on the wing during Jun and Jul.

Agrochola lota Red-line Quaker (V); one taken by trap 29 Sep, Quoyberstane, St Ola (SVG). Recorded from both Sutherland and Caithness. The larvae feed on willows from Apr to Jun with the adult on the wing during Sep and Nov.

Gortyna flavago Frosted Orange (V), one taken by trap 23 Aug, Quoyberstane, St Ola (SVG). Recorded throughout Britain up to the Moray coast. The larvae feed on such things as thistles, burdock and foxglove from Apr to Aug, and is on the wing from late Aug to Oct.

Phytometra viridaria Small Purple-barred (V), one taken on 17 Jun, Nowt Bield, Hoy (K.Bland). This moth can be seen flying around in the sunshine on the mainland of Great Britain as far up as Sutherland. The larvae feed on common milkwort and heath milkwort from late Jun to early Sep and are on the wing from late May to Jul.

MOTHS AND BUTTERFLIES OF NOTE SEEN DURING 2003

Yponomeuta evonymella Bird-cherry Ermine (I), one taken by trap 22 Jun, Quoyberstane, St Ola (SVG).

Ypsolopha dentella Honeysuckle Moth (R); 51 were taken by trap this year with 46 seen between 26 Jun and 6 Sep at 34 High St, Kirkwall (C J & J Booth), and four between 11 Aug and 8 Sep, Northolme, St Ola (R G Adam). Also one on 15 Aug, Quoyberstane, St Ola (SVG).

Eucosma campoliliana (R); two records both of larvae found on thrift 14 Jun at Dingieshowe, Tankerness (Course weekend). This is the second record of this moth, the first being one male taken by trap on 22 Jun 1992, Scorradae, Orphir (R.I.Lorimer).

Udea olivalis (V?); eleven records in total. One very fresh adult was seen on 25 Jun, Binscarth Wood, Firth (SVG). Nine were taken by trap between 29 Jun and 14 Jul at Bayview, Herston, South Ronaldsay (J & R McCutcheon) and one by trap 12 Jul, Northolme, and St Ola (RGA).

Nomophila noctuella Rush Veneer (I); six taken by trap with two between 18 and 22 May and one 1 Oct, Echna View, Burray (T.Dean). One 29 Jun, Bayview, Herston,

South Ronaldsay (J&RMcC), and two 30 Sep North Ronaldsay Bird Observatory, North Ronaldsay (A Duncan).

Pleuroptya ruralis Mother of Pearl (V); seventeen taken by trap in total with one 30 Jun North Ronaldsay Bird Observatory, North Ronaldsay (AD), six between 18 Jul and 4 Sep, West End, Burray (N & R McCance) and six between 18 and 26 Jul, Quoyberstane, St Ola (SVG). Elsewhere, there was one 18 Jul, Bayview, South Ronaldsay (J&RMcC), two, 20 July 34 High St, Kirkwall (C&JB) and one 23 Jul, Hundasaeter, Birsay (C&JB, A K & J John).

Aphomia sociella Bee Moth (R); twenty records from three locations all by trap. Eleven between 17 Jun and 28 Jul, Quoyberstane, St Ola (SVG); seven between 30 Jun and 2 Aug, 34 High St, Kirkwall (C&JB), and two between 11 and 12 Aug, Northolme, St Ola (RGA).

Lycaena phlaeas Small Copper (V); one seen on Swona 30 Jul (RGA).

Inachis io The Peacock (V), one seen on 3 Jun, Feold, Settiscarth, Rendall (G Steven).

Timandra griseata Blood-vein (V); one taken by trap July 23, 34 High St, Kirkwall (C&JB).

Idaea biselata Small Fan-footed Wave (V); one taken by trap 26 Jul, 34 High St, Kirkwall (C&JB) will be the third record for Orkney. The first was taken on 13 Aug 1980, Scorradales, Orphir (RIL) and the second on 3 Aug 2001, Berriedale, Hoy (SVG).

Orthonama vittata Oblique Carpet (U), two taken by trap 13 July, Riv, Sanday (S Agnew).

Scotopteryx chenopodiata Shaded Broad-bar (R); four records from traps. Two between 3 and 12 Aug, Northolme, St Ola (RGA) and two between 3 and 5 Aug, West End, Burray (N & R McC).

Entephria flavicinctata Yellow-ringed Carpet (R), one fresh specimen was seen on 17 Jun, Nowt Bield, Hoy (KB). This is the first sighting of this moth since it was recorded on Hoy in 1895 by South. The food plant is stonecrop, saxifage and roseroot so that the distribution of this moth on Hoy will be restricted to the locations that the food plant grows.

Eulithis pyraliata Barred Straw; four seen at traps. One 22 Jul, Quoyberstane, St Ola (SVG) and three between 24 Jul and 3 Aug, West End, Burray (N&RMcC).

Chloroclysta siterata Red-green Carpet (R); four records from traps. Two between 6 and 13 Sep, 34 High St, Kirkwall (C&JB) and two on 30 Sep, Bayview, Herston, South Ronaldsay (J & R McC).

Thera obeliscata Gray Pine Carpet (R); three records from traps. One each 23 Jun, Bayview, Herston, South Ronaldsay (J & R McC), 12 Jul, Queenamidda Rendall (BRibbands) and 29 Sep, Northolme, St Ola (RGA). The first record for Orkney was of a male on 12 Aug 1979, Scorradales, Orphir (RIL). Later it was recorded as being seen freely flying at Wee Fea and Lyrawa plantations, Hoy, 7 Aug 1987 (RIL).

Perizoma alchemillata Small Rivulet (R); six records from traps included four between 29 Jun and 27 Jul, Bayview, Herston, South Ronaldsay (J&R McC), one, 19 Jul, Queenamidda Rendall (BR); one, 26 Jul, 34 High St, Kirkwall (C&JB). The first record is by Gregson on Hoy in 1885 followed by two more records both dateless, north Hoy (KFairclough) and of a small colony in the garden at Scorradaile, Orphir (RIL) and.

Perizoma blandiata Pretty Pinion (R); one taken by trap 22 Jul, Smyril, Stenness (ERMEEK).

Perizoma flavofasciata Sandy Carpet (U); 11 records from field and trap included two seen on 14 Jun Dingieshowe, Tankerness (Course weekend). Trap records involved one 1 Jun, Queenamidda, Rendall (BR); three between 5 and 21 Jun, Echna View, Burray (TD); one, 17 Jun, Northolme, St Ola (RGA); two each between 2 and 11 Jun, West End, Burray (N&RMCC) and 11 and 14 Jun, Quoyberstane, St Ola (SVG).

Trichopteryx carpinata Early Tooth-striped (R); six recorded from field and trap between 26 Mar and 17 Apr, Queenamidda Rendall (BR).

Chesias legatella The Streak (V); one taken by trap 28 Sep, Echna View, Burray (TD). This is the third record of this moth, previous sightings include single males on 4 and 9 Oct 1982, Scorradaile, Orphir (RIL).

Semiothisa wauaria The V-moth (R); fifteen taken by trap included 13 between 20 Jul and 3 August, 34 High St, Kirkwall (C&JB). Elsewhere two were caught between 26 Jul and 1 Aug, Quoyberstane, St Ola (SVG). Larvae have not been found to confirm that this moth is resident but the numbers of adults seen around Kirkwall would suggest that it is.

Bupalus piniaria Bordered White (C); one seen on a telephone box 17 Jun, North Ness, North Walls (KB).

Cabera exanthemata Common Wave (R); thirty five recorded included one in the field, 17 Jun, Pegal Bay, North Walls (KB). 34 were taken by trap between 1 Jun and 5 Jul, Bayview, Herston, South Ronaldsay (J&RMCC).

Hylaea fasciaria Barred Red (R); fifteen recorded two seen between 30 Jun and 9 Jul and five taken by trap between 6 Jul and 3 Aug, Queenamidda Rendall (BR). In traps one 28 Jun, West End, Burray (N&RMCC). Seven between 20 Jul and 7 Aug, Bayview, Herston, South Ronaldsay (J&RMCC).

Agrius convolvuli Convolvulus Hawk-moth (I); twenty-eight records were made from various locations around Orkney between 10 Aug and 20 Sep.

Laothoe populi Poplar Hawk-moth (U); five were taken by trap including one 1 Jun, Bayview, Herston, South Ronaldsay (J&RMCC) and four between 4 and 12 Jun, West End, Burray (N&RMCC).

Macroglossum stellatorum Humming-bird Hawk-moth (I); there were two field records with individuals on 14 Jun, Salties, Sanday (T Robinson per R Thorne) and one 30 Jul, Swona (BR).

Hyles gallii Bedstraw Hawk-moth (V); four records of larva one each 1 Aug, Fersness, Eday (Mark Cockram per Mike Cockram), 15 Sep, Dyke End, South Ronaldsay (Ross Flett) and 20 Sep, Manse Lane and Brownstone, Innertown, Stromness (J Taylor).

Eligmodonta ziczac Pebble Prominent (R); thought to have only one generation in the north. On looking at the records this year there clearly can be seen that there were two distinct periods when they were caught, firstly from late May to early Jul and then again late Aug to early Sep. Does this show that there was a second generation in Orkney or were these late ones migrants?.

Agrotis segetum Turnip Moth (V); one taken by trap 21 Jul, Smyril, Stenness (ERM).

Arotis ipsilon Dark Sword-grass (I); ten taken by trap, one 23 May and two 28 and 30 Sep, Echna View, Burray (TD). Three between 25 Aug and 20 Sep, Quoyberstane, St Ola (SVG). Two each between 3 and 4 Sep, Bayview, Herston, South Ronaldsay (J&RMcC) and 11 and 26 Sep, Northolme, St Ola (RGA).

Diarsia brunnea Purple Clay (R); two taken by trap between 23 and 25 Aug, West End, Burray (N&RMcC).

Xestia triangulum Double Square-spot (U); twelve taken by trap one each 12 Jul, Northolme, St Ola (RGA) and 19 Jul, Quoyberstane, St Ola (SVG). Seven between 16 and 26 Jul, Bayview, Herston, South Ronaldsay (J&RMcC) and three between 3 and 4 Aug, Echna View, Burray (TD).

Xestia sexstrigata Six-striped Rustic (U); two records both from traps one each 18 Jul, Sule Skerry (D Budworth, M Archer) and 23 Aug, West End, Burray (N&RMcC).

Cerastis rubricosa Red Chestnut (R); five taken by trap between 4 and 17 Apr, Queenamidda Rendall (BR).

Discestra trifolii The Nutmeg (I); five taken by trap between 17 and 22 Jul, Northolme, St Ola (RGA).

Lacanobia suasa Dog's Tooth (V); one taken by trap 29 Jun, Quoyberstane, St Ola (SVG).

Lacanobia oleracea Bright-line Brown-eye (R); twenty-seven taken by trap five between 28 May and 18 Jul, Bayview, Herston, South Ronaldsay (J&RMcC). Three between 29 May and 27 Jun, Northolme, St Ola (RGA). Ten between 1 Jun and 18 Jul West End, Burray (N&RMcC) and nine between 2 Jun and 7 Jul, Echna View, Burray (TD).

Orthosia cerasi Common Quaker (R); many larvae were found on various trees at Redland, Firth, 15 Jun (course weekend). This is the second record, the first being a larva 26 Jul 2002, Melsetter, North Walls.

Orthosia incerta Clouded Drab (RC); three records one each taken by trap 12 Apr, Bayview, Herston, South Ronaldsay (J&RMcC) and 16 Apr, Echna View, Burray (TD). One larva 26 Jul Pegal Burn, North Walls (SVG), feeding on honeysuckle.

Xylena vetusta Red Sword-grass (R?); one taken by trap 11 May, Echna View, Burray (TD).

Apamea sordens Rustic Shoulder Knot (U); one taken by trap 12 Jun, 34 High St, Kirkwall (C&JB).

Rhizedra lutosa Large Wainscot (RI); twenty-four recorded from traps nine between 14? Sep and 2 Oct, Smyril, Stenness (ERM). Three 15 Sep, Quooyberstane, St Ola (SVG). Six between 18 and 20 Sep, Northolme, St Ola (RGA). Two between 27 Sep and 1 Oct, Echna View, Burray (TD). One each 29 Sep, Queenamidda, Rendall (BR) and 2 Oct, Bayview, Herston, South Ronaldsay (J&RMcC).

Spodoptera exigua Small Mottled Willow (V); one taken by trap 15 Sep, Bayview, Herston, South Ronaldsay (J&RMcC).

ACCIDENTAL IMPORT

Heliothis armigera Scarce Bordered Straw (V); larva found on a lettuce 1 Jan, Quooyberstane, St Ola (SVG) which originated from Spain.

My thanks are given to all who supplied records and gave me help over the last year.

AMPHIBIA - 2003

C J Booth

Bufo bufo Common toad

Tadpoles were seen in pools at the top end of the Burn of Ore, Hoy on 24th May (E Everiss & B Jones) but in late July these pools were completely dry, as was one breeding pool in the north end of the island.

At Hundasaeter, Birsay toads were recorded from 11th May to 25th September (A K & J H Johnson). The largest, which was found on 19th September, weighed 90gms and was 86.8mm in length. The only other toad records were of one found killed on the road at Rackwick, Hoy on 23rd May and one seen at the Knowe, Harray on 1st September (C Vasey).

Rana temporaria Common frog

First spawn reported was at Rinibar, Hoxa, South Ronaldsay on 1st March,

(J R L Hogarth) with further batches there on the 6th; on the same day there were 10 batches at Linegar, South Ronaldsay. Elsewhere spawn was found at Rosebank, Harray on 13th March (E Everiss), Berstane Road, Kirkwall on 19th

(S Walls), Echnaview, Burray on 20th (T Dean) and in a small pool on Kirkwall Golf Course on 21st (J Booth). On the 23rd March in Birsay there were batches at Dale

(R E Matson) and at Hundasaeter (A K & J H Johnson) and then on 26th at

St. Rognvald Street, Kirkwall (S Beaven). Spawn was also recorded at Skelbrae, Sanday (Word of the Wild Vol.16 No.4).

The earliest sighting of a frog was on 28th February at Hundasaeter, Birsay (A K & J H Johnson). Croaking was first heard at Echnaview on 2nd March and Hundasaeter on 9th March. The maximum number of frogs reported was 21 in a garden pond at St. Rognvald Street on 22nd March (S Beaven). The first tadpole swimming free at Echnaview, Burray was seen on 11th April (T Dean).

A froglet seen at Hundasaeter on 21st May had probably overwintered as a tadpole, the first froglets found at Rinibar, Hoxa were on 1st July (J R L Hogarth). There were many newly emerged froglets at the pool on the Kirkwall Golf Course on 7th July (J Booth & M Irvine) and at Hundasaeter, Birsay on 17th July

(J H Johnson). On the other hand large numbers of tadpoles were still present in a pond in Stromness at the end of September (D Stout).

Reports of frogs from other areas included singles at Quoybanks, Burness Sanday on 14th April (Word of the Wild Vol.16 no.4), Ocklester Moss, Holm on 14th June and Hamar of Innester, Rousay on 28th June (R E Matson).

The largest frog found at Hundasaeter was on 25th August, it weighed 49gms and was 72.6mms in length. The last sighting there was of one on 15th November.

My thanks to all the observers who provided records.

FISH - 2003

C J Booth

Some of the more interesting fish records for the year are listed below:

Lamna nasus Porbeagle shark

One was seen by Daniel Wise when diving off the Dam of Hoxa on 23rd November. It was estimated to be 3 metres in length.

Porbeagle sharks were also reported to have been seen and caught near Start Point, Sanday during the summer (Word of the Wild Vol.16 No. 7).

Cetorhinus maximus Basking shark

On 24th June one was seen near Ness Point, Stromness by Glenn McNaughton. Then one was observed from the MV Eynhallow between Tingwall and Wyre on 1st July (Paul Heppleston) and possibly the same shark was seen off Evie on 2nd July (Bob Inkster)

Galeorhinus galeus Tope

Several fish of this species were reported to have been caught in a net in the mouth of Otterswick, Sanday on 11th August (Word of the Wild, Vol. 16 No.7).

Phoxinus phoxinus Minnow

A shoal of about 200 was seen in the Loch of Boardhouse on 6th July

(M Russell). It was thought that they might have been gathering in the shallows to spawn as several fish had the red colouration of breeding males. One was caught in the Durkadale burn on 13th July during a course on "Small water creatures". These are the first known records of this species in Orkney.

It would seem that the arrival of this fish in the Lochs of Boardhouse, Hundland and Durkadale burn complex is fairly recent. None were present in the burn during a survey in 1990. A possible explanation for their presence is that an introduction had been made by anglers, probably from south, who sometimes use the minnow as live bait when fishing for trout.

Capros aper Boar fish

One was found dead at Dingieshowe, Deerness by Peter Wilson on 4th November. Usually a fish of deep water, this is only the second known record of this species in the Orkney recording area.

Anarhichas lupus Wolf fish

One, 60 cm in length, was caught by Fraser Henning off Marwick on 7th August.

SOCIAL WASPS - 2003

C J Booth

The discovery of Red wasps *Vespula rufa* in South Ronaldsay in 2003 brought the number of social wasp species probably resident in Orkney to four.

Paravespula vulgaris **Common wasp**

First report was of a queen at Northolme, St.Ola on 22nd March (R G Adam), then recorded regularly at both Northolme and High Street, Kirkwall until October. The last sighting of a live queen was at High Street on 25th November. A total of 207 Common wasps was caught in a moth trap at High Street between 2nd June and 16 October.

Elsewhere single wasps were seen at Hundasaeter, Birsay on 18th April and Houton Head, Orphir (R G Adam) on 7th August, both new sites for this species. A queen was found at Herston, South Ronaldsay on 19th September

(J & R McCutcheon).

Vespula rufa **Red Wasp**

Several wasps of this species were found at Herston, South Ronaldsay in August by John and Bobby McCutcheon and also Bob Simpson. Specimens were sent to Dr Keith Bland of the National Museums of Scotland in Edinburgh, who confirmed the identification. The wasps were seen regularly until 5th October and obviously had a nest in the vicinity. This is the first time that Red wasps have been recorded in Orkney.

Dolichovespula sylvestris **Tree Wasp**

Records from Kirkwall, Queenamidda, Rendall (J B Ribbands), Northholme, St. Ola and Herston, South Ronaldsay, the latter a new site. First report was on 28th April from Northholme and the last was at Herston, on 26th August. Maximum count was 19 at Northholme on 9th May, where they were foraging on Gooseberry and Blackcurrant bushes.

Dolichovespula norvegicus **Norwegian wasp**

A nest was found at Queenamidda, Rendall on 17th August (J B Ribbands), wasps had been seen in the area since 26th April. The only other reports were from High Street, Kirkwall and Northholme, St.Ola and these were all of single wasps between 30th April and 17th August.

I am very grateful to R G Adam, J Booth, J and R McCutcheon, J B Ribbands and R J Simpson for their records, specimens and help.

From 2004 all Social wasp records should go to John Crossley who is already the recorder for Bumblebees and Solitary wasps

ORKNEY CETACEAN REPORT - 2003

C J Booth

An eventful year including the second and third records of Humpback whale, many sightings of Killer whales, several schools of Common dolphins and another Bottle-nosed dolphin sighting.

Megaptera novaeangliae **Humpback whale**

One was seen from a fishing boat during the last week of July, in the North Sound c.4 kms southeast of the Mull Head, Papa Westray . It was watched rolling in the water and showing a large white flipper. On the morning of 12th November 3 were seen in Scapa Flow and they could easily be viewed off Greenigoe, Orphir. Breaching was observed and on one occasion a whale lay on its side with a flipper pointing up in the air. Late in the afternoon of 13th at least one was seen off the Golta peninsula. There were no more reported sightings until, at 15.15 hrs on 17th November, when 3 were watched for about 15 minutes between Hunda and the Nevi Skerry These are only the second and third records of this species in Orkney waters.

Balaenoptera acutorostrata **Minke whale**

In the late afternoon of 27th April one was seen in the vicinity of a tanker moored in Scapa Flow, it later moved nearer the Royal Oak buoy before heading along the Gaitnip cliffs towards Holm, where it was then observed close to No 1 Barrier. It was estimated to be about 6 metres in length. One was present off Herston Head, South Ronaldsay on 15th May and then 1, possibly 2, were there on 14th June, when one was also seen off Cantick Head, Hoy. One was seen heading north off Fowl Craig, Papa Westray on 24th May. There were 4, possibly 5, including a calf, off Herston on

17th June, one east of Swona on 24th and 2 off Herston on 25th June. In July one was seen off Swona on 22nd and one, in the Pentland Firth on 24th, watched from the MV Pentland Venture, breached 74 times. Singles were reported off Hoxa Head, South Ronaldsay on 30th August, Rackwick, Hoy on 1st September and breaching off Copinsay on 20th September. The last sighting of the year was on 17th December when one came well into Widewall Bay, South Ronaldsay.

Strandings: A male, which had been dead some time came ashore near St. Peters Kirk, South Ronaldsay on 1st June, it measured 7.5 metres. A freshly dead juvenile male 4.57 metres long was stranded in Echnaloch Bay on 20th October. A post mortem found that it was emaciated, with a thin blubber layer. One, also freshly dead, was found near Cott, Papa Westray on 7th November, it measured 5.4 metres.

Physeter macrocephalus **Sperm whale**

Stranding : The carcass of a fairly fresh whale was washed up at the Bay of Sandquoy, Sanday on 4th April. It was a male, 13.8 metres in length.

Phocoena phocoena **Harbour porpoise**

Probably under recorded but reports in all months except April and December and with most in the period June to October. Sightings were widespread with maximum numbers seen off Rackwick, Hoy, where there were up to 30 in September (10th) and 10 in October (16th and 17th). Elsewhere there were at least 10 off Herston Head, South Ronaldsay on 17th June, a minimum of 10 off VeNess, Orphir on 19th July and 10 between Kili Holm and Rusk Holm on 26th July. All other sightings were of 1 to 6 animals. Small numbers were recorded regularly around Papa Westray throughout the summer.

Strandings : One, which had been dead some time, in Scapa Bay on 12th February, length 1.35 metres; a freshly dead female was found on Scapa Beach on 20th February, length 1.14 metres ; one, not fresh, Swanbister, Orphir 16th March, length 1.2 metres. A new born calf, length 80 cms, stranded alive on Newark Beach, Sanday on 4th June but despite rescue efforts it was later found dead.

Delphinus Delphi **Common dolphin**

A good year for this species. Six were in Widewall Bay, South Ronaldsay on 21st May. A school of between 20 and 40 were present in Scapa Flow from 19th to at least the 24th July, they provided some spectacular displays and were sometimes seen associated with Harbour porpoises. Five spent time around a sea angling boat about 1.5 miles off Yesnaby, West Mainland on 19th and 20th July.

Tursiops truncatus **Bottle-nosed dolphin**

Five were seen off North Ronaldsay on 18th June. The third year running that this species has been recorded and the 6th sighting for Orkney.

Lagenorhynchus acutus **White-sided dolphin**

Four were seen from MV Hjaltland, east of Stronsay, on 5th July.

Lagenorhynchus albirostris

White-beaked dolphin

One, possibly 2, seen off the Whalebone, Birsay, on 6th August and one in Hoy Sound on 30th August.

Orcinus orca

Killer whale

The best year so far for this species since systematic recording began in 1980. There were reports from all around the islands, South Ronaldsay to North Ronaldsay and Sule Skerry to Auskerry, with some observers recounting memorable sightings.

A large male came close inshore at Papa Westray on 3rd March. In April, 5 were seen off North Ronaldsay on 18th and 21st and there was also one off there on 11th May. Then later in May, 5 were in Hoy Sound on 26th and on the 30th 11 were watched off Auskerry and 7 between Westray and Papa Westray. During June there were reports on 11 days which involved 12 sightings, in July noted on 12 days and 17 sightings and in August there were reports on 7 days with 7 sightings, the last being on the 14th.

The highest number reported in a single sighting was 17, which were off North Ronaldsay on 4th June and there were at least 15 between Switha and Flotta on 30th July. There were several records of 10 to 12 but the majority involved 4 to 9 animals, though in a number of cases observers gave a minimal figure.

Many reports mentioned the presence of an adult male in the pod and in some instances also a second but slightly smaller male. On two occasions a male with a crinkled dorsal fin was seen. Several times 2 possibly, 3 juveniles were reported.

Sometimes the whales came close in to rocks, especially at the Brough of Birsay and an adult male beached itself briefly near the Bay of Swartmill, Westray on 2nd July. Attacks on Common seals, especially the pups, were noted and also on shoaling fish. The whales swam in circles as if surrounding the shoal and then one or two individuals would come up in the middle of the circle with their mouths open. Large numbers of both Haddock and Mackerel were around at the time and it would probably have been these that the whales were trying to catch. This good food supply may also have been a reason for the whales staying in the vicinity of the islands for longer than usual.

A pod of 7 to 8, including an adult male, was watched attacking a moulting flock of about 30 Eider ducks off Deerness. The male headed off the ducks as they attempted to swim away and then the other whales surfaced in the middle of the flock catching some of them. The whales were also seen to flick the ducks with their tails.

Four, off Hundland, Papa Westray, were seen swimming towards each other then turning around and staying in the same small area. Observers wondered if the whales were rubbing themselves on stones in the shallow water.

Grampus griseus

Risso's dolphin

The first report of the year was of 1 seen about 1-1.5 km east of Fowl Craig, Papa Westray on 5th April. In June 2 were seen between Papa Westray and the Holm of Papay on 11th and 7 were off North Ronaldsay on 22nd. Two were seen east of

Auskerry on 7th July and 2 observed off North Ronaldsay on 25th August. On 30th September 3 were watched playing in Nouster Bay, North Ronaldsay, where they spent all of that morning.

Strandings : An adult female was found freshly dead at Skail, Sandwick on 7th February, length 3.10 metres. One, length 2.68 metres, came ashore at Howar Sand, Sanday on 5th November.

UNIDENTIFIED CETACEANS

There were the following sightings where identification could not be made with absolute certainty:

21st April	1	probable Minke whale off Waulkmill Bay, Orphir
20th May	Several	whale/dolphin sp. off Old Man of Hoy
14th June	1	probable Risso's dolphin east of Switha
9th July	1	dolphin sp. Mull Head, Deerness
10th July	3	small whale sp. east of Graemsay
19th July	c20	dolphin sp. near Royal Oak buoy
23rd July	40	dolphin sp. off Houton, Orphir
27th July	200 to 300	dolphin sp. heading east, Hoy Sound
27th July	3	dolphin sp. South of Rapness, Westray
31st July	20	dolphin sp. off Bay of Sandoyne, Holm
12th August	Several	dolphin sp. off Skail, Deerness.
4th Sept	1	dolphin sp. breaching off North Gaulton, Sandwick
4th Sept	Several	probable porpoises off Herston Head, S. Ronaldsay
9th/10th Sept	Several	probable porpoises off Herston Head, S. Ronaldsay

ACKNOWLEDGEMENTS

I am very grateful to the following for their records and help, without which this report would not have been possible :

R G Adam	J Booth	S Brogan	A Brundle	I Cooper
J Drever	T Eggeling	L Fettes	D Fischler	B Flett
R Flett	J Foley	P Ford	M Foulis	M Franks
H Garland	K Hague	T Harcus	A Heron	P Hollinrake,
D Hourston	J Inkster	R Inkster	S Inkster	C Irvine
A K Johnson		K Judd	D Kent	C Kirkpatrick
R E Matson	D & D Mayes	N McCance	R McCance	M Lynch
J A McCutcheon	R McCutcheon	J Meason	H McKenzie	E R Meek
I Meil	J Meil	G. Munroe	G Nicolson	B Omand
M Parsons	R Patterson	R Peppitt	K Pirie	S Pirie

R Pratt	M Prendergast	T Probert	J B Ribbands	D Rosie
E J Rosie	G Rosie	N Scott	K Spence	R J Simpson
J Temple	P Thompson	R Thorne	A Walls	S Walls
C Williers	A Woodbridge	T Dean	T Dodman	

And North Ronaldsay Bird Observatory

Please send details of cetacean sightings to Chris Booth, 34 High Street, Kirkwall

BROWN HARES AND WATER

See contributors

Land animals differ greatly in their willingness to swim. Some will have no hesitation in taking to the water, while others appear very reluctant to do so. Individuals within a species can also vary in their reactions, as is shown by the following incidents.

On 16th May we were watching a Brown hare *Lepus europeaus* make its way along the edge of the Loch of Hundland, West Mainland. It appeared to be following a definite trail until it came to a small inlet. We expected it to continue along the shore around the inlet, perhaps a distance of 50 metres, but instead it seemed anxious to cross at what appeared to be the narrowest point. It moved to and fro several times as if deciding whether or not to go across then, quite suddenly, it leapt forward in a high arc, landing with its hind feet just in the water on the far side. It immediately scrambled up the bank and continued on its way. Later we measured the distance and the hare appeared to have leapt 3.5 metres.

A few weeks later, on 12th July, again at the loch of Hundland, at about 22.45 hrs a juvenile hare was seen moving along the shore towards a spit of rocks jutting out into the loch. When it reached the end of the spit it hesitated for a few moments before entering the water and swimming towards a small island, about 10 metres away, on which were several large rocks. It swam strongly and quickly with powerful strokes of its hind legs. On reaching the rocks it climbed on to them and moved around for a minute or two before going back into the water and heading off towards the opposite side of the loch, which was about 400 metres away. After swimming for approximately 15 metres it seemed to change its mind, turned and swam back towards the island. By now it appeared to be tiring but it managed to reach the rocks where it clambered ashore and stayed for about 5 minutes. It then swam back to the loch edge, which it reached safely, and hopped away, apparently none the worse for its experience.

We looked up several books containing information on hares but the only reference to its behaviour in connection with water was in a field guide which noted that " the Brown hare swims well, but only when pressed"!

Contributors: Chris & Jean Booth, Keith & Jenny Johnson

BUMBLES AND OTHER BEES - 2003

John Crossley

More people have been taking an interest in bumblebees, and have submitted a good number of reports of all the known resident species. Some have visited islands from which there have been no previous records.

Bumblebees appeared unusually early in the year, with a white-tailed bumblebee queen *Bombus lucorum* at Herston, South Ronaldsay on 21 Feb (B & JM). The first workers were seen on 30th April (RGA). With records of queens also in November in this and other years, this species may be seen in every month except December and January.

The warm spring weather brought out other species early. 17 heath bumblebee *B jonellus* queens were at Lay Taing, South Ronaldsay on 17 April (JC), two months earlier than any previous reports. They were feeding on creeping willow *Salix repens* pollen. This is an important food source early in the year. In fact, over a few days all species of bumblebee species known to presently occur in Orkney were feeding on the same small patch of willow.

Identification of the two species *B muscorum* and *B pascuorum* continues to present difficulties. Many individuals of *B pascuorum* here are a brighter, foxier red than in the south, and can very easily be mistaken for *B muscorum*. In addition, both Murdo Macdonald, the Highland bee recorder, and I have found that the distinguishing character given in the textbooks, which should be visible on close inspection in the field, *viz.* some black hairs on the sides of the abdomen of *B pascuorum* but not on *B muscorum*, is not reliable in the north of Scotland: some individuals of both species may or may not have some black hairs. Since *B pascuorum* is a very common species in Britain and a recent colonist of Orkney, which appears to have spread everywhere except some of the outer North Isles, while *B muscorum* is rarer and thought to be declining, it is important to identify these species correctly, at least in those areas where *B pascuorum* does not (yet) occur. Some collected specimens of any suspected *B pascuorum* from Westray, Papa Westray, Sanday and North Ronaldsay, for definite identification, would be welcome.

In last year's Bulletin, I referred to a mystery bumblebee male found by Bob Adam in Tankerness, which could have been a typical *B pratorum* or a *B jonellus* with a red, instead of the usual white, tail, and thus similar to the Western Isles sub-species *hebridensis*. Either would be a first for Orkney. The experts have now agreed – it was a red-tailed *jonellus*. Neil Robinson, an expert on solitary bees, who was here on holiday, and I, inspected males of *B jonellus* in Stenness in 2003, and found several with buff and reddish-buff tails. It seems that some males at least, though not any female yet seen, show this variation in Orkney.

I have an unusual update on the status of the red-tailed bumblebee *B lapidarius*. Previously there was just one known reference to this species occurring in Orkney, in South Ronaldsay in 1933. However, in a collection at the National Museum of

Scotland I found four queens taken by James Sinclair at Bu of Hoy in 1938. This spectacular species (quite large, and all black except for the tail) has been spreading northwards in Scotland in recent years, and might reappear in Orkney.

There have been the following new records for 10 km square and/or islands:

White-tailed bumblebee *B lucorum*, Egilsay and Wyre, HY42 (JS); Auskerry, HY61 (RGA)

Great yellow bumblebee *B distinguendus*, Copinsay, HY60 (RGA); Egilsay, HY42, (JS)

Garden bumblebee *B hortorum*, Egilsay and Wyre, HY42 (JS); Copinsay, HY60, (RGA)

Heath bumblebee *B jonellus*, Wideford Hill, St Ola, HY41 (RGA); Brodgar, Stenness, HY21 (NR)

Heath carder bumblebee *B muscorum*, Egilsay and Wyre, HY42 (JS);

Common carder bumblebee *B pascuorum*, Egilsay and Wyre, HY42 (JS).

SOLITARY BEES AND WASPS

Ross Andrew in last year's *Bulletin* referred to the only record he knew of an *Andrena* solitary bee species, a single *A tarsata* from Rackwick, Hoy in 1978. However there are a few records of other species of solitary bees and wasps. A single *A coitana* was taken by Jeannine Hazelhurst (det. G R Else) in Dounby in 1996. *Colletus succinctus* was recorded in Hoy, almost certainly at Rackwick, in 1938 by James Sinclair (det. G R Else). The mason wasp *Ancistrocerus scoticus* may be more common: there are records from Rackwick and Ward Hill, Hoy in 1976 (Newcastle University Conservation Society) and from Waulkmill Bay, Orphir (NR) and Burwick, South Ronaldsay (JC, det. M Macdonald) in 2003. At Waulkmill Bay there were quite a number, and they could be seen entering and departing from their small 'nests', constructed apparently of mud, cemented to rocks on the shore below the level of an extreme high tide. It seems quite likely that careful searching, in Hoy especially, may yield new records of these species, and perhaps of others.

Many thanks to all who sent in records - Bob Adam (RGA), Chris Booth, Lindsay Campbell, Bobby and John McCutcheon (B & JM), Neil Robinson (NR) and Jenni Stockan (JS)

ANNUAL GENERAL MEETING HELD AT 7.30PM ON THURSDAY 5th
FEBRUARY, 2004, IN THE SUPPER ROOM,
COMMUNITY CENTRE, KIRKWALL

1. Present: Elaine Bullard, President; Peter Ford, Chairman; John Crossley, Vice-Chairman; Dennis Paice, Treasurer; Kate Barrett, Secretary. Jeff Barrett, Chris Booth, Sydney Gauld, Sally Hallam, David Peppitt, Joan Peppitt, Dick Matson, Pat Matson, A.D. Welsh.
2. Apologies: Lynda Bartlett, Mildred and Olaf Cuthbert, Alison Skene.
3. Minutes of the previous meeting: were adopted on a proposal by Jeff Barrett, seconded by David Peppitt.
4. Matters arising: There were no matters arising.
5. President's address: Elaine Bullard reminded those present that OFC is now 45 years old almost exactly and was begun because the only other organisation in the county was somewhat moribund at that time and naturalists had no other way to meet, discuss, co-ordinate or publish their work. Professor George Dunnett, Eddie Balfour and Alex Doloughan called the initial meeting to form the Club. The president went on to emphasise that, because modern universities don't now teach field work, it is especially important for interested amateurs to study and record, especially with the advantage of local knowledge. But, Miss Bullard claimed, there is a recent loss in the Club of a sense of fun and adventure and she would hope to find that again throughout the forthcoming year.
6. Chairman's report: Peter Ford began by outlining what he thought a chairman's duties should be - to keep meetings moving, to the point, and finishing on time! - and he hoped he had fulfilled this role adequately throughout the previous year. The chairman then continued by pointing out that, although learning and academic knowledge is worthy, there is room in all programmes for the lay person and these should be taken into account. However, it was plain, the Chairman thought, that the Club was a respected voice in the Orcadian community, proved by its influence on such controversial matters as fish farming, the minerals strategy and eel fishing, and he went on to praise the newly created web site as a valuable addition to the Club's public image. This point was followed by Mr. Ford extending thanks to all the Club's contributors with special mentions for key role-players.
7. Treasurer's report: Please see separate sheet.
8. Sub-committee reports:
 - a) Biological recorders: Please read separate sheets.
 - b) Editorial: David Peppitt thanked all past contributors to the Bulletin and made a plea for more articles for possible inclusion, scarce this year with a deadline of end February/mid March. Also, despite some useful sketches received from the President, he would be glad of suggestions for the 2004 front cover.
 - c) Juniors: Alison Skene had sent a written report in her absence and this was read to the assembly by the secretary. Please see separate sheet.

Projects and Walks and Talks: Dick Matson reported on the year's activities with special mention of joint working parties with RSPB, the House Martin, and the Verges projects, which have proved successful. It was recommended that OFC repair the stile at Durkadale before long and meanwhile negotiations with RSPB concerning the lease are taking place. Walks and Talks highlights were 'Recording Local Change', the dragonfly day in North Hoy, and the Christmas Social at the Kirkwall Hotel. Mr Matson presented a draft programme for the summer of 2004, arranged at speed because the deadline for a proposed joint event calendar was nigh, this with a probable publication date of April/May. P/ease see separate sheet.

9. Constitutional change: The proposed re-wording of Clause 27 of the present constitution was in doubt and the assembly agreed that this be deferred pending the secretary's research and committee discussion.

10. Elections:

Post		Proposer	Seconder
Chairman	Peter Ford	Kate Barrett	Jeff Barrett
Vice-chairman	John Crossley	Sydney Gauld	Dennis Paice
Treasurer	Dennis Paice	Effy Everiss	Sydney Gauld
Secretary	Kate Barrett	Dick Matson	David Peppitt
Member	Sally Hallam	Kate Barrett	Peter Ford
	Dick Matson	Sydney Gauld	Dennis Paice
	Chris Booth	Dennis Paice	David Peppitt
	David Peppitt	Dick Matson	Kate Barrett
	Sydney Gauld	Chris Booth	John Crossley
	Jeff Barrett	Sally Hallam	Peter Ford
	Alison Skene	David Peppitt	Dennis Paice

11 Any other business: There was no other business.

12. Date of next Annual General Meeting: Thursday 27th January 2005

PF/KB

7.2.04

OFC JUNIORS REPORT

The Junior section of the club continues to have a membership of about 50 members, mostly aged between 5 and 14, currently skewed towards the 6-9 year old range.

There were no membership fees taken, since the first event was not of the usual format, thus only trip fees (£1 each event) were taken for the last two events in the year. This covered basic costs.

The programme for 2003 was as follows:-

May - Juniors Bird Race, joint with the RSPB juniors. With a knowledgeable birder in most cars, and experts stationed at strategic stops, a good variety of sightings was compared at the final gathering at the end of the day in the Merkister.

June - Schools Environment Week participation (in partnership with other environmental organisations) - a freshwater habitats frieze was used to help increase awareness of which animals and plants live where and why. The event was run over 4 days and several

JOFC members were included in the approx 160 children who attended.

July - Shopping Week children's nature competition - 2 categories - (1) Stained glass window picture inspired by Orkney's wildlife and landscape; (2) Set of wildlife stamps themed on Orkney's wildlife (open to all; prizes donated by Stromness Flower Club).

August - County Show presence - Junior section information boards; guess the number of cowries in the jar game.

September (1) - Wildlife treasure hunt - a trail of wildlife quiz clues on a walk round the Stromness west shore.

September (2) - Secrets of the shore - a 'guddle' for marine life at low tide on the Houton shore and across to the Holm of Houton.

Thanks to all those who helped and gave access to land.

Alison Skene

5/2/04

STATEMENT OF ACCOUNTS 2003

INCOME	2003	2002	EXPENDITURE	2003	2002
Subscriptions	1008.00	948.00	Advertising	165.50	144.90
Club nights	126.45	147.88	Room Hire	113.70	126.77
Juniors			Insurance	100.00	100.0
County Show	159.26	147.21			
Charities Bazaar	185.24	124.60	Subscriptions	53.50	51.00
Bank Interest	115.10	150.39	Bulletin & Newsletter	545.53	539.00
Grass Verge Survey	64.00	1054.39	Other Expenses	417.96	317.72
Other Income	26.00				
			Total Expenditure	1681.77	
			Surplus	2.28	
	1684.05			1684.05	
Summary			Bank Details		
Cash in hand @ 31 st December 2002		8720.87	Premier Account	6731.42	
Income over expenditure @ 31 st December 2003		2.28	Treasurer's Account	1991.73	
		8723.15		8723.15	

RECORDERS AND RECORDING, ORKNEY, VC111, 2004 UPDATE

Please read carefully for alterations since the last OFC Bulletin.

NOTES

No records should be published until verified by the appropriate Recorder. With few exceptions, Orkney County Recorders submit copies of their records to their appropriate national specialist society and to OBRC.

ABBREVIATIONS

A.Rec. = Assessment of Records; BM/NH = British Museum of Natural History; BSBI = Botanical Society of the British Isles; DL = Definitive Lists; Hb.Ab. = Aberdeen University Herbarium; Hb.Ed. = Royal Botanic Garden, Edinburgh; Hb.Kew = Royal Botanic Gardens, Kew; N/N = *The Natural History of Orkney*; OBRC = Orkney Biodiversity Records Centre; OCL = Orkney County Library; OIC = Orkney Islands Council; ONHS = Orkney Natural History Society, Museum, Stromness; Rec. = Recorder; SOC = Scottish Ornithologists Club; Up. = Update

MAMMALS: (excepting seals, bats and cetaceans). Rec.: Tim Dean, Echna View, Burray, Orkney. DL. N/N. Up. OFC *Bulletin* and Stromness Museum. Records, including bones, etc., can be accepted, with full details.

BATS: Rec.: Chris Booth, Ronas, 34 High Street, Kirkwall, Orkney. DL in Booth, C. and J. (1994), *The Mammals of Orkney*. Up. OFC *Bulletin*.

CETACEANS: whales and porpoises. Rec.: Chris Booth (as above). DL in *The Mammals of Orkney*, op. cit. Up. OFC *Bulletin*. A.Rec. if required – National Museum of Scotland.

SEALS: Rec.: Lesley Sinclair, Riff Cottage, Rendall, Orkney, KW17 2PB

AMPHIBIANS & REPTILES: toads etc. Rec.: Chris Booth (as above). DL in *The Mammals of Orkney*, op. cit. Up. OFC *Bulletin*. A.Rec. by Recorder.

BIRDS: Rec.: (SOC) Jim Williams, Fairholm, Finstown, Orkney. DL in Booth, C.J., Cuthbert, M.F. and Reynolds, P (1985), *The Birds of Orkney*, The Orkney Press. Up. *The Orkney Bird Report* (published annually). A.Rec.: national rarities, The British Birds Rarities Committee; Scottish rarities, The Scottish Birds Records Committee; local rarities, The Orkney Records Committee.

JELLYFISH: Rec.: Tim Dean, Echna View, Burray, Orkney. DL, N/N.

LAND & FRESHWATER MOLLUSCS: slugs and snails. No Rec. at present. DL to 1985 in OCL.

MARINE MOLLUSCA: seashells. Rec.: Alan Skene, The Mount, Stromness, Orkney. DL, N/N.

ECHINODERMATA: sea urchins, starfish, etc. Rec.: Duncan Clarke, 107 Victoria Street, Stromness, Orkney KW16 3BU

HIRUDINIA: worms, leeches, etc. No Rec. at present. DL, N/N.

COLEOPTERA: beetles. Rec.: Keith Fairclough, Viewforth, Swannay, Birsay, Orkney. DL, N/N. A.Rec by recognised experts. Keith has Vincent Lorimer's beetle collection and notes.

ODONATA: dragonflies and damselflies, adults and larvae. Rec.: Keith Fairclough (as above). DL, N/N. Up. OBRC and OFC *Bulletin*. For species already on the Orkney list, a written or verbal record (to Keith), with full details will suffice. If new species, ideally a photograph, or, at least, a FULL description.

ANTS: Rec.: Keith Fairclough (as above).

BUMBLEBEES, SOCIAL WASPS, SOLITARY BEES and WASPS: Rec.: John Crossley, North Flaws, South Ronaldsay, Orkney KW17 2RW. A.Rec. DL for social wasps: see note in OFC Bulletin No.1/1986. DL for bumblebees: see OFC *Bulletin* 2002. DL for solitaries: see OFC *Bulletin* 2004. Up. OBRC, OFC *Bulletin*.

SAWFLIES: Rec.: Jenni Stockan, The Macaulay Institute, Craigiebuckler, Aberdeen AB15 8QH

ORTHOPTERA grasshoppers. Rec.: Keith Fairclough (as above). DL, N/N. Acceptance of records as for Odonata (above).

CADDIS FLIES, adults and larvae. Recs.: R. Andrew, Millfield Cottage, Costa, Evie, Orkney and J Walker, Twargarn, Harray, Orkney. DL, N/N, BRC Monks Wood. Up. BRC Monks Wood, OFC *Bulletin*. Also MAYFLIES, adults and larvae, and HOVERFLIES, adults.

DIPTERA true flies. Rec.: R. Andrew (as above). A. Rec. by comparison with names material in reference material collections; and to BM/NH. Also FLESH FLIES, BLOW FLIES and PARASITIC FLIES.

STONEFLIES. Rec: R. Andrew (as above). DL, N/N. Up. OBRC and OFC Bulletin.

LEPIDOPTERA butterflies and moths. Rec.: Sydney Gauld, Quoyberstane, St. Ola, Orkney. DL, N/N and in Lorimer, R.I. (1983), *The Lepidoptera of the Orkney Islands*, E.W. Classey Ltd, Oxford. Up. OFC *Bulletin*. Voucher specimens, The Royal Museum of Scotland.

ARACHNIDA spiders and OPILIONES harvestmen. Rec.: Edward Milner, 80 Weston Park, London, N8 9TB. DL, N/N.

CRUSTACEA, mainly marine, but will attempt terrestrial (ISOPODS, slater etc). Rec.: Helen Snooks, 107 Victoria Street, Stromness, Orkney KW16 3BU

MYRIAPODS centipedes and millipedes. No Rec. at present.

VASCULAR PLANTS. Rec. (BSBI): E. R. Bullard, Toftwood, Kirkwall, Orkney KW15 1SB. DL, N/N. Records in *Watsonia* and *OFC Bulletin*. A. Rec. Voucher specimens in Hb.Ed. An Orkney *Flora* in preparation; also Threatened Plants database and local Scarce Species. Please be sparing in collecting any plant material for identification, 'critical' species require identification by national referees.

ROSA SPECIES. Rec.: Hugo Shearer, Cromwell Road, Kirkwall, Orkney. Referees usually require specimens of fruit, mature foliage and pieces of stem showing prickles.

CHAROPHYTES stoneworts. Rec.: Effy Everiss, Rosebank Cottage, Harray, Orkney KW17 2JA. DL, N/N. Specimens must be preserved quickly, so please rinse, press until really dry before posting.

BRYOPHYTES mosses and liverworts. Rec.: Rosemary McCance, West End House, Burray, Orkney KW17 2SS. DL, N/N.

FUNGI, including MYXOMYCETES, slime fungi. Rec.: Tom Egging, Stackaldbrae, Downies lane, Stromness, Orkney KW16 3EP. DL, N/N, Up.: *OFC Bulletin*. A.Rec.:Hb.Ed. Voucher specimens are held in Hb.Ab., Hb.Ed. and Hb.Kew. The current list is held by OBRC.

LICHENS. Rec.: Dr. D H Dalby, 2, West Park, Stanley, Perthshire. PH1 4QU. Voucher specimens and recording materials held in OFC archives.

MARINE ALGAE seaweeds. Rec.: Dr Martin Wilkinson, School of Life Sciences, Heriot-Watt University, Riccarton, Edinburgh EH14 4AS. DL, N/N.

FRESHWATER ALGAE. Rec.: Eileen Summers, OIC Environmental Unit, Harbour Authority Building, Scapa, Orkney KW15 1TB.

GENERAL ADVICE

All records are worthwhile. The essential four pieces of information, accompanying all records, must be:

WHAT WHERE WHEN WHO BY

Record cards for some groups can be obtained from the Recorders listed above. Records, including completed cards, should be sent to the appropriate Recorder. If no Recorder is listed, send records to OBRC, Orkney Library, Junction Rd, Kirkwall, Orkney, e-mail biodiversity@orkney.gov.uk. A stamped, addressed envelope is appreciated if you want a reply, and is necessary when specimens have to be sent for identification. Be sparing in collecting specimens. If in doubt, and you would like more information about records on a particular plant, bird, mammal or invertebrate, ask the appropriate County Recorder.

Both individual Recorders and OBRC hold details of recording schemes for a large assortment of plants and beasts. Many of the organisers welcome and help beginners, so why not 'take up' something? Details are also available of helpful textbooks and study courses.