

**BRISC**

BIOLOGICAL RECORDING IN SCOTLAND

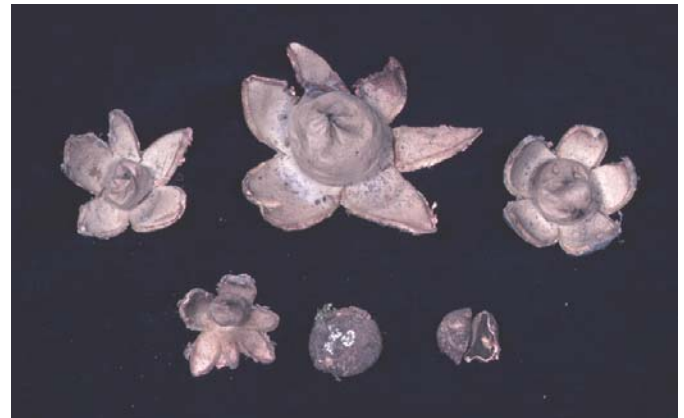
Issue No 71 October 2008

ISSN 0966-1964

Recorder News

Earthstars in Scotland – Roy Watling	p.1
What's Special About Glenfeshie – Richard Balharry	p.3
A Taste of Visible Migration – Clive McKay	p.6
BTCV's Natural Talent – John McFarlane	p.9
LRC News	
▪ Fife Nature restored – Gordon Corbet	p.11
Book Reviews	p.11
▪ Pearman, DA, Preston, CD, Rothero, GP & Walker, KJ (2008). <i>The Flora of Rum: an Atlantic Island Reserve.</i> - (John Love)	
▪ Corbet, Phillip & Brooks, Stephen. (2008). <i>Dragonflies. Collins New Naturalist.</i> -(Jonathan Willet)	
▪ Robineau, R (2007). <i>Guide des papillons nocturne de France.</i> (Anne-Marie Smout	
Chairman's Column – Patrick Milne Home	p.2
Editorial – Anne-Marie Smout	p.2
BRISC contacts	p.2
Passwords for Members Pages of theWebsite	p.2
Deadline for next issue	p.2

and Borders, indeed in a range of anthropogenic habitats such as old railway cuttings, etc. It is probably our most frequent species. It is recognized by the tulip bulb-shape before it expands and on maturity the collar around the central 'puffball'. It is known from as far afield as the Forth Valley to St Andrews, from where we have two records.

Rosy Earthstar *Geastrum rufescens* © Roy Watling

Eartstars in Scotland

Roy Watling

In 1986 the late R.W.G. Dennis, then senior mycologist at Royal Botanic Gardens, Kew, wrote under *Geastrum* in his *Fungi of the Hebrides*: "16 British species but Scottish records are few and almost confined to the Lowlands." Although this is not strictly true, most collections do indeed come from the southern-most parts of Scotland. 2006 appeared, at least in the Forth Valley and Borders, to be a particularly good year for their fructification, giving us a much better idea of their distribution - or is it attributable to climatic change?

One wonders whether indeed the genus *Geastrum* really does have a southerly distribution in Scotland, or is it just that people have failed to collect and record members of the genus? It certainly would be exciting to see if they are indeed spreading north in Scotland.

The collared earthstar, *Geastrum triplex*, is widespread and will surely be found in parks and hedgerows outside the Central Belt

It is sometimes accompanied in similar habitats by the rosy earthstar, *G. rufescens*, which, as its common name implies, has a rather beautiful pinkish cast when fresh. In the mature state it also has encrusting soil debris about its base. It is also known from the Forth watershed, including under a sycamore in Clackmannanshire and from Moncreiffe (Tay). *G. pectinatum*, the beaked earthstar, can occur in small troops often under ornamental conifers in gardens; it is characterised by the stalked central spore-sac topped by a beak with narrow grooves. In the latter character it contrasts with the sessile earthstar, *G. fimbriatum*, which as its Latin epithet implies is topped by a fimbriate, woolly beak; the spore-sac of the latter is not stalked hence the common name - sessile. As well as in the Borders and Forth valley *G. pectinatum* has been found under *Corylus* on Crieinch, Loch Lomond, two sites near Rannoch and from Argyllshire, and *G. fimbriatum* from four sites in the Clyde valley, a record from Tay, and several from the Forth catchment area. This clutch of four earthstars probably includes the most frequently encountered taxa in Scotland.

Continued on p.3.



Chairman's Column

My wife and I moved into our present house in May 1988. Luckily for us it was an exceptionally hot early summer that year, because for the first six weeks we had no kitchen and everything was cooked outside on a barbeque. This year we have used the barbeque, but it has always been operated

whilst standing inside, to stay warm and/or dry. Whilst the weather may not have been ideal, unless you were on the west coast of Scotland, we have certainly had some compensation from the new wildlife that has arrived in the garden.

We have had very regular visits from a red squirrel and a family of great spotted woodpeckers, to name two that gave us and, in the case of the squirrel, continue to give us enormous pleasure. Over the years I fear I have not kept records of what has been seen, when and where, although my wife does keep a note for the first sighting of the swallows, who, as an aside, manage to make a quite unbelievably filthy mess inside the stables, not once but normally three times a year as they go into mass breeding mode. As a result, the evidence that I hold of returning wildlife or number increase is certainly rather scant.

Without such proof how can I be certain that the squirrel numbers really have expanded in the area? I am assuming their numbers have gone up, as comments received on sightings have increased from reports of being seen occasionally on our next door neighbour's property, then to being permanently there, and we now seem to have one as a permanent resident with us. It is almost certainly a juvenile who presumably has had to move out from home due to lack of space there. I have heard the woodpecker for the last three years, but always at a distance, so actually to see them does, I hope, mean that their numbers are increasing. However, both of these have to keep a very careful watch out for the sparrowhawk, who has also expanded into the locality; one of the woodpeckers has a very sore head from colliding with a window whilst taking evasive action, and the squirrel has learnt it is unwise to amble across the lawn rather than take it at a run.

On the BRISC Committee front we had a very full meeting in mid September. Amongst items discussed was confirmation that **next years Conference and AGM would be on Saturday 25 April and that it would return to the southern half of Scotland and be held at Chatelherault, South Lanarkshire.** It will be another superb location as there are a number of potential sites to visit, all of which can be linked to speakers in the morning. Please mark it in next year's diaries, which are doubtless beginning to come through the door now that we are into the tenth month.

Confirmation of a 50% grant from SNH has enabled our 'Scoping Project' to commence. The objective is to establish the metadata of important biological datasets that are held by Scottish museums and universities, some of which may not currently be widely known or generally accessible, and the objective will be to enable wider access to this information. A post-graduate student has been taken on and this pilot project should complete in early 2009.

We have also finalised the potential e-petition to the Scottish Parliament which will *'urge Ministers to promote a situation in Scotland where high quality biological data will be available to all, through integrated national and local structures, and ensure that such data will inform the decision-making processes to the benefit of Scotland's biodiversity'*. We are currently contacting an MSP to see how to best ensure that it is also seen by all other MSPs and then will be canvassing you further to support it!

Patrick Milne Home

**Deadline for the January issue is 17 December 2008.
All material to the editor, Anne-Marie Smout**



Editorial

I hope you all have had a chance to get out and record your favourite groups over the last four months, in spite of the poorish weather. In my local area (the East Neuk of Fife) birds and bumblebees seem to have done pretty well. We have bigger numbers of house sparrows in the garden now than

for several years, the blackbirds have reared more young than usual, and there are good numbers of goldfinches on the teasels and greenfinches demolishing our rosehips. It is generally considered that butterflies have had a very poor season; certainly we have had very few butterflies in our garden, but out at Tentsmuir I counted 25 peacocks on my butterfly transect in late August, also earlier good numbers of dark green fritillaries and 6-spot burnets, and the two colonies of northern brown argus butterflies on Kincaid seemed in a very healthy state in July. Our moth trap has been out fairly regularly but we have noted fewer migrants than usual, and only one night attracted over 100 individuals, which is on the low side. However, I am aware that other places in Fife did rather better. No doubt the many days (and nights) with beastly easterlies played their part. It would be interesting if readers would write in to tell us something about how they have fared locally.

October is the perfect month to be looking for fungi, and in this issue readers are asked to search for earthstars, these remarkable looking fungi, which apparently can be found over much of Scotland, albeit in small numbers. If you are lucky enough to come across one, do send it to Roy Watling at the RBGE.

The feature 'What is special about...' this time focuses on Glen Feshie. Members who were present at BRISC's conference at Kingussie in April will recall Dick Balharry's great talk on the Cairngorms. Some of us were lucky enough to join him on a remarkable trip up Glen Feshie this next day, but here everyone can enjoy his intimate knowledge and deep love of Glen Feshie, and there is plenty in this glen which is special.

Clive McKay invites us to join in the excitement and fun of watching birds migrating, not just the obvious skeins of geese, but the smaller birds and even woodpigeons.

The Natural Talent project, funded by the Heritage Lottery Fund and run by BTCV, has become a tremendous success. John McFarlane, former BRISC project officer, is now employed by BTCV to take charge of this project. He reports here on past and future events, including the open day in July, when potential talents gathered at the Royal Botanic Garden Edinburgh.

Members are reminded that notices of relevant events are usually posted on our website. If you want an event to be listed, please contact Andy Wakelin. For contact details see below.

BRISC Contacts:

Chairman - Patrick Milne Home, Craigow, Milnathort, Kinross-shire, KY13 0RP, Tel 01577 863758 Email Patrick@milnehome.org

Secretariat - Mark Simmons, Perth Museum, 78 George Street, Perth. PH1 5LB. Tel 01738 632488, email MJSimmons@pkc.gov.uk

Treasurer and Membership Secretary - [Duncan Davidson](mailto:Duncan.Davidson@fife.gov.uk), 140 Pitcorthie Drive, Dunfermline KY11 8BJ Email Duncan@dwwd.freesevice.co.uk

Editor - Anne-Marie Smout, Chesterhill, Shore Road, Anstruther, Fife KY10 3DZ Tel. 01333 310330 Email anne-marie@smout.org

Website Manager - Andy Wakelin, 32 Tailyour Cresc. Montrose, Angus DD10 9BL Email andy.wakelin@which.net

BRISC Website [www.brisec.org.uk]

Please note the passwords for the Members Only pages remain:

Username	fungus
Password	earthstar

Continued from p.1.

However, we do have records of some less frequent members of the genus, indeed one, collected in sandy maritime grassland in 1909 in East Lothian, is a species possibly extinct in Britain. It is the elegant earthstar, *Geastrum elegans*, elegant probably from the distinctive, contrasting dark brown opening to the spore-sac and the rays curling beneath the fruiting body. A later name is *G. badium*. There are several species, which should be looked out for in sand dunes and maritime plant-communities. Thus the dwarf earthstar, *G. schmidelii* - the correct name for a fungus called for many years *G. nanum* - reflecting its small size, has been found recently near the lighthouse at Barry Links near Broughty Ferry. Previously it was only known from Montrose and from St Cyrus at both sites collected by the Rev. Ferguson at the end of the 19th century. Another is the arched earthstar, *G. fornicatum* for which only one recent Scottish record exists. It lifts itself even higher than *G. schmidelii*, the outer layers arching up to resemble the base of a rocket-launcher. A similar pattern of growth is demonstrated by the 4-rayed earthstar, *G. quadrifidum* of which a very early, unlocalised collection dated 1821, was thought to be in the Menzies Herbarium in the Royal Botanic Garden, Edinburgh. Sadly the specimen is of *G. fimbriatum* but nevertheless one should be on the look-out for this species, because after all the earthstar-like fungus, *Mycenastrum corium*, was found for the first time in the UK near Dunbar last year¹. *G. quadrifidum* is easily identified by its whitish, pruinose spore-sac and upper most part seated in a small, sunken dish. *G. quadrifidum* is smaller than *G. fornicatum*. Three other species need to be mentioned: the crowned earthstar, *G. coronatum* and the weathered earthstar, *G. corollinum*, both collected in the easternmost sector of the Dirleton/Tynninghame coastal system, incidentally a hot-spot for earthstars. The first had been previously collected in 1782 in the Tay watershed and even earlier by Sir James E. Smith, no less, at Haddington. The third species, also from the same area, is the flask-shaped earthstar, *G. lageniforme*, which turned up in 1984. It looks like a small *G. triplex* but lacks the distinctive collar.



(left) Flask shaped Earthstar *Geastrum lageniforme* and (right) Striated Earthstar *G. striatum* © Roy Watling

Finally I need to mention Berkeley's earthstar, *G. berkeleyii*, another earthstar which may be now extinct in Britain. It has been recorded from East Lothian but sadly with little locality data. It has a distinctly roughened spore-sac, which separates it clearly from other British species although it poses the pectinate apex as *G. pectinatum*. It was once called *G. pseudostriatum* as it resembles the striated earthstar, *G. striatum*, in general overall appearance, a fungus known from a greenhouse in Hawick, a plant border at Crathes Castle on Deeside, on old compost in a

¹ see BRISC Recorder News No 70

greenhouse in Dundee, and a garden near Melrose. It has a smooth spore-sac.

So out of the sixteen earthstars known from Britain, twelve are known from Scotland. Although the different species can be distinguished in the field by the trained eye, microscopic examination of the spores in particular is necessary for confirmation or a definitive identification. But do not despair if you find anything of interest with the shape of a star, send it to me at the Royal Botanic Garden, Edinburgh, and I will gladly identify it. Who knows, you may refind *G. berkeleyii* or *G. elegans*, or even a new site of *Mycenastrum* or another elusive (false)earthstar *Astraeus hygrometricus*, which closes up when dry and opens out like a flower when moistened (its called the barometer fungus). Good luck in your searching.

[Some helpful photos of the different species of earthstars can be found on the internet – just type in the Latin name in your search engine and view the results. Ed]

WHAT'S SPECIAL ABOUT GLEN FESHIE

Richard (Dick) Balharry

Glen Feshie is a very special place that lies in the heart of the Cairngorm National Park, established in 2003. To all those who make the effort Glen Feshie's 40,000 acres offer a real quality experience. It has a long history of people living and working in the glen, and for historians and archaeologists, the whole area is a treasure trove of interest. Many books, old and new, give an insight into the life of past residents of this beautiful but remote highland retreat at the head of the River Feshie. Queen Victoria in her diaries expressed her enchantment, and Landseer was inspired to produce some of his best paintings here. For more information and authoritative writing read Meryl Marshall's book on this subject.²

During the 1700s and early 1800s large quantities of pine timber were taken from the woods in and around the glen, and this extraction continued before and during the first and second world wars. "Granny" pines that are 300 and more years old provoke the thought that only 30 generations of these trees take us back to the end of the last ice age!



Old cottage in Glen Feshie, now a bothy © Dick Balharry

² Marshall, Meryl M. (2005?). *Glen Feshie: the history and archaeology of a Highland Glen*. North of Scotland Archaeological Society. 84pp, illustrations and maps.



Aerial view into upper Glen Feshie 1989 © Dick Balharry

Over the last 100 years and more the impacts of deer have been largely responsible for the lack of natural regeneration of the forest. Development of forestry in Glen Feshie and in neighbouring estates deprived the deer herds of their accustomed wintering quarters. The practice of winter feeding began soon after the last war and continued into the 1990s. About this time the Red Deer Commission was estimating an increase in deer population of between 30–35% over the past 30 years. In 1996 The Cairngorm Partnership reported that

“Red deer have been identified as the main agents preventing natural regeneration of native woodland in the Partnership area for at least 70 years.”

How did this increase in deer population all begin? In 1848 an employee of Glen Feshie estate, William Collie aged 19 and a native of Dalnavert (where the Feshie enters the River Spey) used his initiative to help his hard pressed family:

“On Sundays I would go three or four miles up the streams to trout fishing or else into Mar and Atholl forests in search of young fawns. I would get £1 (a very substantial sum today) for every fawn brought home alive. They were poached and I would be out all night for them. My father was the first who reared fawns on cow’s milk and that is how Glen Feshie was first stocked.”

His memories (written in Canada in 1908) continue:

“...there were only five deer forests in Scotland Gaick, Atholl, Mar, Balnagowrie [Balnagown?] and the Reay forest in Caithness.”

His enterprise to stock the estate with deer led to it being run for sport shooting until recently.

The estate became part of the Cairngorm National Nature Reserve in 1962 and the legal agreement with the landowner at that time underlined the right of the owner to manage the land and the deer. This left the Nature Conservancy and its successors, the Nature Conservancy Council and Scottish Natural Heritage, powerless in relation to the control of deer.

In 1967 Lord Dulverton acquired the estate and, when writing in *Land Owning in Scotland* in April 1971, he referred to the remnant of native pine forest as follows:

“The relics are therefore a mortuary of dwindling extent, though possessing an aesthetic charm and a grandeur that bears the message nevertheless of valediction.”

“People living in the Glen in the past realised the benefits of maintaining forest for their use, and despite hardships that we would find difficult to comprehend our generation were given this valuable resource”.



Glen Feshie 1972 © Dick Balharry

There have been real fears that we, with our modern prosperity, could finally be responsible for the failure of the old pines to regenerate. Over the years fenced plantations were offered as the solution, and from the 1960s to the 1990s approximately 40 miles of fencing were erected in the form of enclosures to further the cause of timber production as well as nature conservation. Scots pine and exotic species of spruce, lodge pole pine, larch and Douglas fir were planted.

The catchment on the east side of the upper Feshie River makes up sixty per cent of the estate and provides excellent shelter and browse for deer, and an extract from the Cairngorm NNR Management Plan 1967–71 is revealing:

“In recent years the pressure of deer on the limited woodlands and hill pastures of the reserve have increased as the animals have been excluded from their accustomed winter grazings . . . and concentrated local grazing by sheep in Glen Feshie.”

The pressure of sport shooting management continued into the 21st Century when new Danish owners recognised the long term benefits of reduction in deer population. This was encouraged and supported by the Deer Commission for Scotland, Forestry Commission, Scottish Natural Heritage and the Cairngorm National Park.

In good weather visitors will be drawn by the magnificence of the ancient native Scots pines with junipers in close attendance. This scenic grandeur, combined with the scents of the forest and the movement of the restive and wild river, is a compelling reason to dwell, explore and enjoy.

Glen Feshie is much more than a remnant of old forest surrounded by heather. The high plateau land of Moine Mhor ranks as the highest extensive blanket bog in Britain. Birch woods grow at high levels and the variety of life in the high

corries and summits await the attentions of those interested in observing and recording. All such information is welcomed by the estate and will help underpin the much improved management now being undertaken.

The living treasures include many different habitats and species, and active people are likely to be rewarded with new biodiversity discoveries. So much is still a mystery to the natural historian for example, our knowledge of fungi and their role in assisting plant life in general is very poor. The same is true for algae, mosses, lichens, insects, beetles, snails - in fact our need for better knowledge applies to all taxa in the glen.



(left) Mountain Azaleas and (right) Mountain Everlasting © Dick Balharry

In the mountains and high corries, look for woodsia, mountain scurvy grass, alpine foxtail, moss campion, the mountain willows, dwarf birch, mountain azalea, mountain sorrel and mountain avens. Marsh and purple saxifrages, grass of Parnassus, gentians and orchids provide unexpected and exquisite colours in the more sheltered and fertile areas. Also look out for the range of native tree species that include aspen, whitebeam, holly, alder, and of course the Scots pine. The latter provides the home for twin flower and creeping ladies tresses, among many other interesting plants.

Moths and butterflies observed in recent times include small dark yellow underwing, emperor, northern egg, black mountain moth, Scotch argus, and small tortoiseshell. Terrestrial and aquatic invertebrate species will, I hope, attract the attention of observers.



Emperor Moth

Blackcock © Dick Balharry

Breeding birds on the mountain and moorland include golden eagle, peregrine, dotterel, ptarmigan, red and black grouse, dunlin, greenshank and ring ouzel. Look for crested tit, tree pipit, dipper, common sandpiper, skylark, wryneck, jay and crossbill in or near woodlands.

Adder, lizard and palmate newt have also been recorded.



Golden Eagle feeding chick © Dick Balharry

In addition to red and roe deer the mammals include mountain hare, brown hare, otter, badger, fox, wildcat, pine marten, weasel, stoat, water vole, red squirrel and moles (even at high levels). Short-tailed field voles are numerous and provide the mainstay food for the predators. Shrews – pygmy, common, and water - have been seen. Requests to see wildcat and pine martens are frequent, and although not often witnessed the signs of their presence are easy to recognise. Droppings, tracks and eating places give clues as to where you might observe these shy creatures. Remember, we may get a boost of excitement to witness a wild cat, but the cat gets little benefit from seeing us.



(left) Wildcat and (right) Pine Marten looking for ants © Dick Balharry

Weather patterns and climate can range from Arctic-like to warm and very wet. Rivers and burns can change from being tranquil to raging powerful waters in a matter of hours. Travellers in the glen can meet the extremes on any day during the annual cycle.

Glen Feshie estate and Scottish Natural Heritage hold many records covering this part of the Cairngorms NNR, and to enrich your experience I strongly recommend you contact them before and after a visit.

Much of this article reflects my own love of the natural world, but the value of the glen and its surrounding areas is for everyone. The recreational value of the glen is very high, the owners shoot deer and grouse, visitors are welcome to walk, climb, cycle and horse ride. You may be a photographer, bird watcher, botanist, or even a pilot of a glider riding the thermals above the glen, Glen Feshie will, I am sure, meet your expectations. If you seek solitude, tranquillity, a route to Atholl or Mar or beyond, or simply to contemplate and understand the inter-relationships between man and the environment, this is a place where, with mutual respect, we humans can undertake most activities with minimum impacts on each other and also allow the natural world and its beautiful landscapes to prosper.



Winter in Glen Feshie © Dick Balharry

The management undertaken by the present Danish owner, commencing in 2006, is already showing huge improvements. For almost two centuries very few native tree seedlings survived that were not protected by a fence or were otherwise out of reach of grazing animals. The transformation is truly amazing. A thriving young and widespread native woodland is now more than a dream: the floor of the glen and the slopes of the hills have given birth to the next generation of one of Scotland's greatest living treasures.

To tame and make captive a wild wood, with its associated plants and animals inside enclosures, usually has detrimental consequences to the habitats outside, and is not a substitute for natural regeneration.

The estate have removed most, if not all, of the fences, deer have been reduced and (with the continued support from Government agencies and the Cairngorm National Park) future generations of people will walk in woods of which Steven and Carlisle (1959) in the preface of their classic book. *The Native Pinewoods of Scotland* said "To stand in them is to feel the past".



Glen Feshie September 2008 © Dick Balharry

On a recent visit I was very impressed by the actions of estate staff that has led to the revival of this land. For fifty years I have witnessed the glen. Over that time I have had reason to be depressed regarding its future well being. Although as yet in its infancy, and still vulnerable to fire and grazing pressures, the promise for the future is optimistic. This has been a major undertaking and at times been controversial. With adjacent estates

showing similar shifts in land management, I wonder if, in the not too distant future, a red squirrel will be able to travel within native forest from Speyside to Deeside!

The future of Glen Feshie is now on the right road to recovery but it needs all our support to ensure that it remains so.

A TASTE OF VISIBLE MIGRATION³

Clive McKay

It is amazing what you can see if you stand in one place for a couple of hours and wait for migrating birds to come to you. It has to be the right place, at the right time of year and day, and in the right kind of weather, but when it all comes together, visible migration provides some of the best days' birding that Scotland (or anywhere else) can offer. And you can see it anywhere...

What is Visible Migration? Well, as it says on the can, it is the "visible" migration of birds (and butterflies) whose migratory flights can be observed directly. Many birds are nocturnal migrants (warblers, chats, flycatchers, goldcrests, etc) - their journeys begin an hour or so after dusk, and finish before dawn - so much of their migration remains a mystery. Their comings and goings are obvious enough when they arrive on the coast in large "falls", but their migratory flights cannot be seen - only deduced from ringing recoveries. The development of radar meant that for the first time these nocturnal movements could be detected, and the quality of radar "observations" is improving all the time, but for the most part, we can still only guess at the species and numbers making up the "angels" on radar screens.



Pink-footed Geese over Corse Hill, Arbroath, October 2006 © Clive McKay

Fortunately, many species are diurnal migrants, so their migratory flights can be observed by anyone armed with a pair of binoculars. Diurnal migration provides one of the most awe-inspiring spectacles that the world of birds has to offer. Who can fail to notice the comings and goings of geese, and the link that this provides to the passing of the seasons?

In addition there is the challenge of identifying the species, counting their numbers, and logging their movements. If you want to hone your all-round birding skills, "vismig" is a great place to start. Witnessing at first hand how the weather and time of year affect the numbers moving is truly fascinating, and there are always more questions than answers.

³ This article has also been published in *Scottish Bird News* No 89 Sept 2008.

Seawatching is probably the most familiar form of visible migration watching. Ken Shaw wrote a great article on seawatching in Scotland in *Birding Scotland*, (Vol. 1, 1998, 99-101) so in this article I am going to concentrate mainly on land-

Night or day?

based species. Why some species migrate by day and others by night has never been fully understood. For some species the answer is obvious: large soaring birds, such as birds of prey, cranes, storks and pelicans, require the heat from the sun to create the thermals which assist their passage. Shunning sea-crossings, these species concentrate at migration bottle-necks such as at Falsterbo (south Sweden), Gibraltar and the Bosphorus (Istanbul). Unfortunately, here in Scotland we do not have a large enough source area of raptors to produce such concentrations, but if you visit the Mull of Galloway (Dumfries & Galloway) on a bright day in September or October, you are guaranteed to see merlins and sparrowhawks passing through and heading straight out to sea - always an exciting sight.

Amongst passerines, it seems that those species which habitually live in flocks tend to be diurnal migrants, whilst those that forage alone tend to be nocturnal migrants. It has been suggested that migrating by day enables flocking birds quickly to locate and join feeding flocks and thence join communal roosts on their journey through unknown territory, like motorists congregating at service stations. It could also be that open country species, such as pipits and wagtails, have no more to fear from predators on migration than at other times. By contrast, woodland warblers migrating over open areas are probably less well adapted to escaping from aerial predators (e.g. Eleanora's falcons in the Mediterranean) if there are no bushes to dive into for cover. Perhaps this forces them to migrate by night?

Where?

Visible migration is most obvious where natural geographical features act as a barrier to movement, channeling birds along their edges. There must also be a source area for migrants to fly from - i.e. in the autumn this means a sizeable chunk of land to the north of you. One of the best examples of this in the UK is Spurn Point on the east coast of Yorkshire. Here the narrowing peninsula concentrates south-bound autumn migrants from a large area of east Yorkshire (and in some cases further north) until they are finally forced to pass the waiting vismig watchers at the "narrows", a 50m wide strip of land getting narrower every year as the North Sea tears at its flanks. The list of species seen here by the team of watchers is astounding. Adam Hutt, an ex-pat Scot now a Spurn vismig stalwart, recently described the vismig at Spurn as "the ultimate birding experience", praise indeed from someone with a fantastic record of finding rarities. The Mull of Galloway is perhaps the nearest equivalent land form in Scotland and would surely pay dividends to anyone able to visit on a regular basis. I am sure it would make a splendid mainland observatory for Scotland. I have only been able to visit the Mull on a few occasions but was rewarded with merlins and sparrowhawks heading out to sea, not to mention passage osprey and hen harrier, and large numbers of meadow pipits, skylarks and linnets (one count of the latter even getting a mention in *Birds of Scotland* 3).

Other good Scottish spots in autumn are (or should be) the east coast of south Sutherland/Easter Ross, the east coast of Angus and Aberdeen, the south coast of Fife and the Mull of Kintyre and

Burrow Head in Dumfries & Galloway. Conversely, the best spots in spring are those whose geography channels northward moving birds. Pride of place probably goes to the Lothian coast between North Berwick and Aberlady, and the west coast of Ayrshire leading up to Ayr, where great spring movements of meadow pipits and wagtails have been recorded. Other exciting watch points include Out Head on the Eden Estuary in Fife, and Tarbat Ness in Easter Ross.

However, visible migration is not the preserve of coastal sites. It can be equally exciting inland, where glens and hill-ranges concentrate migrants along their flanks. The Great Glen south of Inverness ought to be good (great views and nice coffee from the new SNH HQ at Great Glen House). Strathspey also has its moments, with a spectacular rush of redwings witnessed by Jef Leestmans in October 2006. The edges of the Ochills, Sidlaws, Moorfoots and Lammermuirs will also concentrate birds.

Where exactly?

Visible migrants have a habit of following "leading lines". These are often linear geographical features - coastlines, edges of hill ground, peninsulas, etc. However, at a more local level, most species will also follow their preferred habitat. The best vismig watch points therefore often have a mix of habitats all converging. The boundary between moorland edge and farmland often provides a good combination: merlins, lapland buntings and snow buntings will follow the moorland edge, pipits, wagtails and larks will follow the edge of the farmland, and if there is a line of trees then chaffinches, bramblings and crossbills will follow these until forced to cross open ground. Bear these features in mind when searching for your own good vismig spot. But as theory can only guide you in the right direction, the only sure proof is to get out into the field at dawn and find out whether your predictions come true.

Up above, or down below?

When searching for your ideal spot there is always a temptation to go uphill towards where you see the birds flying. But if you do this, then you run the risk of missing birds that are passing below you beneath the horizon. It is generally best to be lower down looking up the sides of a valley, rather than on a ridge or summit.

What time of day?

A lot of birds get their migrations over with in the first two hours after dawn. So by the time most of us are heading out for a day in the great outdoors, the visible migrants have already flown 25-50km and are settling down in the fields and bushes, fuelling up for the next leg of their journey, and giving no clue to their earlier perambulations. Many of our finches, pipits and wagtails migrate in this staged fashion - moving relatively short distances each day, choosing days when the weather is good and the wind is set fair. Thrushes and geese migrate both by day and night. Waders, ducks and gulls migrate mostly by night, but often commence their journeys an hour or so before dusk, and/or continue their flight after dawn until they reach a suitable stop-off. These wildfowl often add variety to a sea-watch, though rarely in large numbers.

Even within a morning watch, different species move at different times: pipits, wagtails, winter thrushes, wood pigeons and starlings are usually most numerous in the first few hours after

dawn; finches are slightly later starters and can continue moving throughout the morning; skylarks are surprisingly late starters, and along with the hirundines, do not usually get going until a few hours after dawn. Raptors of course generally wait for late morning thermals, but kestrels, merlins, honey buzzard and harriers are more active fliers and can be seen at any time.

Seasonality

Over the years, it is possible to build up a clear picture of the timing of migration of different species. Vismig gets under way in August with hirundines, tree pipits and, towards the end of the month, the first white wagtails. Grey and white wagtails peak in early September, with the mass exodus of meadow pipits from our uplands taking place in the third week of September. Richard Bramhall once counted several thousands in half an hour during a westerly gale at Carnoustie, Norman Elkins recalls a constant stream of pipits “tsee-tseep”-ing their way south over St Andrews and Chris Smout saw thousands in a couple of hours heading out from Elie Ness in Fife across the Forth. Even the humble meadow pipit can put on a good show.

Early October is usually marked by the first big invasion of redwings – best viewed in the foothills, these birds may be heading in any direction from SW to NW. Pied wagtails also peak in early October, as do most of our finches. In invasion years, crossbills can be seen moving almost anywhere at this time, but they will also be on the move in July – the only significant July mover. By the end of November the fieldfares are flooding in, and this is one of my favourite visible migrants. No wind is strong enough to hold them back: they will use every contour of the land to minimise its effect, but will not be stopped. Athletic flocks of fieldfares, flowing over the late autumn landscape and scything through a bitterly cold north-westerly, marks the turn from autumn to winter in my book. Once the migratory urge has passed, the fieldfares will become their normal berry-feeding, approachable selves, and you know that winter is here, and that the vismig season is over for another year, almost....



Woodpigeons migrating along the southern edge of the Grampians, Angus, October 2006 © Clive McKay

Pigeon detectives wanted

A final treat and a mystery is still in store. Woodpigeons migrate SW across Scotland in large numbers in October, yet in November, they can be seen heading back NE in the opposite direction. In 2006 I counted over 50,000 in total over the Angus

Glens. On the morning of 22 November 2001 David Graham saw an incredible 20,000 woodpigeons flying SW inland from the coast at St Abbs (Borders). Were these birds newly arrived from the continent? Large numbers have also been seen at Barry Buddon in Angus, again possibly pointing to a continental origin. However, I am convinced these are British birds (see account in BS3 for a full explanation). It is nice to know that one of our commonest birds can still present us with a migration mystery, and the sight of woodpigeons passing overhead in their thousands in almost total silence (but for the winnowing of their wings) on calm clear days in November is not to be missed. Where ever you are in Scotland, I would welcome any record of numbers and crucially direction that woodpigeons fly over your house from mid-October to late November.

Identification

This is the fun bit. The good news is that most visible migrants have contact calls with which we are all familiar. Knowing these is the key to refining your visual ID skills. Also, because the birds are approaching you, you have a chance to attempt an ID first at long distance, and then to check your success as the bird gets closer. If you cannot hear the calls, then the best (perhaps the only) way to ID visible migrants is by “jizz”, that mysterious term used to explain the unexplainable about bird identification.



(left) Skylark and(right) Meadow Pipit © Clive McKay

The word “jizz” is thought to derive from a WWII war term used to identify aircraft - *general impression, size and shape*. In the simplest terms, not only does a Lancaster bomber differ in shape and size from a Spitfire, but these factors also determine the very way that the planes fly: a Lancaster can never turn in a tight circle like a Spitfire. The same applies to birds, and although the shape of a buzzard is very similar to that of a golden eagle, it is still possible to tell them apart at great range by the wider sweeping turns and slow wing beats of the eagle compared to the tighter turns and quicker wing-beats of a buzzard. The same applies to all species. Though superficially similar, a greenfinch is almost twice as bulky as a siskin, so the greenfinch has a heavier flight with shallow, workman-like undulations, whereas the siskin has a bright and breezy flight, with energetic bouncy undulations.

Each species also has its own flock jizz. Chaffinches fly in loose groups, hardly a flock, whereas brambling flocks are much more cohesive. Likewise twite flocks are more tight-knit than linnets. But the prize for flock tightness must go to the sparrows. Clearly agoraphobic, both house and tree sparrows only brave the open ground if almost touching their flock-mates and calling loudly (a bit like a group of teenagers heading down the high street).

You will never ID all the birds that fly past, but if you miss a few, not to worry, there is always another flock coming over the horizon.

Scottish VisMig spectacles

I have already described some of the species on the move in Scotland. When you read this, the first flocks of pink-footed geese will be arriving from Iceland – the first sign that winter is on its way. Geese and swans are perhaps our most visible migrants. Pink-feet continue to move throughout the winter from Loch of Strathbeg and Loch Leven, to Aberlady, south to Lancashire and Norfolk, and then back again from the end of January onwards. Alan Leitch and I saw 7,500 returning pinks heading NE over the Angus glens on 19 March 2006. But some of the routes that pinks take are poorly documented, and more counts are required, particularly as wind farms sprout up along these routes. Come April, the compass of the pinks (and greylags) is set squarely NW, and not even the Cairngorms and rain and mist will stop them. It is amazing to see these flocks pass overhead heading up Glen Isla, getting smaller and smaller and disappearing into the corries of Caenlochan, looking for a gap in the weather. But my favourite migrating goose is perhaps an unlikely one, the pale-bellied brent.

Pale-bellied Brents

Brent geese are never common in Scotland, though historically they wintered in larger numbers on the west coast prior to the loss of eel grass beds in places such as Islay. Most brents on the west coast are of the pale-bellied race, and we see them mostly on passage to and from their wintering grounds in Northern Ireland. Nice wee geese, fairly unassuming and not generally a bird to stir the heart of the hardened birder. But, like so many migrants, it is a bird possessed of an iron will to reach its destination when on the move. Park yourself on a western seawatching headland in September, such as Frenchman's Rocks on Islay, and you will surely see brents passing by – heading for Strangford Loch. If the gales are strong enough and the showers heavy enough to make you cower under your kagoul behind a rock, then you will be hoping to see Sabine's gulls, grey phalaropes and Leach's petrels - which will be nice. But for me such days have often been most memorable for the sight of flock after flock of brents approaching from the north-west into the teeth of a howling squall as they try to skirt the worst of the hail; getting closer, count them and finally hear their guttural calls above the almost deafening crash of surf. It would be easy enough for these brents to pitch into Islay, have a wash and brush up with all the other geese, and move on when the weather improves. It seems madness for them not to, when the wind is so strong that you can hardly walk into it. But these birds have crossed from Canada to Iceland over the Greenland ice cap; now they are close to their winter home, and nothing that the weather can throw at them will stop them. Splendid!

And finally...

If you want to see up to the minute (literally) counts of visible migration at a range of sites across Scotland, the UK and north-west Europe, simply log on to www.trektellen.nl, or sign on to the VisMig newsgroup at vismig@yahoogroups.com If you are interested in getting involved in visible migration, drop me a line at the e-mail address below.

Clive McKay clive.mckay@btinternet.com

Recommended reading:

Alerstam, Thomas (1982). *Bird Migration*. Cambridge University Press, Cambridge.



The first batch of Natural Talent apprentices have recently completed their eighteen-month 'stints', with several still underway and a fresh group about to begin. These are exciting times indeed for everyone involved in the scheme, and we are now reaping the rewards of our hard work and effort with all of the 'graduates' flourishing in their new roles, post-Natural Talent.

So what is Natural Talent? Natural Talent is a full time apprenticeship for people to specialise in a particular aspect of ecology or habitat management. It comes with a £12,500 salary, as well as budgets for training, equipment and travel. The aim of the scheme is to ensure a new generation of expert naturalists are available with the specialist knowledge and skills which underpin conservation work. And it is not just the high profile and 'glamorous' species and special places which are worthy of study. Equally important are the 'ordinary' plants and invertebrates, plus their habitats, which make up so much of our biodiversity. Natural Talent allows people of all ages to turn their environmental passions into professions.

Natural Talent is funded by the Heritage Lottery Fund and run by BTCV in Scotland and Northern Ireland in partnership with a range of other organisations. During their time on the scheme, each apprentice undertakes two or three training/work experience placements with bodies such as the RGBE, RSPB, FWAG, SNH, SAC, SWT and SEPA. The placements are flexible and are decided by the mentor and the apprentice, as their skills and interests develop in the first six months of the apprenticeship.

In July 2008, each of the initial apprentices successfully completed the training in their particular subjects:

- Maren Flagmeier – Bryophytes (mosses, liverworts and hornworts)
- Rory Sandison Macdonald – Grassland conservation management
- Siobhan Thompson – Grassland conservation management
- Alison Meredith - Lichens
- Stevie Jarron – Freshwater conservation management
- Moya Burns – Coleoptera

The great news is that all of the apprentices have used their experiences to find jobs in their chosen or related fields or as a stepping stone to further study in their particular specialism. This is very important to us. There has to be a positive outcome at the end of each apprenticeship as a reward for all the hard graft, whether out in the field, spending hours looking through a microscope, or days in front of a computer screen processing data. As well as increasing the personal opportunities for those involved, we are also pleased to be contributing to the wider picture by increasing the 'bank' of our specialists in natural history conservation.

In addition to the recently completed apprenticeships, three are ongoing:

- Lyn Byrne - Invasive species
- Cathy Fiedler – Hymenoptera (bees, wasps, ants, sawflies)
- Neville Kilkenny – Mycology (fungi)



Lyn Byrne and Cathy Fiedler at the open day ©

I have recently visited all of the apprentices to see them in their working environment. This included a visit to Lyn at her offices in Magherafelt, where she is currently working with the Lough Neagh partnership to create awareness of invasive species along the tributaries feeding the Lough. Cathy has recently spent a



Roy Watling and Neville

number of weeks with the RSPB at Loch Gruinart surveying for *Colletes floralis*, the northern mining bee, and I was lucky enough to spend some time with her, assisting her in carrying out her duties.

Neville is busy finding new species in the UK (featured in the July *BRISC Recorder News* No 70). He is seen here with Roy Watling at Yester and will be assisting in delivering fungal forays throughout Scotland. I spent two lovely days with Nev and Roy mycologising.

BTCV are confident that Lyn, Cathy and Neville will be equally successful as their predecessors when their apprenticeships are completed in the coming months. If you would like to see any of our current Natural Talent apprentices in action, including photos and videos, check out the link to the facebook website at <http://www.facebook.com/group.php?gid=17670805727>

Through their studies each of the Natural Talent apprentices helps to add to our knowledge and understanding of their particular subject. As an example, Neville Kilkenny has discovered a species of fungi never previously recorded in the UK – *Mycenastrum corium*, a false earthstar. What else might be discovered in future?

Natural Talent 2008 Open Day, RBGE

A new series of Natural Talent apprenticeships was launched at an Open Day held in the Royal Botanic Garden Edinburgh on the 26th July. This was an ideal opportunity for prospective apprentices to find out about the scheme and particularly to hear from the past and current apprentices about their own experiences – warts and all.

The launch introduced the new apprenticeships which will be rolled out in the next few months, covering the following subjects:

- Bryophytes
- Mycology
- Diptera/hoverflies
- Lichens
- Farmland Wildlife Conservation

Thanks to all those who attended what was a very informative and enjoyable day. The 'Botanics' provided a perfect venue for the event, so many thanks to the RBGE staff, particularly David Long (Bryologist), Jim MacDonald, Roy Watling (Mycologist), and Lichenologists Chris Ellis and Brian Coppins.

Quote from Dr David Long, Head of Cryptogamic Botany and Royal Botanic Garden Edinburgh: (4 August 2008)

"*Natural Talent* is a very welcome and important scheme with far-reaching implications for study and conservation of Scotland's and Northern Ireland's rich habitats and biodiversity. Courses in natural sciences in universities and colleges sadly nowadays rarely include training in practical ecology or taxonomic expertise in critical groups of organisms such as insects, or cryptogamic plants such as fungi, lichens, mosses and liverworts. This is producing a worrying skills shortage in these disciplines and a dearth of experts who can go in the field and make conservation assessments, advise landowners, support conservation agencies, make expert surveys, undertake taxonomic research, and so on. The existing experts are getting older and need replacements now, ready to take over."

"The timing and scope of *Natural Talent* is absolutely perfect for addressing these issues. The scheme will benefit those young naturalists for whom their hobby can now become their profession. It will benefit conservation in many ways. It will also benefit organisations such as the Royal Botanic Garden Edinburgh by training new experts who can make a real contribution to taxonomic knowledge of critical groups in the future, and in turn we will look to them to train the next again generation of specialists."

Natural talent 2009, the future.....

We are now looking for placements for the next six Natural Talent Apprenticeships, which will be rolled out early in 2009. If you think that your organisation could provide a suitable placement, and/or want to know more, check out www.btcv.org/naturaltalent or contact

John Mc Farlane j.mcfarlane@btcv.org.uk
01786 479697

BTCV are very grateful to Alan Braddock of the BMS Mid-Yorkshire Fungus Group for the donation of two microscopes. These will be put to good use by many of the Natural Talent apprentices.



LRC NEWS

Fife Nature Restored

After several years of being rather swamped by other environmental activities in Fife Council, the Fife biological record centre has, since July, undergone a promising revival. Central to this has been the transfer of one post, in the form of Simon Scott, from Fife Council's Environmental Services to the Fife Coast and Countryside Trust (FCCT) where the ranger service and biodiversity officer are already located. The record

centre has also reverted to its original name of *Fife Nature*, or *Fife Nature Record Centre* depending on context, a welcome change from the cumbersome *Take a Pride in Fife Environmental Information Centre*. It is still receiving financial support from Scottish Natural Heritage.

Simon is housed, with some of the rangers, at the Pitcairn Centre in Glenrothes. With the prospect of one half-time assistant, the staffing level is a little short of ideal for the operation of a local record centre, but it is encouraging that the centre is now devoted solely to the collection, storage and dissemination of biological records. A 'Recorder Group' of volunteers, representing the principal sources of information, has been re-established, one of their tasks being the refereeing of records to ensure control of quality. Apart from providing information to Fife Council's planners and others involved with the protection of species and sites, one objective will be to update and maintain the 'Nature of Fife' inventory – the annotated list of all species recorded in Fife, which was originally produced by the SWT team responsible for the *Nature of Fife* book published in 1998. Part of the inventory is now easily accessible on a separate Fife Nature website: www.fifenature.co.uk and will gradually be extended and updated.

A new 'Species Recorder' programme is made available to enable multiple records to be submitted electronically but individual records or small batches are welcome in any format or by post.

Contact: Simon Scott, Fife Nature, Pitcairn Centre,
Moidart Drive, Glenrothes, KY7 6ET; 08451 55 55 55
ext. 440456; Simon.Scott@fife.gov.uk

Gordon Corbet

BOOK REVIEWS

Pearman, DA, Preston, CD, Rothero, GP & Walker, KJ (2008)
The Flora of Rum: an Atlantic Island Reserve. Published by the authors, c/o Algiers, Feock, Truro, Cornwall, TR3 6RA. 28 col. plates, 25 b&w figs. Distribution maps.
ISBN 978-0-9538111-3-7 Hbk £25.00

The Isle of Rum, 10,700 hectares lying 8km to the south of Skye, is the largest of four islands known as the Small Isles. Where Canna, Eigg and Muck are low-lying, rich and fertile, due to horizontal flows of basalt lava, Rum is rugged and mountainous. It is the exposed hearth of an ancient 60 million year old volcano, the unyielding ultrabasic rocks overlain with thin, nutrient-poor soils. Askival, the highest point, is 812m high, yet with its three lesser, near-neighbours its summit is home to one of the largest Manx shearwater colonies in the world, the guano and burrowing activity producing a verdant sward at an unlikely altitude.

The geology of Rum is complex and exhibits fragments of much of Scotland's own long and varied geological history. There are even stalactites, below small cliffs where water seeps from a scrap of limestone-rich rocks above, enabling such calcareous-loving plants as maidenhair fern and mountain avens to exist. Early geologists, such as Hugh Miller and John MacCulloch, came to view the island's rocks, while in 1939 Professor JW Heslop Harrison compiled the first plant list (though the inclusion of certain species has long been questioned).

Rum became one of our first National Nature Reserves in 1957, with a long-standing remit for research. Where current focus tends to be directed towards easy public access, the island continues to

attract interest from scientists half a century later. Successive wardens have accumulated a meticulous catalogue of plants and animals. There are countless papers and publications about the island's geology, almost as many about its red deer population while, some years ago, I attempted to compile a detailed bird list. Rum has long been denuded of tree cover, but pioneering work on regenerating native broad-leaves was one of the first projects initiated, and is still on-going. There are large-scale topographical maps, a geological map, a map of plant communities, etc. Another passion of mine, when I lived there from 1975 to 1985, was the island's human history and I mapped out the settlements and hill shielings. For its size therefore, Rum must be one of the best-described islands in the Hebrides.

It is surprising therefore to find that a detailed Flora of Rum should not be published until now, while Peter Wormell – the island's first warden/naturalist to whom the Flora is dedicated – is at present compiling an inventory of insects. This Flora has certainly been worth waiting for. It is the culmination of many years of pain-staking field work by the authors David Pearman, Chris Preston, Graham Rothero and K Walker, all distinguished botanists in their own right. They have scrutinised all the past records, verifying them – or otherwise – by their own stalwart efforts or by pulling together, from time to time, teams of specialists, eventually to cover the entire island. Anyone who has visited Rum will know that the terrain, not to mention the climate, makes this a Herculean task. It is particularly noteworthy to find an authoritative synthesis of Heslop Harrison's more dubious finds, written not just by an able team of botanists, but one that knows the island so intimately.

This handsome 480 page volume first provides extremely useful and detailed background chapters, maps, diagrams and colour photographs about Rum. The authors then present only the briefest account – four pages – about climate, geology, geomorphology and soils, all factors which will obviously have a profound effect on the vegetation and plant distribution. Some 25 pages are devoted to the human history, on the other hand. This section does, however, detail Rum's more recent years as a nature reserve, not covered by earlier publications. The next chapter summarises the vegetational history and impacts, human or otherwise, upon plant communities. There follows an equally fascinating summary of botanical work on Rum from a visit by the Rev. John Lightfoot and Thomas Pennant in 1772 to the present day.

The remaining three-quarters of the book are devoted to species accounts – mosses, liverworts, ferns, and flowering plants, whether natives, aliens or hybrids. Rum is unusual in supporting more mosses (469 species) than flowering plants (434), perhaps because of its oceanic climate (favouring the former) and the lack of lowland habitats so rich in the latter. Rum can boast a moss that is extinct elsewhere in Britain (*Bryum turbinatum*) – though even here it was only recorded in 1945 and not since. It also has one flower (heath cudweed) considered endangered in Britain. But it supports healthy populations of 19 nationally vulnerable species, such as Norwegian sandwort and pyramidal bugle, together with 12 others classed as near-threatened. There are also 29 rare and 65 scarce species. No fewer than 63 species are exotics, most of which are trees and shrubs planted around the policies of Kinloch Castle. The aquatic pillwort *Pilularia*

globulifera had become extinct since grazing ceased around Harris but has recently been reintroduced.

No map is necessary for a species so restricted in distribution as pillwort, nor for other such rarities, but one is provided for every other species. Distribution is mapped on a tetrad system, 41 in total each containing 4km² of land and sea. Perhaps, though, a one kilometre square system might have been offered for an island the size of Rum. Families are grouped in taxonomic sequence, the individual species accounts, usually a paragraph or two, includes both Latin and English names (where one exists). Brief details of the first record are provided along with comments on status and distribution. Unlike the first edition of the *Flora of the Outer Hebrides*, the *Flora of Rum* has an index for easy reference.

In his foreword Andrew Thin, the Chairman of Scottish Natural Heritage who own Rum, quite rightly comments how this book provides a powerful incentive to visit Rum and a perfect field guide for those who do. He adds therefore, that one will need two copies – one beside your bed, and the other in your rucksack. The very reasonable price will not preclude such duplication, and your money will certainly be well spent, whether you opt to carry this comprehensive volume in the field or not. Keep it in a plastic bag however, for not even this robust and practical binding will withstand Rum's inclement weather. I only wish I had had an option to carry this classic text when I happily tramped the island's hills and glens twenty-five years ago. Now I must return.

John Love

Corbet, P. & Brooks, S. (2008). *Dragonflies*. Collins New Naturalist. Colour photos by R. Thompson. Hbk ISBN 978-0-00-715168-4 £45 Pbk ISBN 978-0-00-715169-1 £25.

This book begins with a memorial page to Philip Corbet, who sadly died before he saw this book published (a follow-up to the *Dragonfly NN* (1960)). I was fortunate enough to hear Prof. Corbet lecture at the Royal Society in Edinburgh in 2002. After the lecture I asked what his favourite dragonfly was, and it turned out to be the emperor dragonfly, the subject of his PhD. It is this species that graces the cover of this brilliant book.

I was waiting for the arrival of this book with great anticipation, as soon as I knew that it was going to be published back in early 2007. I have not been disappointed by the book in the slightest. However it must be said, if you know nothing at all about dragonflies then it will not be the most accessible way into this insect group. Steve Brook's *Dragonflies*, published by the Natural History Museum, is the one for that. But if you know a little about dragonflies and want to know more then this is the book for you.

The book has ten chapters, seven of which look at the various life stages of dragonflies, starting with habitat selection and egg laying, and ending up with reproductive behaviour. The other chapters look at the British species and odonatology in Britain. This final chapter is very interesting, as often those people, who have made many of the early discoveries about a species, are too easily forgotten. Thomas Mouffet (1634) was the first to describe dragonflies in print, remember him? Well, if you know a rhyme about muffs and tuffets, it may not surprise you that he was best known for his work on spiders. But enough of other invertebrates!

To say the book is stuffed with information would be an understatement. It is written clearly and with some humour, but

the amount of information that it contains inevitably means it is not a book you would read from cover to cover in one sitting. A chapter at a time is do-able, and then you need to lie down to assimilate all that information. Practically every page has a new fact or an explanation of some behaviour or other. Did you know that in banking flight dragonflies keep their head parallel with the ground, or that in Burma a dragonfly larva has been used to control the Yellow-Fever mosquito in a suburb of Rangoon?

It also explains why the order Odonata has the English name dragonflies, and the sub-order Anisoptera also has the name dragonflies. Damselflies the sub-order Zygoptera were first given their "standard" English name in the early 19th century. This came from demoiselle, the French name, which applied to both dragon and damselflies. The authors suggest a new epithet for Anisoptera: warriorflies, but it is not that catchy. So I think we will be left with another quaint English language inconsistency lurking in scientific nomenclature.

I have learned so much from this book and even so I have still come away with questions. So not everything is known, and this means that amateurs like myself can still find out new things about dragonflies.

This is a book for anyone interested in the life of dragonflies. It is also a fitting end to the authorial legacy of Philip Corbet and a valuable addition to the extant authorship of Steve Brooks.

Jonathan Willet

Robineau, R (editor) (2007). *Guide des papillons nocturnes de France*. Delachaux et Niestel . Paris. 288pp, 55 colour plates. Hbk ISBN 978-2-603-01429-5 £39.50 from NHBS

Environmental Bookstore.

This is basically the French equivalent of Bernard Skinner's book on moths. Like Skinner it deals mainly with the macro moths, and the 55 beautifully produced plates all show photographs of set museum specimens. As soon as you open it, it becomes clear that there are rather more moths on the French list (over 1620 species described and illustrated here) than on the UK list. The draw-back is that French vernacular names rarely match the English, so it becomes a great encouragement to learn the Latin, and it was handy to keep copies of Waring or Skinner nearby to check out the Latin names for a familiar-looking moth. The plus side is that each moth species is given a reference number which makes it extremely easy to cross-reference from the extensive index to text to plates. The French text includes the usual information about each species' distribution, and it is generally easy to cope with, even for those of us who speak the language badly. We bought this book from NHBS just before going to France in June, alerted to its publication by Mark Young. It has for us become a tradition to take a Heath trap with us in our camper and run it in campsites and other places, and this book soon became invaluable. It was great for the first time to be able properly to identify moths which did not readily allow identification from Skinner or Waring. At times there were in fact just too many moths in the trap – one night in the Lot region we had 600-700 moths in the Heath trap, including the huge and fabulous hawk-moth *Marumba quercus*, which has never made it to the UK.

Anne-Marie Smout