

CNS



CARDIFF NATURALISTS' SOCIETY

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Cover photo © “Maddy” from Dr Rhys Jones’s article

Saturday 2nd July

Start time 10am

Swansea

All day (packed lunch)

Botanist Charles Hipkin from Swansea University will be leading us around Pant-y-Sais Fen and the Tennant Canal near Swansea. The Fen is one of the few wetlands remaining in the area and is an SSSI – adjacent to it is the Tennant Canal. Drive through Jersey Marine village (from the Amazon end) and just after you pass through the village there's a right turn into a large parking area (SS717943). No facilities.

Sunday 3rd July

Start time 10am

Coedarhydyglyn

All day (packed lunch)

A chance to see this fine private arboretum near Culverhouse Cross with tree expert Tony Titchen. The owner of the house and garden, Rhodri Traherne, has kindly allowed us full access to the garden and arboretum with its great views over the Vale of Glamorgan. From Culverhouse Cross head up the Tumble on the A48 towards Cowbridge. After the Traherne Arms on your left and as the road curves left at the top turn right into an unmarked side road although a safer option is to take the next left, turn right on reaching the Downs and right again to head back down the A48 now turning left down the side road. Turn left into Coedarhydyglyn through two sets of gates, down the drive, pass the house on your left and park in front of the stable block (CF5 6SF or ST 10486/75169) No facilities so use Tescos or Marks and Spencers at Culverhouse Cross.

Saturday 16th July

Start time 10am

Parc Bryn Bach

All day (packed lunch)

A visit to this South Wales Valleys park with its 340 acres of mixed grass and woodland plus 36 acre lake. We hope to have a guided tour of the site before setting off for some wildlife foraging in the surrounding countryside. Visitor Centre has toilets, restaurant, gift shop and information centre. Address is Merthyr Road, Tredegar. Location NP22 3AY or SO 12551/10240. The park is signposted off the A 465, Heads of the Valleys Road near Tredegar.

Thursday 28th July
Start time 6.30

Hailey Park, Cardiff
2 hours

We return to Hailey Park, Llandaff, for a public walk with the Friends of Hailey Park. Last year we used sweep nets to catch insects and will repeat that successful exercise this time but there are always some interesting flora and birds to see. Meet at the Hailey Park car park, Radyr Road entrance.

Thursday 11th August
Start time 6.30pm

Cardiff Bay
2 hours

A gentle walk around parts of Cardiff Bay looking at the building stones and associated geology in the company of Lynda Garfield and Dave Wellings. Meet at the junction of Bute Street and James Street, Cardiff Bay. Finish around 8.30pm in the Scott Harbour area

Our website continues to be popular with its own dedicated search page at <http://cardiffnaturalists.org.uk/htmlfiles/searchpage.htm> where you can look for information knowing it has come from our own high quality newsletters

Latest news from the CNS Blogosphere is that we have added subscribe by email functionality so you can put your email address in and get an update direct to your inbox every day that someone posts something. It's well worth doing as it means you get to know the very latest information without needing to go and check so often. Please register for the email updates at <http://cardiffnaturalists.blogspot.com/> If you would like to join in with the blog to report interesting sightings please contact me at info@cardiffnaturalists.org.uk

I still have a number of members email addresses that fail when I try and send reminders. Please ensure I have your latest address by sending an email to info@cardiffnaturalists.org.uk asking to be put on the members lists

And if you have any ideas for publicising the society to attract new members please contact any council member

Regards
Andy

Effects of cleaning stations on dark damselfish territorial behaviour

by Zalina Bashir Ali

Located in Man-O-War Bay at the northern tip of the island of Tobago, is Charlotteville; a small fishing village which annually plays host to Cardiff University's Marine Ecology field trip. Here, three stunning coral reefs, namely Pirates, Turpin's and Booby, are strategically located at the doorstep of Man-O-War Bay Cottages, the customary residence of field trip participants. Each year, Man-O-War Bay's reefs provide enthusiastic students with the perfect opportunity to explore one of the most diverse ecosystems on Earth. Like many other Caribbean coral reefs, Pirates, Turpin's and Booby Reefs are home to some of the most colourful and fascinating, but also elusive, species of tropical fish, crustaceans and invertebrates one could imagine.

With such a diversity of organisms co-inhabiting a single ecosystem, it is only natural that interactions between different reef inhabitants should become increasingly inevitable. As a result, snorkelers and divers may all too frequently become aware of the mutualistic, symbiotic and even parasitic interactions between different reef species; as well as instances of courtship, predation, or agonistic behaviours. During the field trip in June 2010, a particularly noticeable interaction was commonly observed between territorial damselfish, *Stegastes* spp., and the reef fish intruding their territories. Indeed, the aggressiveness with which the little damselfish – usually only 8-13 cm long; defended their territories against much larger intruders never failed to amaze onlookers. Soon enough damselfish became the subject of study of many student-lead projects.

Damselfish and cleaning stations: the dilemma

Damselfish are also known as the “gardeners of the reef” as they culture and aggressively defend patches of algal covered reef bed, approximately 1.5 m² in size. Territorial defence often involves a territory holder chasing off intruding fish by nipping at their fins. Damselfish tend to be especially hostile towards large, herbivorous reef fish which are capable of ravaging their much treasured algal garden within mere minutes. Yet,

species such as parrotfish continue to pose a risk to damselfish as they may severely cripple the latter's available food source, which consists mainly of the cultivated algal carpet and the benthic invertebrates inhabiting it.

At the same time, the intense guarding of territories by damselfish severely limits access to large parts of the reef by other fish, especially since damselfish territories may occasionally take up most of available reef (up to 70% in some areas). Frequently, this means that access may also be restricted to areas containing cleaning stations – locations, such as large coral heads, where marine species assemble to be cleaned of ectoparasites. Cleaning is commonly carried out by cleaner wrasses and gobies, or by cleaner shrimps; all of which feed on the ectoparasites, scales, diseased tissues and mucus of visiting client fish.

On Booby Reef, where the current study was carried out, cleaning stations were commonly occupied by sharknose gobies, *Elacatinus evelynae*, and juvenile French angelfish, *Pomacanthus paru*. Since these cleaner fish generally do not leave their cleaning station in search of clients, they depend strongly on the amount of clients which visit the station during the course of the day. A conflict of interests arises when a damselfish territory coincidentally overlaps a cleaning station; its territory holder threatening to ward off any potential clients which may try to approach the cleaning station. If the damselfish successfully deters most fish which enter its territory, cleaner fish will undoubtedly suffer a severely limited clientele. Conversely, if damselfish were to indiscriminately allow fish into their territory, they would drastically increase the risk of their algal garden being ravaged by intruders. Despite this conflict of interests, cleaning stations which were overlapped by damselfish territories were anything but a rare sight in Man-O-War Bay, indicating that damselfish and cleaner fish could nonetheless successfully co-inhabit a shared plot of reef. It was consequently suggested that a certain level of tolerance may be present between both species which allowed them to sustainably coexist.

An investigation was thus carried out into the extent and ways in which damselfish and cleaner fish tolerated each other's presence when their territories overlapped on a coral reef. The study was conducted on

Booby Reef, Charloteville, and particular focus was given to the cooperative role played by damselfish in this relationship. It was predicted that a damselfish would adopt less aggressive behaviour when its territory overlapped a cleaning station as compared to when it did not. Subsequently, interactions between territorial damselfish, sharknose gobies and reef fish entering the damselfish territories were observed; and the aggression levels of damselfish were quantified by the proportions of intruding fish which were chased out of the territory upon entering ('chase-off rates').

Lower damselfish aggression near cleaning stations

It was observed that damselfish whose territories overlapped a cleaning station were significantly less aggressive than damselfish whose territories did not overlap a cleaning station. Despite similar numbers of intruders entering both cleaning sites (damselfish territory + cleaning station) and non-cleaning sites (damselfish territory only), over 50% more intruders were chased out of non-cleaning sites. It was therefore concluded that the presence of a cleaning station did indeed reduce the aggressive behaviour of territorial damselfish. However, the exact nature of how damselfish came to tolerate territorial intrusions by other reef fish, when in the vicinity of a cleaning station, remained a question. Hence, two possible hypotheses were proposed to explain this scenario.

The first possibility was that less aggressive territorial behaviour may have been selected for in damselfish near cleaning stations in order to reduce instances of sharknose gobies abandoning their cleaning station due to a lack of clients. While sharknose gobies may freely migrate between several cleaning stations within their home range, damselfish do not abandon their territories and rarely ever visit cleaning stations outside of their own territory. Thus, the migration of sharknose gobies out of a damselfish territory would almost certainly mean that the damselfish holding the said territory would lose the opportunity of being cleaned. It is thus thought that damselfish may allow more fish into their territory in order to allow a sustainable number of clients to reach the cleaning station and thereby keep the sharknose gobies from leaving. However, the proposed theory only works for damselfish if the benefit of being cleaned by cleaner fish outweighs the costs of allowing more fish into the territory. Although this is possible, it is unlikely to be the case. This is

because damsselfish naturally carry very low burdens of gnathiid isopods (ectoparasites), and cleaning by sharknose gobies is thus unlikely to have a significant positive impact on damsselfish fitness. A second hypothesis thus proposed that damsselfish aggression may have instead been reduced directly by the tactile stimulation provided by cleaner gobies during cleaning.

The role of tactile stimulation

Tactile stimulation is the stimulation obtained during direct contact between two individuals, in this case sharknose gobies and damsselfish. Previous studies have shown that tactile stimulation by another species of cleaner fish, the cleaner wrasse, *Labroides dimidiatus*, successfully acts as a mechanism which reduces the aggression of predatory fish. Although cleaner gobies are unlikely to be predated by damsselfish, it is possible that cleaners may also be able to use tactile stimulation to reduce damsselfish aggression towards potential client fish. In the current experiment, the presence or absence of tactile stimulation by sharknose gobies may therefore have accounted for the different aggression levels of damsselfish at cleaning and at non-cleaning sites. Though it is possible for damsselfish at non-cleaning sites to have obtained tactile stimulation at cleaning stations elsewhere, this possibility is very low as damsselfish rarely ever visit cleaning stations which are located more than 2 m away from their own territory.

If tactile stimulation does indeed directly reduce the aggression of territorial damsselfish, sharknose gobies would certainly benefit from providing tactile stimulation the territory holder.

Despite the fact that damsselfish are generally not a preferred client of cleaner fish, it was observed that sharknose gobies frequently attended to damsselfish which posed at their cleaning station. Even so, sharknose gobies usually cleaned damsselfish in relatively short cleaning bouts which seldom lasted for more than a few seconds. This obviously differed from the usual 2-5 min long cleaning bouts of gobies on other client species. It is possible that the seeming reluctance of sharknose gobies to clean damsselfish may have resulted from the low ectoparasite burdens on damsselfish. Damsselfish on the other hand responded by returning to the cleaning station repeatedly, occasionally for up to 5 times in a row. Despite the fact that damsselfish provide a poor food source (due

to low ectoparasite burdens) and are not a preferred client of sharknose gobies, every consecutive visit was nonetheless met by the obligatory inspection by a cleaner – whereby a sharknose goby would swim up to the damselfish, inspect and then possibly glean it. This indicated that, while sharknose gobies may not benefit much from cleaning the lowly parasitized damselfish, they readily provided ‘superficial cleaning’ and thereby also tactile stimulation to damselfish.

While it cannot be confirmed that damselfish seek tactile stimulation instead of actual cleaning when visiting a cleaning station, their frequent visits to cleaning stations despite the lack of physical ailment suggests just that. In support, previous research has found that damselfish whose territories overlap a cleaning station tend to visit these on average once every 15-20 min. It also provides an indication that cleaner gobies may actively play a role in reducing chase-off rates of potential clients by damselfish, by simply providing tactile stimulation to the latter. This in turn reduces the aggression levels of the damselfish, and allows cleaners to benefit from a subsequently larger clientele. While the current study has provided an important insight into the mechanisms which may sustain the coexistence of damselfish and sharknose gobies on Caribbean coral reefs, future studies will be essential in order to confirm these suggestions.

Zalina

Zalina Bashir Ali was the winner of this years Cardiff Naturalist’ Society Bioscience Prize. Zalina gave us an excellent lecture on the above subject at one of our evening meetings. All present were very impressed by the quality and content of her talk, if this is her 2nd years work we would love to see her final years. We all wish her success in here future career

<p>Copy for the September newsletter please by 17th August 2011 Ed</p>
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FIELD TRIP TO MERTHYR MAWR



Candleston Castle

A damp start to the day had dissipated by the time we assembled at Candleston car park and the rest of the day just got better and better. Steve Howe took us first to the nearby ruin of Candleston Castle. Started in the late 14th century by the de Cantelupe family and added to over the centuries it was last occupied in the early 19th century.



The Fireplace

Geology can help with dating as Steve pointed out, so that whilst the bulk of the stone used on the castle was Carboniferous Limestone, the bottom pier on either side of the fireplace consisted of Sutton Stone that was not used as a building stone much after the 14th century. Sutton Stone is the only



Sutton Stone

natural freestone found in Wales and was easy to carve. It contains distinctive holes occupied originally by pebbles such as chert but in many cases the pebbles will have dropped out. Above this stone were some blocks of Quarella

sandstone which would probably have been quarried near Bridgend where it can also be seen outcropping. This stone permits more intricate carving.

This geological skirmish set the pattern for the next few hours. Merthyr Mawr's sandunes have been claimed to be the highest in Europe although the reality is that they represent a sand layer on top of a hill of limestone. Purists argue that a sand dune should consist purely of sand so the accolade for the highest in Europe goes to the Dune of Pilat opposite the Point of Cap Ferret near Bordeaux. Merthyr's sand dunes result from glacial movement that deposited sand followed by strong westerly gales which banked it up above the high tide mark during the 12th and subsequent centuries.



Winterbourne

From here we headed north in the general direction of Candleston Farm immediately encountering a watercourse that is dry by the summer but

with the recent rain was quite extensive. This is referred to as a winterbourne and has given its name to many villages in Dorset, Sussex, Wiltshire and Gloucestershire. It is typical of limestone areas. Further along we came to a shallow valley on the right with a small stream flowing through. Steve explained that the disproportionately wide valley would have been caused millennia ago by melting glacial waters which sat over the coal measures of the South Wales valleys. The term for such a stream is a 'misfit' and these can be found all over the Vale of Glamorgan.



Misfit Stream

As we ascended a stony path a small quarry on our left attracted the attention of the geologists in our party and Lynda Garfield was soon tapping away with her hammer. The result was a find of barites, a mineral consisting of barium sulphate and the source of the barium meal which some members may have taken as it shows up on X-rays but is not absorbed by the digestive tracts. Also



Barites and Malachite

visible in the rock were flecks of malachite, a green copper carbonate mineral and our first botanical connection. The name derives from the Greek meaning a mallow-green stone based on its resemblance to the leaves of the mallow plant. This was a new record for the RIGS project (Regionally Important Geological and geomorphological Sites) which several of the group were actively involved with.



Coppiced Woods



Sea Buckthorn

With the ascent over, views opened up north towards the Valleys which Steve noted would, several thousand years ago, have afforded a perspective of the glacier that has contributed so much to the South Wales landscape structure. Here one can find the predominant Pennant Sandstone dating back over 300 million years – around 100 million years older than the Quarella Sandstone we had seen earlier. We now plunged back into the dune system of Merthyr Mawr, passing through a heavily coppiced area of hazel noting Moschatel, *Adoxa moschatellina*, in abundance and Jews Ear fungus



Lunch and Porthcawl beyond

(now more commonly known as Jelly ear), *Auricularia auricular-judae*. Attempts had clearly been made to control the ubiquitous Sea Buckthorn, *Hippophae rhamnoides*, but the shrub is a

brute to remove. With views opening up across to Porthcawl we headed towards the beach to take lunch perched on the edge of the dunes.

After lunch we rambled south-east along the beach taking time to look for fossils, rock formations and pebbles. Steve pointed out the scraps of Trias deposits which had survived erosion, overlying the Carboniferous Limestone. Mauve-red



Triassic pebble with coral fossil



Longshore

coloured pebbles were identified as Old Red Sandstone with the yellow-ochre ones proving to be flint. It is assumed that these have come from the flint deposits within chalk in the Irish Sea that have been swept up the Bristol Channel. Syringipora was one of

several fossils noted. Lumps of coal are likely to have originated from ship's cargoes and nearby power stations and steelworks.

On reaching the Ogmore river, the notable feature was the longshore drift where the pebble spit was altering the egress of the river onto the beach, forcing it to nibble away at the rocky banks on the south side of the river. Looking across to the left of the houses at Ogmore a



Continental Cormorants

prominent indentation along the hilly ridge marked the sites of the Sutton stone quarries that would have sourced the building stones we noted at Candleston Castle several hours earlier. Heading upriver we were treated to the usual

interesting mix of birds including the continental form of the Cormorant, Teal, Curlew, Redshank, Greater Black-backed Gull, Common Gull, Black-headed Gull and Herring Gull. Goldeneye and Goosander provided the added bonus.



Old Sutton Stone quarries along the ridge

A fine day out with good weather, a wealth of information and interpretation from Steve and some healthy exercise after our long hard winter.

Bruce McDonald

Solitary bees, bee-flies and flies by the Taff at Radyr Easter 2011

It was April when I kept watch on a colony of Solitary mining bees (*Andrena*). The insects were tunnelling in the crumbling vertical walls of an earth mound several yards across on land rising steeply from the west bank of the Taff at Radyr. On top was a big multi-rooted sycamore holding the whole together, while the surface was loosely draped with trailing ivy and wefts of cobweb decorated with fallen sycamore flowers and willow fluff.

Several score burrow mouths, up to an inch or more across, were quite widely spaced on bare soil faces. Some entered stable earth but surfaces below often consisted of tiny earth crumbs such as those found in anthills. Burrow are said to be as much as 2 feet deep with up to 6 sides branches, each housing 1 bee larva. The bee digs with her forefeet and pushes the earth crumbs out with her hind feet.

The tunnelers, with 4 narrow black stripes across the yellow abdomen, dark thorax and orange antennae, resembled small honey bees, All were female (males are black), roving to and fro a few inches above the burrow mouths. When the sun shone directly on this SE face, 20 or so might be visible at once, but markedly less when the sun moved round to leave them in the shade.

Andrena, like other bees, feed on nectar and pollen, both produced in abundance here through March and April by willow catkins and sycamore flowers (only those in the central part of the sycamore tassels getting pollinated) I saw no adherent pollen, but some bees were wiping their abdomen with hind legs, as though to free foreign particles,

When first spotted, in bright sunshine, several dozen greater bee-flies (*Bombylius major*) were flying among the true bees. These are parasitic on them. They drop their white eggs near the burrow entrances, the larvae hatching and making their way into the orifice, first to eat the stored pollen:nectar balls and then the bee larvae.

This spectacle occurred more than a month after I had watched greater bee flies sipping nectar from prim-rose, cuckoo-flower and forget-me-not. They appeared to be hovering, the body motionless, as each long proboscis probed the flower, because the wings continued their rapid

vibration. Actually they were clinging on with one pair of legs. Only when they came to earth did the wing vibration cease.

After laying an egg on each pollen ball in her burrow, the female *Andrena* seals the entrance after surfacing, and then dies. As both they and their larger parasites were present together in late April, it seems that the latter could have been adults loitering with intent to lay eggs or emerging youngsters? There is much we don't know.

Another insect spectacle this spring has been the simmering hordes of hovering St Marks flies (*Bibio marci*) – large, black and altogether more formidable looking than the sometimes abundant swarms of mayflies later in the year.

The air was full of them over the hawthorn dotted grassy river flats in the bend of the Taff SE of the old Radyr shunting yards – now a monstrous new housing estate - with fewer on the allotments a week earlier at the run up to Easter. Their diagnostic feature is the bundle of long black legs trailing obliquely below and behind as they fly.

It is the male insects that we see this time, hovering with intent to copulate with females skulking in the rough grass below, but rising to the occasion when seduced.

And the butterflies? Orange-tips and speckled woods seem to have been in greatest profusion in my neck-of-the-woods during April



Mary E Gillham

Mining bee (*Andrena*)
Photo insectpix

Conservation and Research at the National Botanic Garden of Wales

By Dr Natasha de Vere

Dr Natasha de Vere is head of Conservation and Research at the National Botanic Garden of Wales and at our indoor meeting in March gave us an inside view into the cutting edge science being carried out at the centre.

‘Barcode Wales’ is a project which aims to DNA barcode all the native flowering plants in Wales (that’s 1143 species!) and to use these barcodes for biodiversity conservation and to improve people’s lives. Natasha explained how these barcodes will make it possible to identify any plant species in Wales from the tiniest fragment of leaf, seed or even pollen grain! A reference barcode is created for each species and then unknown DNA sequences can be compared to these in order to find out what they are and therefore identify the unknown plant species. This technique has many wide ranging applications including; assisting in forensic investigations by being able to identify plant fragments found on clothing or at crime scenes, identifying exactly what pollen is present in the atmosphere to monitor the effects of hay fever and help to understand the habitat requirements of endangered animals by finding out what plants they eat at different times of the year from faecal samples. Natasha has a team of volunteers and students behind her to help in all areas of this work, including identifying plants species in the field (the old fashioned way!) to ensure that each species is correctly identified as the source material for each DNA barcode. You can also sponsor your very own barcode!

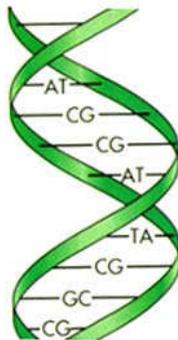
Waun Las Grasslands is a National Nature Reserve located right next to the Gardens. It is used to investigate the effects of targeted grassland management and restoration to improve the overall biodiversity of grasslands areas. Most of the changes will come through careful management of the Garden’s very own herd of Welsh Black Cattle but some more extreme conservation measures have also been used. A

300m² of pasture was translocated from a site due to be lost through development to a suitable site within the grasslands. The meadow thistle was one of the key species to be conserved in this translocation as it is an important indicator species for this habitat type. Needless to say it is now thriving in its new home!

The Welsh Rare Plants Project works on some of the most endangered plant species in Wales to ensure their long term survival. Many different institutions are involved in this project with each taking the lead on various species. Work is carried out both in the Garden and in the natural habitat to provide effective conservation for these threatened species. The origins, taxonomy, habitat requirements and status of the rare plants are investigated so that recommendations on how they should be conserved and managed can be provided.

Shortly after hearing this talk it was reported in the news that the Barcode Wales Project had been completed. Wales was the first country in the world to DNA barcode all of its native flowering plant species thanks to the cutting edge work being carried out at the National Botanic Garden of Wales.

Claire James



FIELD TRIP TO SOUTHGATE

26th March 2011



Crossing Pennard Phill

Our previous trip to Southgate on Gower was something of a wash-out so we were hoping for less inclement weather. We were not disappointed as there was patchy cloud at the beginning and wall-to-wall sunshine by the end. Our principal objective was to take a look at the Yellow Whitlow-Grass, *Draba azoides*, and it took just a minute to achieve that aim as a small but very accessible patch

was growing on a rock less than 100 yards from the car park. More of that anon.

This is a stunning stretch of coastline as we looked down on the modest little beach at Foxhole. Gower has numerous caves and we had two a short distance away to the east, accessible but a bit of a scramble which we reserved for a future field trip. Bacon Hole has revealed the bones of straight-tusked elephant, soft-nosed rhino, giant ox, bison and reindeer. Also wolf and hyena and as with all the caves in the area the assumption is that many of the carcasses would have been dragged up to the caves by the latter. A little nearer is Minchin Hole, the largest bone cave on Gower, which included many of the bones found at Bacon Hole along with Cave Bear. There have also been signs of human occupation during Roman times and the subsequent 'dark ages' suggesting that the cave could have provided a refuge in troubled times.

Gorse was in full flower indicating it to be Common Gorse, *Ulex europaeus*, which usually flowers through Autumn and Winter but most strongly in Spring. Western Gorse, *Ulex gallii*, in contrast, flowers around August and September. Furze and Whin are other names for gorse and these words appear often in place names. The Whinchat is also so named because of its association with the shrub and Stonechat and Dartford Warbler (which one of the party heard calling) find it good for

nesting. Despite its somewhat ferocious appearance gorse has many uses. The flowers are edible in salads and are made into tea and being high in protein make good fodder for animals. Wild ponies will eat gorse as it is but it used to be crushed with mallets or milled to make it more palatable for domestic cattle or horses. The word derives from the Anglo-Saxon 'gorst' referring to a waste place which epitomises its typical habitat but it has some local associations. Caldey Island has the only commercial perfumery which utilises oil of gorse and at Dolaucothi it was an essential element in the Roman method of gold extraction.

Water was brought by aqueduct from the Cothi and stored in a substantial tank which was then released and the hundreds of thousands of gallons of water scoured the rock. This was directed into channels partially dammed with gorse which held the filtered heavy gold fragments. Finally the gorse would be burnt to release the metal.



Yellow Whitlow Grass

We had seen the Yellow Whitlow Grass close to the car park but further clumps were evident along the tops of the cliffs wherever it was safe from nibbling sheep. The plant is found along this stretch of Gower and nowhere else in Britain, being first commented on by John Lucas near Worms Head in 1795 and then formally recorded by William Turton in 1803. It is understood that the Gower population is genetically distinct from the European mainland populations which are widespread in mountain locations such as the Alps and Pyrenees. The assumption is that it is a glacial remnant. The county flower of Glamorgan it is best known on the walls of Pennard Castle where, although it is made of Old Red Sandstone, the plant thrives on the lime-rich mortar. And why Whitlow? It was supposed to be a cure for whitlows – a painful inflammation of the finger-tips.

Another item of botanical interest, hiding modestly on the cliff faces, was Juniper, *Juniperus communis*, the smallest of our three native conifers with the other two, Scots Pine and Yew, also in the vicinity.

Juniper is absent from much of Britain but was one of the first plants to recolonise Britain following the last Ice Age and some 20% of the UK's population can be found within the Ministry of Defence's Porton Down establishment. A survey in 2003 found 210 plants on Gower spread between Rhosilli and Bishopston and these were all the subspecies *communis*.



Lunch in Ththree Cliffs Bay

Having paused to take in the breathtaking views over Three Cliffs Bay, our route took us inland to Pennard Castle which was appropriately clothed in more Yellow Whitlow Grass. The castle was originally a 12th century construction by Henry de Beaumont, 1st Earl of Warwick, and

consisted of a bank, ditch and primitive stone hall. It was then rebuilt in sandstone and limestone in the late 13th and early 14th century. Whilst local legend ascribes the demise of the castle to the Tylwyth Teg, the local fairies, who had been affronted by the boorish behaviour of Prince Rhys ap Iestyn, the more prosaic explanation is the



Glow worm larva



Pennard chambered cairn

besanding of the area which led to the abandonment of the nearby St Mary's church in 1532.

From here we dropped down to cross the Pennard Pill via stepping stones to take lunch on sand dunes overlooking the beach. It was here the previous week that the photo was taken of a Glow worm which Linda pointed out was the larva, distinguishable from the similar adult female by the pairs of pale markings on each segment. For

those with any energy left a quick ascent of the dunes to the west brought us to a burial chamber, the Pennard chambered cairn. Its original size is difficult to ascertain as parts are missing and parts buried under sand but it has a clear transept and entry passage and is of the Severn Cotswold type as is the nearby Parc le Breos burial chamber. It has a 7 ton capstone with a main chamber measuring around 4 metres by 2. Excavated in 1860 and again in 1881, the main finds were a fragment of a human jaw, the handle of a bone tool, some animal bones and pottery of an unknown date.



Limekilns in the dunes

A short way beyond this is a well-restored lime-kiln. These are very much a feature of those parts of South Wales with underlying limestone and the lime was used both locally on fields and buildings but also exported to the West Country. The beach at Pwll Du a couple of miles to the east of us was a major exporting point for the limestone (see Issue 78). This kiln included two ‘ovens’ and the hole at the top down which the material was introduced clearly demonstrated the process. With most of our disused limekilns the hole has become filled with debris and vegetation.

The balmy weather accompanied us on our return journey. Invertebrates had been somewhat scarce apart from a few Bloody-nosed Beetles but Linda managed to find a dessicated Oil Beetle specimen – too shrivelled for positive identification but the assumption was that it was the Black, *Meloe proscarabaeus*.

Bruce McDonald
Photos by Bruce McDonald

Dear Cardiff Naturalists,

Looking back at my records I could not believe that I haven't spoken for you since 2001. It was then with utter horror that I realised that somehow the dates for my proposed talk with you had somehow been mixed up. I was utterly inconsolable when I realised what had happened, made all the worse as I had some amazing photographs and stories to share with you all. I understand that you were very sympathetic of the situation and please know that of all the talks I had booked this year it was your talk that I was actually most looking forward to giving! I appreciate that merely saying 'sorry' does not demonstrate how truly regretful I am of missing an opportunity to address you all. For this reason I have decided to write an article for you encompassing some of my recent work that is leading to new and exciting programme opportunities. This year is busy as ever for me having just published a paper for Cardiff and filming the second series of 'Rhys to the Rescue'. I am off to Africa (Kenya) soon and return to present the Royal Welsh Show for the third year in a row. I trust that you are all fit and well and look forward to talking for you soon. For now, I hope you enjoy your article.

Kindest regards

Rhys

GETTING UNDER THE FUR

When the conversation turns to wolf it conjures an almost supernatural mix of mysticism and fear. Current movies such as the twilight saga have assisted in re-inventing the animal's image, remoulding society's perception of the wolf. The reality of course could not be more remote from our prejudice; wild canids are shy, secretive animals content to avoid human contact in all but the most extreme circumstances.

I grew up on the outskirts of Cardiff taking every opportunity to watch downwind of the local foxes as they hunted and played in Fairwater Park. I learnt a huge amount about fox behaviour and followed in my mother's footsteps, captivated by Britain's last wild canid. This love of the fox naturally progressed into an interest for larger more exotic canids and ultimately the wolf.

I had worked with both Inuits, Czech wolf dogs and wolf hybrids at Sylvia VanAtta's Many Tears Rescue centre in West Wales. Many Tears take in and rehome primarily ex-breeding dogs who are no longer required; those on "death row" in the pounds and those whose owners are no longer able to keep them. The experience I gained at Many Tears was invaluable but didn't curb my hunger to work with wolves.

A chance conversation introduced me to Tony Haighway. Tony is the director of Wolf Watch UK, a self-funding, not-for-profit, private membership wolf rescue group set in an exquisite wooded valley along the Welsh borders. On meeting, Tony and I sat down to a tea and immediately struck up an engaging debate on animal behaviour, the ecology of the sanctuary and of course wolves. Having established a good working relationship I was invited to walk the valley sanctuary and continue our conversation. We arrived at a clearing overlooking a blanket of forest with a small lake at its base.

'Do you howl Rhys?' although a seemingly bizarre question it seemed a completely normal thing to ask here. Cupping my hands together I cried across the valley to the seemingly empty forest. To my utter astonishment my

call was acknowledged by not one but three wolves, all harmonising with my cry. My reaction intrigued me. Instantly I felt the hairs on the back of my neck raised, my eyes widened, the blood rushed from my stomach and I felt my legs buckle as if flexing in an inherent fear response. The excitement was intoxicating and I HAD to see who was calling.



Hoax: One of Sylvia VanAtta's beautiful wolf hybrids.

As we walked to the base of the forest I was asked to sit on a log. I was instructed that meeting a wolf is on their terms and not ours. I would have been happy to catch a glimpse of a fleeting wolf through my binoculars but I was totally unprepared for what I was about to encounter. Into the clearing came a magnificent female wolf, Maddy. Although

lighter than her male companion she still must have weighed in at over 50lbs (23kg). Almost quizzical in her response to this Welshman sat on a log in front of her, she trotted over - nose aloft, making the most of her impressive winter coat that maximised her size and appearance. In a heartbeat she had quicken her pace and thrown her enormous 20cm paws either side of my neck and muzzled my face with her 2.5cm canines. Course long fur under my fingertips, warm breath on my face, fear, giving way to elation, the weight, the strength and a meeting of almost human eyes. It was a sobering moment but a privilege I will never forget. Wolves can bite down at well over 400lb per sq. inch - but she was as gentle as a lamb. Instead of ‘popping’ my skull I was merely subjected to a ‘wolfwash’ whilst her huge frame loomed over me. Tony just smiled and said ‘you must have wolf pheromones, she doesn’t greet many people like that’.

I had been ‘bitten’, baptised in a fusion of sound and fear, initiated into the brotherhood of the wolf. I knew that this would just be the beginning of my journey, not the end. I knew that somehow I would be travelling to work with these animals across the globe from Alaska to Russia. I had to find out more. Little did I know that my call would be answered so quickly and that opportunities to work with the wolf would present themselves so freely. So the adventure begins.....



Majestic Maddy : In a heartbeat she was upon me.



Kato: working with Inuits at Many Tears rescue centre

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CARDIFF GARDEN WILDLIFE SURVEY

At a recent meeting of the Cardiff Biodiversity Partnership which I attend on behalf of CNS, my attention was drawn to the May edition of Capital Times which contains a centre-spread questionnaire about wildlife in Cardiff gardens. The survey is being run in conjunction with the Wildlife Trust and I would urge all city-dwelling members to participate. The information will be invaluable in building up a comprehensive picture of Cardiff's flora and fauna. Laura Palmer, the Council ecologist, also hopes to continue with a regular 'Biodiversity Corner' in the publication.

The partnership meeting was held in the Warden's hut at Forest Farm. Unfortunately, the hut had been broken into and a new cooker stolen so we had to wait for the warden with his power tool to unscrew the fixings of a board patching over the smashed door before we could gain access. It is such a shame that the site continues to be a target for thieves and vandals.

However, wildlife there still flourishes. Two jays raided the hanging seed feeder followed by a couple of greenfinches and a female blackcap flew off with a grub for its young. I was impressed by the attractive new pond behind the Warden's centre too.

Linda Nottage

FOOTPRINTS ON THE SANDS OF TIME

The Life of
Colonel Harry Morrey Salmon
CBE MC DL DSc



*Eminent Welsh Naturalist, Conservationist,
Ornithologist, Bird Photographer
and Soldier*

Norman & Hugh Salmon



Hailed as “Welsh Ornithologist of the Century” and the “Father of British bird photography” this book traces Morrey Salmon’s early interest in birds, taking his first photograph in 1909. The same year, aged 18, he volunteers to join the army’s Territorial Force. A year later he becomes a member of Cardiff Naturalists’ Society and soon afterwards the prestigious Zoological Photographic Club. In 1914 his first illustrated articles on birds are published in *Wild Life*, a nationwide magazine.

The Great War (1914-1918) intervenes and Morrey serves with gallantry as a Company officer in The Welch Regiment in the battlefields around Ypres and Flanders. Included are graphic personal descriptions of actual actions in which he was involved.

He returns to the family business but for the next twenty years he spends all available free time to enhance his reputation as an ornithologist and conservationist, especially in Wales.

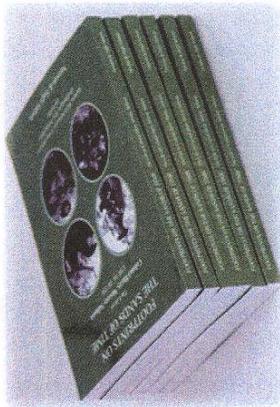
Once again, another World War (1939-1945) intervenes and despite being over age at forty-eight Morrey is determined to serve his country on active service. He succeeds as a commander of distinction in North Africa and Italy.

Returning to civilian life in 1946 Morrey continues to run his family business but appoints a full time manager to enable him to pursue his ornithological, conservation and public service interests over the next forty years. This includes being Treasurer of the National Museum of Wales from 1962 to 1982 and membership of local and national organisations concerned with conservation.

Morrey’s achievements culminated in the award of degree of Doctor of Science, *honoris causa*, by the University of Wales in 1982.

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