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The Gloucestershire Naturalist



No.24

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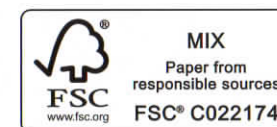
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Cover photo: *Nothofagus alpina* (left) and *Nothofagus obliqua* (right), Welshbury Wood, 30th April 2012. (Photo: C & M Kitchen)

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Editorial

2012 started out by being mild and stormy with some colder intervals, but very dry. Early spring was mild but then the drought that had been going on for the two previous years came to an end in April (as soon as the Met. Office confirmed it was a drought!) and it continued to rain for the rest of the year with June being the equal wettest on record. Summer never really got going and this is reflected in some of the recorders' reports that follow.

The end of 2012 saw several of our long-standing county recorders retire although happily they will continue as active naturalists in the county. Colin Twissell took over as Amphibian and Reptile recorder from Peter Burns in 1973 and has done sterling work ever since, monitoring the county's fauna. We welcome David Dewsbury as Colin's successor. Roger Gaunt has retired as the county Moth recorder having taken over from John Newton in 1988. Roger continues to produce a monthly moth newsletter which is always an interesting read. A measure of the amount of work that Roger did as recorder is that he has been succeeded by three recorders and we welcome Robert Homan, Michael Bradley and Neale Jordan-Mellersh. Details of all the new recorders can be found at the end of this publication, in the GNS News and on the Society's website at www.glosnats.org.

John Sanders is a new contributor to this magazine and having studied Gloucestershire's gulls for some years has now been studying Curlews on the River Severn and has written about their movements through colour-ring observations. John Harper has come back with the discovery of another spider species new to Gloucestershire.

Once again we have a wide range of recorders' reports and I would like to take this opportunity to thank all the contributors for all the hard work behind the scenes that goes into preparing these reports, work which is often not recognised by the general public or the organisations that make use of the information we supply.

Articles on the county's flora and fauna are always welcome and can be sent to the Editor at the addresses below. There are "Notes for Contributors" inside the back cover and a blank page setup can be emailed if requested.

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Notes on Contributors

David Scott-Langley has been GNS county recorder for Myriapods, Isopods, Harvestmen and Pseudoscorpions since 2000 and is caretaker for a number of other groups. He is currently Chairman of the GNS Scientific & Publications Sub-Committee and of the Society's Cirencester branch. He finds that working in the landscaping industry gives him access to otherwise unavailable sites for recording. He has also published works on the fauna of Foula, Shetland.

David Haigh was born in Scotland and completed his education in Wales. He started teaching in 1960 in the Midlands and in 1965 came to Cheltenham where he continued to teach until 2002. Since 1967, when he joined the GNS, he has been recording spiders in the county. He is a member of The British Arachnological Society and is Area Organiser for the Spider Recording Scheme.

Mark Kitchen and Clare Kitchen are a husband and wife team who have contributed very substantially to botanical recording since 1981, especially to the north-east of Bristol, their home being near Berkeley. They have jointly acted, since 1993, as Recorders for the Botanical Society of the British Isles for vice-counties 33 (East Gloucestershire) and 34 (West Gloucestershire). In 2008, in recognition of their considerable contribution to the county flora, the Gloucestershire Wildlife Trust presented them with the Armstrong Award.

Colin Twissell took over from Peter Burns as Reptile and Amphibian Recorder for Gloucestershire in 1973. He has had a lifelong interest in all aspects of natural history.

Ingrid Twissell has been the Dragonfly recorder for Gloucestershire since 1993, taking over from Sonia Holland. Her interests are not solely confined to this group as she enjoys other facets of the Natural World.

David Iliff was born in Dublin and grew up in southeast England. He moved to Gloucestershire in 1965 and joined the GNS, mainly for bird watching. During the 1970s he became increasingly interested in entomology and was appointed county hoverfly recorder after reviewing a book on the subject for the GNS Journal. He is the editor of the Hoverfly Newsletter which is published twice yearly by the Dipterists Forum. He has been the ladybird recorder since the early 1990s.

John Widgery was born in Hertfordshire and only moved to Gloucestershire in 2006, although involved in biological recording in the County since the mid-1990s. Has had a lifelong interest in natural history. Contributed to the botanical recording of Hertfordshire and Middlesex until the 1970s. Intensively involved in ornithology up to late 1980s during which he ringed over 50,000 birds for the British Trust for Ornithology. Serious involvement with entomology since 1990, he became recorder for Orthoptera and terrestrial Heteroptera in Hertfordshire soon afterwards. Held the position of National Recorder for Orthoptera between 1996 and 2002.

Juliet Bailey spent her childhood in Gloucestershire and after university worked for 15 years as an ecologist in London then Warwickshire. She returned to Gloucestershire in 1996 and now is fully occupied as an amateur naturalist and gardener.

John Sanders was born in Cheltenham. He began birdwatching in the county in 1954, and has been recorder and editor of the Gloucestershire Bird Report. He was a ringer for several years, and after joining the Severn Estuary Gull Group carried out a comprehensive study of gulls on landfill sites. Following the introduction of falcons in 2011 his attention has turned to Curlews, in an attempt to discover what impact the building of the proposed Severn barrage may have on their numbers.

John Harper was a colonial boy born in Bermuda, educated in Shetland, Luton and London. Taught biology for 20 years - the most rewarding being 10 years in Kenya. He now lives near Abergavenny and encounters so few naturalists in Wales that he travels all the way to GIG meetings for intelligent conversation, and to exchange ideas and techniques. These are used to good effect back in Wales which is proving really rewarding as there are many untapped invertebrate treasures to be found. His recording interests are too many - covering non-marine molluscs, woodlice, millipedes, centipedes, spiders, harvestmen, pseudoscorpions, hoverflies, water beetles, and various other small groups - according to the season.

Gloucestershire Botany Report 2012

Clare and Mark A.R. Kitchen

As in previous seasons botanical field recording concentrated on those taxa selected for the BSBI Threatened Plant Project. Species involved were *Anacamptis morio* (Green-winged Orchid), *Bupleurum tenuissimum* (Slender Hare's-ear), *Hypochaeris glabra* (Smooth Cat's-ear), *Orchis anthropophora* (Man Orchid), *Persicaria minor* (Small Water-pepper), *Ranunculus arvensis* (Corn Buttercup), *Tephrosia integrifolia* ssp. *integrifolia* (Field Fleawort) and *Vicia parviflora* (Slender Tare). With the exception of the *Persicaria*, all species were found to be still present in the county. In this very wet year one of its historic sites remained underwater throughout the late summer and autumn and it was not possible to reach the site. Some of the species targeted required visits to more than one site. The Green-winged Orchid and the Corn Buttercup were not refound at some of the historic localities that were visited.

The discovery of the year was that of *Pyrola rotundifolia* (Round-leaved Winter-green) (see Plate 27) found by Mervyn Greening and John Wells whilst bird-ringing. Although restricted to a single lake edge in the Cotswold Water Park, the colony was so extensive that it occurred in three contiguous 1km squares. Subsequent visits to the site revealed new populations of *Blysmus compressus* (Flat-sedge) (see Plate 24) and *Epipactis palustris* (Marsh Helleborine) both new for the Gloucestershire part of the water park. *Epipactis phyllanthes* (Green-flowered Helleborine), long thought of as a Cotswold Beechwood species was found in a second water park locality.

The excitement was not confined to east of the Severn, with a large population of *Myosurus minimus* (Mousetail) (see Plate 30), another find for Mervyn, turning up near Okle Green. The rediscovery of a species thought to be extinct in the county, *Hottonia palustris* (Water-Violet) (see Plate 26) growing on Walmore Common had last been recorded there exactly sixty years previously.

Thanks to all contributors for making this another interesting botanical year. We look forward to receiving your 2013 records.

The Records

Unless otherwise stated all records lie within the administrative county of Gloucestershire.

All nomenclature and taxonomic order follows *New Flora of the British Isles*, third edition, Clive Stace, Cambridge University Press 2010 and updates as published in BSBI News, excepting Hieracia which follows McCosh D.J. and Rich T.C.G. (2011). *Atlas of British and Irish Hawkweeds* (Pilosella L. and Hieracium L.) B.S.B.I., London.

Abbreviations used in the text.

NWM.....National Museum of Wales
VC Vice-County
VCR.....Vice-county Record
VCCC Vice-County Census Catalogue

Names of recorders and initial used in text:

Astle M.C.	MCA	Glos. Plant Group	GPG
Bailey B.	BB	Glos. Wildlife Trust	GWT
Bailey J.A.B.	JAB	Green D.E.	DEG
Beal R.	RBe	Greening M.	MG
Birch J.L.	JLB	Groom Q.J.	QJG
Bircher R.	RBi	Halpin C.	CH
Booth J.	JBo	Harley R.M.	RMH
Bradbury G.	GB	Harris A.	AH
Bradshaw P.	PB	Harris G.O.	GOH
Butler A.	AB	Hill D.	DH
Butler E.J.	EJB	Hilton P.B.	PBH
Button M.R.	MRB	Hyatt-Hudman D.	DH
Carter L.	LC	Ineson R.	RI
Caster K.	KCa	Jacks A.	AJ
Champken G.	GC	Jones D.	DJ
Clement E.J.	EJC	Kelsall R.	RK
Cohen K.	KC	Kingscott K.	KK
Colls H.V.	HVC	Kitchen C.	CK
Cooper R.J.	RJC	Kitchen M.A.R.	MARK
Copping A.	AC	Knowles A.	AK
Dewsbury D.	DD	Laney B.	BL
Doe J.R.	JRD	Lansdown R.V.	RVL
Dray M.	MD	Lloyd K.	KL
Elphick I.	IE	Lockton A.	AL
Elworthy J.	JE	Lovatt C.M.	CML
Evers C.S.	CSE	Martin J.P.	JPM
Fleming J.M.	JMF	Martin P.	PM
Foster C.	CF	McCosh D.J.	DJM
Foster D.	DF	McEllin A.	AM
Gibbs D.	DG	McEllin K.	KM
Gilliard J.	JG	McEllin M.	MM
Glos. Invertebrate Group	GIG	Meatheringham C.	CM
Glos. Naturalists' Society	GNS	Menendez C.T.	CTM

Meredith G.H.J.	GHJM	Silverside A.J.	AJS
Metcalf T.	TM	Skipp L.	LS
Palfrey M.J.	MJP	Smart M.	MS
Phillips A.	AP	Smith A.	AS
Phillips B.R.W.	BRWP	Spencer J.	JS
Phillips E.	EP	Spyvee R.	RS
Phillips V.E.	VEP	Studholme C.	CS
Polley V.	VP	Titchen A.C.	ACT
Pratt E.	EP	Tonks P.	PT
Ralphs I.L.	ILR	Ward M.	MW
Rich T.C.G.	TCGR	Wells J.	JWe
Ridlington T.	TR	Widgery J.	JW
Rumsey F.J.	FJR	Wilson P.A.	PAW
Sanders J.	JSa	Wiltshire Botanical Soc.	WBS

4/1/1 *Ophioglossum vulgatum* L., **Adder's-tongue**. Native. VC 34. Clarks Pool Meadows, Nibley Green, Awre C.P., SO60T, 6/5/2012 (JS), six spikes. Also 6/5/2012 (JAB and MS with GWT Habitats and Species Committee), very abundant. Gwen and Vera's Fields, Oxenhall C.P., SO62Y, 22/5/2012 (JRD, AH and KCa). Lawrence Weston, Bristol, ST57P, 10/5/2012 (RVL and PM), more than a hundred in damp grassland. Ridley Bottom Nature Reserve, Tidenham C.P., ST59U, 21/5/2012 (JRD, AH and KCa).

9/1/1 *Azolla filiculoides* Lam., **Water Fern**. Introduced-naturalised. VC 33. The Leigh, Leigh C.P., SO82T, 21/7/2011 (JAB, JLB, HVC, JRD, CK and MARK), in good quantity but very localised in rhyme.

13/1/5 *Asplenium adiantum-nigrum* L., **Black Spleenwort**. Native. VC 34. Bickley Wood, Hanham, Hanham Abbots C.P., ST67K, 29/2/2012 (JPM), locally frequent on many rock faces in woodland.

15/2/2 *Gymnocarpium robertianum* (Hoffm.) Newman, **Limestone Fern**. Native. VC 34. Sapperton, Sapperton C.P., SO90L, 5/7/2012 (PB), growing on canal portal where number of plants reduced from twenty-eight in 1995 to only fourteen.

15/3/1 *Cystopteris fragilis* (L.) Bernh., **Brittle Bladder-fern**. Native. VC 34. Cowcombe Wood, Minchinhampton C.P., SO80W, 17/4/2012 (JRD), two plants on side of quarry.

19/1/3 *Polypodium cambricum* L., **Southern Polypody**. Native. VC 34. Avon Gorge, Bristol, ST57S, 22/1/2012 (CML), quite abundant on rocks below the Portway, beside the River Avon.

20/7/3 *Pinus mugo* Turra ssp. *uncinata*, **Dwarf Mountain-pine**. Introduced-survivor. VC 34. Nailbridge, Cinderford C.P., SO61M, 30/3/2012 (CK, MARK and

ACT), a group of five trees on forest waste including two which had fallen over but were still alive and growing. First county and VCR.

23/9/1a *Juniperus communis* L. ssp. *communis*, **Common Juniper**. Native. VC 33. Juniper Hill, Painswick C.P., SO80U, 2012 (JE), young plants present.

30/1/8 *Papaver argemone* L., **Prickly Poppy**. Archaeophyte. VC 33. Gardner's Farm, Weston Subedge C.P., SP14F, 22/6/2012 (CK and MARK), occasional on second world war air raid shelter.

30/6/1 *Eschscholzia californica* Cham., **Californian Poppy**. Introduced-naturalised. VC 34. Purton, Hinton C.P., SO60X, 8/7/2012 (CK and MARK), on canal towpath.

30/12/7a *Fumaria officinalis* L. ssp. *officinalis*, **Common Fumitory**. Archaeophyte. VC 34. Brand Green, Newent C.P., SO72N, 12/6/2012 (JAB), several plants on soil heap.

31/1/4 *Berberis wilsoniae* Hemsl., **Mrs Wilson's Barberry**. Introduced-naturalised. VC 33. Cleeve Common, Southam C.P., SO92Y, 24/7/2011 (CK, MARK, CML and EP), single bush on edge of disused stone quarry. First county and VCR.

32/3/1 *Helleborus foetidus* L., **Stinking Hellebore**. Probably native. VC 34. Holywood Tower, Almondsbury C.P., ST57Q, 6/3/2012 (RVL), single plant in scrub.

32/3/3 *Helleborus viridis* L. ssp. *occidentalis* (Reut.) Schiffn., **Green Hellebore**. Native. VC 33. Eyford, Upper slaughter C.P., SP12M, 6/1/2012 (RVL), single plant on woodland slope. Gawcombe Woods, Westcote C.P., SP22A, 15/6/2012 (JRD and JMF), large patch with scattered outliers.

32/5/1 *Nigella damascena* L., **Love-in-a-mist**. Introduced-naturalised. VC 34. Purton, Hinton C.P., SO60X, 8/7/2012 (CK and MARK), two plants on Sharpness Canal towpath.

32/6/1 *Aconitum napellus* L., **Monk's-hood**. Native. VC 33. Gawcombe Woods, Westcote C.P., SP22A, 15/6/2012 (JRD and JMF).

32/7/1 *Consolida ajacis* (L.) Schur, **Larkspur**. Introduced-naturalised. VC 33. Near Whitminster SO70, 20/6/2012 (JPM), one large flowering plant on M5 motorway verge just north of junction 13.

32/13/8 *Ranunculus arvensis* L., **Corn Buttercup**. Archaeophyte. VC 33. Gardner's Farm, Aston Subedge C.P., SP14F, 22/6/2012 (CK and MARK), thousands of plants in rape field and additionally present in adjacent wheatfield at this known locality (see Plate 28). Knightsbridge, Elmstone Hardwicke C.P., SO82Y, 21/6/2012 (JAB, RJC, DH, CK, MARK and MJP), single plant by wheatfield edge at known locality.

32/13/10 *Ranunculus auricomus* L., **Goldilocks Buttercup**. Native. VC 33. Gawcombe Woods, Icomb C.P., and Westcote C.P., SP22A, 15/6/2012 (JRD and JMF), two populations. Slaughter Wood (South), Lower Slaughter C.P., SP12S, 29/5/2012 (JRD). Stow Bridge, Lower Slaughter C.P., SP12R, 29/5/2012 (JRD), in small alder coppice adjacent to west side of A429. VC 34. Cowcombe, Minchinhampton C.P., SP90A, 17/4/2012 (JRD), abundant along hedged bridlepath.

Gipsy Lane, Cowcombe, Minchinhampton C.P., SO90A, 7/4/2012 (JRD), small patch by hedge.

32/13/11 *Ranunculus sceleratus* L., **Celery-leaved Buttercup**. Native. VC 33. Pates Grammar School, Princess Elizabeth Way, Cheltenham, SO92G, 20/6/2012 (MD), three or four fruiting plants at pond margin in conservation area.

32/13/22 *Ranunculus baudotii* Godr., **Brackish Water-crowfoot**. Native. VC 34. Littleton Warth, Aust C.P., ST59V, 16/6/2012 (JPM), flowering in ditch.

32/15/1 *Myosurus minimus* L., **Mousetail**. Native. VC 34. West of Okle Green, Newent C.P., SO72M, 22/4/2012 (MG), many plants by field gateway and along otherwise bare cattle-trodden path through pasture at this new locality in the Ell Brook valley, a tributary of the River Leadon. Upham Meadow, Twynning C.P., SO93D, 6/7/2012 (JAB and MS), known locality.

32/17/1 *Aquilegia vulgaris* L., **Columbine**. Native but frequent escape from cultivation. VC 33. Guiting Wood, Temple Guiting C.P., SP02T, 22/5/2012 (JW), single pathside plant. VC 34. Saintlow Inclosure, Ruspidge C.P., SO61P, 24/5/2012 (JW), one plant by side of path. Tidenham Chase, Tidenham C.P., ST59P, 11/6/2012 (DEG).

32/18/3 *Thalictrum flavum* L., **Common Meadow-rue**. Native. VC 33. Coombe Hill Meadows, Deerhurst C.P., SO82T, 20/9/2012 (JPM), near the Grundon hide.

35/1/1 *Gunnera tinctoria* L., **Giant-rhubarb**. Introduced-naturalised. VC 34. Wibdon, Tidenham C.P., ST59T, 17/8/2011 (CK and MARK), on roadbank near dwelling. First VCR.

39/1/3 *Crassula helmsii* (Kirk) Cockayne, **New Zealand Pigmyweed**. Introduced-naturalised. VC 34. Lightmoor Pool, Ruspidge C.P., SO61L, 6/6/2012 (CK and MARK). Oldbury Nuclear Power Station, Oldbury-upon-Severn C.P., ST69C, 17/7/2011 (CK and MARK).

39/5/6 *Sedum telephium* L., **Orpine**. Native. VC 33. Northmoor Lane, South Cerney C.P., SU09P, 10/10/2012 (JRD), in roadside scrub.

39/5/10 *Sedum spurium* M. Bieb., **Caucasian-stonecrop**. Introduced-naturalised. VC 34. New Passage, Pilning and Severn Beach C.P., ST58N, 9/6/2012 (JPM).

42/6/1 *Galega officinalis* L., **Goat's-rue**. Introduced-naturalised. VC 34. Highnam Court, Highnam C.P., SO71Z, 24/6/2012 (JAB), single plant by roundabout verge.

42/8/2 *Astragalus danicus* Retz., **Purple Milk-vetch**. Native. VC 33. Cleeve Common, Prestbury C.P., SO92X, 26/5/2012 (JBo), several clumps. Probably previously unrecorded colony. Still in flower 24/7/2012 (JBo).

42/10/1 *Onobrychis viciifolia* Scop., **Sainfoin**. Possibly native. VC 33. Near Lineover Wood, Dowdeswell C.P., SO91Z, 28/4/2012 (CML), in field above wood.

42/21/15 *Lathyrus nissolia* L., **Grass Vetchling**. Native. VC 33. Gloucester, SO81C, 19/6/2012 (JRD), large patch on road verge in Cole Avenue. Pates Grammar School, Princess Elizabeth Way, Cheltenham, SO92G, 20/6/2012 (MD), quite common in conservation area. VC 34. Cinderford, Cinderford C.P., SO61H, 24/6/2012 (JAB, CS

and GWT Habitat and Species Committee), in good quantity on brownfield site on line of proposed northern spine road.

42/24/4 *Ononis repens* L., **Common Restharrow**. Native. VC 33. The Rookery, Temple Guiting C.P., SP12J, 9/1/2012 (RVL), in mixed plantation.

42/25/2 *Melilotus albus* Medik., **White Melilot**. Introduced -naturalised. VC 34. East of Temple Way, Bristol, ST57W, 1/10/2012 (JPM).

42/28/24 *Trifolium scabrum* L., **Rough Clover**. Native. VC 34. Lydney Harbour, Lydney C.P., SO60K, 27/8/2012 (JAB and DH), plentiful.

44/14/45 *Sorbus torminalis* (L.) Crantz, **Wild Service-tree**. Native. VC 34. Birdwood Coppice, Churcham C.P., SO71J, 22/3/2012 (JRD). Daw Pitch Coppice, Round Hill, Huntley C.P., SO71J, 22/3/2012 (JRD), mature roadside hedgerow tree. Ley Park Wood, Westbury-on-Severn C.P., SO71I, 22/3/2012 (JRD), along side of bridlepath.

44/21/9 *Crataegus laevigata* (Poir.) DC., **Midland Hawthorn**. Native. VC 33. East of Down Ampney, Down Ampney C.P., SU19I, 24/10/2012 (JRD), in species-rich hedge. Slaughter Wood (South), Lower Slaughter C.P., SP12S, 29/5/2012 (JRD). VC 34. Tingley Wood, Lydney C.P., SO60M, 1/6/2012 (JRD), in ancient semi-natural woodland and in wet meadow.

44/22/1 *Filipendula vulgaris* Moench, **Dropwort**. Native. VC 33. Daneway Banks, Bisley-with-Lypiatt C.P., SO90G, 25/6/2012 (JS).

44/24/4 *Potentilla indica* (Jacks.) Wolf, **Yellow-flowered Strawberry**. Introduced-naturalised. VC 34. Wildfowl and Wetlands Trust, Slimbridge C.P., SO70C, 6/9/2012 (MRB), a group of flowering plants in ditch between Lathbury Hide and the kiosk.

44/36/5 *Rosa spinosissima* L., **Burnet Rose**. Native. VC 33. Cud Hill Common, Upton St. Leonards C.P., SO81R, 6/7/2011 (CK and MARK with GPG), group of at least three bushes with another nearby. Probable introduction at this site.

51/1/1 *Nothofagus obliqua* (Mirb.) Blume, **Roble**. Introduced-naturalised. VC 34. Haywood Plantation, Cinderford C.P., SO61N, 30/4/2012 (CK and MARK), mature standards with some recent coppicing, much rarer than *N. alpina* with which it grows. Welshbury Wood, Blaisdon C.P., SO61X, 30/4/2012 (CK and MARK), fairly large planted standards with some regeneration (see front cover and Plate 32).

51/1/2 *Nothofagus alpina* (Poepp. & Endl.) Oerst., **Rauli**. Introduced-naturalised. The species is a native of Chile and Western Argentina. VC 34. Haywood Plantation, Cinderford C.P., SO61N, 30/4/2012 (CK and MARK), a large plantation of mature standards with some recent coppicing and with a small amount of regeneration. Welshbury Wood, Blaisdon C.P., SO61S and X, 30/4/2012 (CK and MARK), many large planted standards but with a large number of trees fallen over, some regeneration (see front cover and Plate 32).

58/12/12 *Lepidium draba* L., **Hoary Cress**. Introduced-naturalised. VC 33. South-west of Northleach, Northleach C.P., SP11B, May 2012 (MRB), many flowering plants.

- 60/3/6 *Euphorbia oblongata* Griesb., **Balkan Spurge**. Introduced-naturalised. VC 34. West End, Wickwar C.P., ST78E, 15/1/2012 (JPM det EJC), escaping from garden into road verge. First county and VCR. Near Barton Hill, Bristol, ST67B, 2012 (JPM), along railway. Second county and VCR.
- 60/3/7 *Euphorbia platyphyllos* L., **Broad-leaved Spurge**. Archaeophyte. VC 33. Knightsbridge, Elmstone Hardwicke C.P., SO82Y, 21/6/2012 (JAB, RJC, DH, CK, MARK and MJP), several non-flowering plants by wheatfield edge, known locality. VC 34. West of West Littleton, Tormorton C.P., ST77M, 25/6/2012 (CK and MARK), thousands of plants throughout large areas of rape field.
- 60/3/8 *Euphorbia stricta* L., **Upright Spurge/Tintern Spurge**. Native. VC 34. Clanna Woods, Alvington C.P., SO50W, 6/10/2012 (GHJM on GIG meeting), new locality, previously recorded from the nearby Clay Wood. Highnam Woods, Highnam C.P., SO71U, 16/10/2012 (GHJM), two plants near wood entrance, known locality.
- 60/3/11 *Euphorbia exigua* L., **Dwarf Spurge**. Archaeophyte. VC 33. Driffield, Driffield C.P., SU09U, 16/10/2012 (JRD), abundant in maize field. Elmstone Hardwicke, Elmstone Hardwicke C.P., SO92D, 30/7/2012 (JRD), in bean field. VC 34. Highnam, Highnam C.P., SO71Z, 1/8/2012 (JRD), along wheatfield margin.
- 60/3/22b *Euphorbia characias* L. ssp. *veneta* (Willd.) Litard, **Mediterranean Spurge**. Introduced-naturalised. VC 34. Bristol, 14/5/2012 (JPM), growing out of the floating harbour wall. First county and VCR.
- 62/1/4a *Populus nigra* L. ssp. *betulifolia* (Pursch) Dippel, **Black Poplar**. Native. VC 33. Barrow, Boddington C.P., SO82X, 20/6/2012 (JRD and RS), mature well-maintained pollard by entrance to Barrow House Farm. Boddington, Boddington C.P., SO82X, 20/6/2012 (JRD, DJ, KL, RS and CS), mature standard in species-rich hedge on north side of lane, some die-back in upper branches. Near Cerneywick Copse, South Cerney C.P., SU09S, 18/9/2012 (JRD), two mature trees on north side of lane. Near Hayden, Boddington C.P., SO92B, 30/8/2012 (JRD), mature well-maintained tree in garden of House in the Tree public house.
- 62/2/9 *Salix triandra* L., **Almond Willow**. Archaeophyte. VC 33. Coombe Hill Meadows, Deerhurst C.P., SO82T, 20/6/2012 (JPM).
- 65/1/4 *Hypericum androsaemum* L., **Tutsan**. Native. VC 34. Norchard, West Dean C.P., SO60H, 30/10/2012 (JRD), on north bank of River Lyd. Tidenham Chase, Tidenham C.P., ST59P, 11/6/2012 (DEG).
- 65/1/8 *Hypericum montanum* L., **Pale St John's-wort**. Native. VC 34. Wintour's Leap, Tidenham C.P., ST59P, 11/6/2012 (DEG), two spikes by quarry entrance.
- 65/1/15 *Hypericum pulchrum* L., **Slender St John's-wort**. Native. VC 34. Tintern Quarry, Tidenham C.P., ST59P, 24/7/2012 (JRD), at top of disused quarry.
- 66/1/5 *Geranium rotundifolium* L., **Round-leaved Crane's-bill**. Native. VC 34. East of Lasborough, Westonbirt with Lasborough C.P., ST89G, 13/7/2012 (LC), one plant west road verge, A46.

- 66/3/9 *Erodium cicutarium* (L.) L'Hér., **Common Stork's-bill**. Native. VC 34. East of Lasborough, Westonbirt with Lasborough C.P., ST89G, 13/7/2012 (LC), several plants on west verge of A46.
- 67/1/3 *Lythrum hyssopifolia* L., **Grass-poly**. Native. VC 34. Wildfowl and Wetlands Trust, Slimbridge C.P., SO70H, 4/9/2012 (JPM), thousands of plants in Rushy Fen, Big Pen and South Lake.
- 67/1/4 *Lythrum portula* (L.) D.A. Webb, **Water-purslane**. Native. VC 34. Malswick, Newent C.P., SO72M, 28/4/2012 (CK and MARK), one plant in seasonally wet ditch.
- 75/9/1 *Tilia platyphyllos* Scop., **Large-leaved Lime**. Native. VC 34. Park Hill, Woolaston C.P., ST59U, 21/5/2012 (JRD), large coppice along side of road.
- 76/1/2 *Daphne laureola* L., **Spurge-laurel**. Native. VC 33. Sherborne Park, Sherborne C.P., SP11L, 13/1/2012 (MD), several plants in scattered clumps in woods adjacent to A40. VC 34. Hollywood Tower, Almondsbury C.P., ST58Q, 6/3/2012 (RVL), single large plant in scrub.
- 77/2/1 *Heliathemum nummularium* (L.) Mill., **Common Rock-rose**. Native. VC 33. Adder Bank, Temple Guiting C.P., SP12J, 9/1/2012 (RVL), occasional in coarse grassland.
- 81/7/2 *Barbarea stricta* Andr., **Small-flowered Winter-cress**. Probably introduced-naturalised. VC 33. Coombe Hill Canal, Deerhurst C.P., SO82T, 20/6/2012 (JPM), two plants, much reduced due to lack of disturbance.
- 81/7/3 *Barbarea intermedia* Boreau, **Medium-flowered Winter-cress**. Introduced-naturalised. VC 33. Plock Court Roundabout, Gloucester, SO80F, 2/5/2012 (JS), two plants.
- 81/8/2 *Rorippa palustris* (L.) Besser, **Marsh Yellow-cress**. Native. VC 33. Coombe Hill Canal, SO82, 20/6/2012 (JPM), single plant by the canal.
- 81/8/7 *Rorippa amphibia* (L.) Besser, **Great Yellow-cress**. Native. VC 33. Coombe Hill Canal, SO82Y, 20/6/2012 (JPM), growing along the canal.
- 81/11/8 *Cardamine impatiens* L., **Narrow-leaved Bitter-cress**. Native. VC 34. Tintern Quarry, The Slade, Tidenham C.P., ST59P, 11/4/2012 (DEG), ten plants on track.
- 81/24/4 *Draba muralis* L., **Wall Whitlowgrass**. Native. VC 34. Hawkesbury, Hawkesbury C.P., ST78T, 15/4/2012 (JPM), known locality. Kingscote, Kingscote C.P., ST89C, 18/5/2012 (JRD and CTM), about twenty-five plants on top of village wall with a single plant at the base of a second wall.
- 81/27/2 *Diplotaxis muralis* (L.) DC., **Annual Wall-rocket**. Introduced-naturalised. VC 33. Cheltenham, SO92F, 30/4/2012 (JRD), on road verge of A46, Shurdington Road.
- 81/38/6 *Sisymbrium orientale* L., **Eastern Rocket**. Introduced-naturalised. VC 34. Bristol, 19/6/2012 (JPM), along the side of the Floating Harbour between Castle Park and Passage Street Bridge.

- 81/48/1 *Bunias orientalis* L., **Warty-cabbage**. Introduced-naturalised. VC 33. Bibury, Bibury C.P., SP10D, 5/5/2012 (ILR), patch on minor road verge.
- 81/52/3 *Iberis umbellata* L., **Garden Candytuft**. Introduced-casual. VC 34. Breakheart Hill Quarry, North Nibley C.P., ST79N, 13/6/2012 (CK and MARK).
- 86/5/1 *Fallopia japonica* (Houtt.) Ronse Decr., **Japanese Knotweed**. Introduced-naturalised. VC 33. Stow Bridge, Lower Slaughter C.P., SP12R, 29/5/2012 (JRD), large stand at edge of arable field. VC 34. Park Hill, Woolaston C.P., ST59U, 21/5/2012 (JRD), stands along side of Park Hill Road.
- 86/8/13x19 *Rumex crispus* x *R. obtusifolius* = *R. pratensis* Mert. & W.D.J. Koch. Native. VC 33. Cud Hill Common, Upton St Leonards C.P., SO81R, 6/7/2011 (CK and MARK with GPG), one plant.
- 86/8/23 *Rumex maritimus* L., **Golden Dock**. Native. VC 34. Wildfowl and Wetlands Trust, Slimbridge C.P., SO70H, 4/9/2012 (JPM), commonest on the Rushy Pen.
- 88/5/3 *Stellaria pallida* (Dumort.) Crép., **Lesser Chickweed**. Native. VC 34. Severn Beach, Pilning and Severn Beach C.P., ST58G, 31/3/2012 (JPM), along railway sidings.
- 88/7/2 *Cerastium arvense* L., **Field Mouse-ear**. Native. VC 33 (Worcestershire Administrative County). Great Hill, Ashton under Hill C.P., SO93Z, 28/5/2012 (CK and MARK), large patch growing along fence line.
- 88/7/11 *Cerastium semidecandrum* L., **Little Mouse-ear**. Native. VC 34. South of Stup Pill, Avonmouth, Bristol, ST58F, 28/6/2011 (CK and MARK), on made up ground by River Severn.
- 88/17/3 *Spergularia marina* (L.) Besser, **Lesser Sea-spurrey**. Native. VC 34. Near Dyrham Park, Dyrham with Hinton C.P., ST77M, 25/6/2012 (CK and MARK), occasional along A46 verge. Ruddle, Newnham C.P., SO61V, 7/7/2012 (CK and MARK), locally frequent along A48 verge.
- 88/19/20 *Silene flos-cuculi* (L.) Clairv., **Ragged-Robin**. Native. VC 34. Ashleworth Ham Nature Reserve, Ashleworth C.P., SO82I, 5/6/2012 (MS). Hasfield Ham, Hasfield C.P. SO82H, 1/6/2012 (MS).
- 89/6/9 *Atriplex littoralis* L., **Grass-leaved Orache**. Native. VC 34. New Passage, Pilning and Severn Beach C.P., ST58N, 9/6/2012 (JPM), three plants on seawall.
- 97/1/2 *Impatiens capensis* Meerb., **Orange Balsam**. Introduced-naturalised. VC 34. Wildfowl and Wetlands Trust, Slimbridge C.P., SO70H, 4/9/2012 (JPM).
- 98/1/1 *Polemonium caeruleum* L., **Jacob's-Ladder**. Native but introduced-naturalised in Gloucestershire. VC 34. Birchill Inclosure, West Dean C.P., SO51V, 28/7/2012 (CK and MARK), single plant by woodland footpath, probably planted.
- 99/1/1x3 *Primula vulgaris* x *P. veris* = *P. polyantha* Mill., **False Oxlip**. Native. VC 34. Clarkes Pool Meadows, Nibley Green, Awre C.P., SO60T, 15/4/2012 (JS), seven plants.
- 99/2/1 *Hottonia palustris* L., **Water-violet**. Native. VC 34. Walmore Common, Westbury-on-Severn C.P., SO71U, 5/7/2012 (CK and MARK with CSE), dominant

- along 200m of a single rhyne. Last Walmore record June 1953 and presumed extinct in the county in the 1986 Supplement to the Flora (see Plate 26).
- 99/8/1 *Cyclamen hederifolium* Aiton, **Sowbread**. Introduced-naturalised. VC 33. Parsonage Wood, Toadsmoor, Chalford C.P., SO80W, 13/1/2012 (JRD). North of Shorncliffe, Siddington C.P., SU09I, 21/9/2012 (JRD), small patch in species-rich hedge.
- 99/9/1 *Samolus valerendi* L., **Brookweed**. Native. VC 34. Littleton Warth, Aust C.P., ST59V, 16/6/2012 (JPM), in ditch.
- 102/14/3 *Pyrola rotundifolia* L., **Round-leaved Wintergreen**. Native. VC 33. Cotswold Water Park, Cerney Wick, South Cerney C.P., SU09T, 4/6/2012 (MG and JWE det CK and MARK), six flowering on lake margin. First county and VCR. Found to be locally abundant on subsequent visits (CK and MARK) (see Plate 27).
- 102/17/1 *Hypopitys monotropa* Crantz, **Yellow Bird's-nest**. Native. VC 33. Leckhampton Hill, Cheltenham, SO91U, late August/early September 2012 (BRWP), about twenty plants at this known locality. Stringer's Wood, Thrupp C.P., SO80R, 1/3/2012 (JRD), a few previous year's spikes noted at known locality. VC 34. Bond's Wood, Staunton Coleford C.P., SO51K, 2/8/2012 (DEG), three distinct populations with a total of twenty-six spikes. A further colony 250m to the north discovered on 12/8/2012. Dingle Wood, Staunton Coleford C.P., SO51K, 6/8/2012 (DEG), nine spikes between edge of ancient quarry workings and modern quarry.
- 104/6/14 *Galium parisiense* L., **Wall Bedstraw**. Native. VC 34. Bristol. 19/6/2012 (JPM), plentiful in pavement cracks along the Floating Harbour between Castle Park and Passage Street Bridge. First County and VC record.
- 105/3/4 *Centaureum pulchellum* (Sw.) Druce, **Lesser Centaury**. Native. VC 34. Wildfowl and Wetlands Trust, Slimbridge C.P., SO70H, 4/9/2012 (JPM), in grassland around the Rushy Pen and in front of the Peng Observatory.
- 107/4/6 *Symphytum grandiflorum* DC., **Creeping Comfrey**. Introduced-naturalised. VC 34. The Barton, Hawkesbury Upton, Hawkesbury C.P., ST78T, 21/5/2012 (CK and MARK), large road verge patch. Thornmead Gout, Aust C.P., ST59V, 27/5/2011 (CK and MARK), patch on road verge.
- 107/4/8 *Symphytum orientale* L., **White Comfrey**. Introduced-naturalised. VC 34. Bristol, by Redland railway station, 27/4/2012 (JPM).
- 107/4/10 *Symphytum caucasicum* M.Bieb., **Caucasian Comfrey**. Introduced-naturalised. VC 34. Just south of New Passage, Pilning and Severn Beach C.P., ST58N, 27/4/2012 (JPM), on the seawall.
- 107/18/2 *Cynoglossum germanicum* Jacq., **Green Hound's-Tongue**. Native. VC 33. Turvey's Piece, Tewkesbury C.P., SO83V, 20/6/2012 (JPM), single plant in flower and fruit at known locality.
- 109/3/1 *Hyoscyamus niger* L., **Henbane**. Archaeophyte. VC 33 (Worcestershire Administrative County). Great Hill, Ashton under Hill C.P., SO93Z, 28/5/2012 (CK and MARK), large patch along rape field edge (see Plate 29).

- 109/4/1 *Nicandra physalodes* (L.) Gaertn., **Apple-of-Peru**. Introduced-naturalised. VC 33. Little Haresfield, Standish C.P., SO80E, 3/8/2012 (JAB), in maize field in its second year.
- 109/5/1 *Datura stramonium* L., **Thorn-apple**. Introduced-naturalised. VC 34. Plusterwine, Woolaston C.P., ST59Z, 4/9/2012 (CK and MARK), one plant in maize crop.
- 112/9/8 *Orobancha hederaceae* Duby, **Ivy Broomrape**. Native. VC 33. Little Haresfield Farm, Standish C.P., SO80E, 14/9/2012 (JAB), several plants growing next to ivy-covered wall. VC 34. Tidenham, Tidenham C.P., ST59M, 24/3/2012 (LC), in parish churchyard.
- 113/3/8 *Veronica catenata* Pennell, **Pink Water-speedwell**. Native. VC 33. Little Haresfield, Standish C.P., SO80E, 3/8/2012 (JAB), in maize field in its second year.
- 113/6/2 *Chaenorhinum minus* (L.) Lange, **Small Toadflax**. Archaeophyte. VC 33. Alney Island, Gloucester, SO81E, 6/9/2012 (JRD), locally frequent in rough ground beside tarmac cycle track.
- 113/10/1 *Kickxia elatine* (L.) Dumort., **Sharp-leaved Fluellen**. Archaeophyte. VC 33. Drifffield, Drifffield C.P., SU09U, 16/10/2012 (JRD), abundant in maize field. Elmstone Hardwick, Elmstone Hardwick C.P., SO92D, 30/08/2012 (JRD), along edge of arable field and in bean field. VC 33 (Worcestershire Administrative County). Broad Marston, Pebworth C.P., SP14H & M, 15/7/2012 (CK and MARK), several in each of two bean fields.
- 113/10/2 *Kickxia spuria* (L.) Dumort., **Round-leaved Fluellen**. Archaeophyte. VC 33. Charlham Farm, Down Ampney C.P., SU09Z, 6/11/2012 (JRD), in arable field. Drifffield, Drifffield C.P., SU09U, 16/10/2012 (JRD), abundant in maize field. Elmstone Hardwick, Elmstone Hardwick C.P., SO92D, 30/08/2012 (JRD), along edge of arable field. Horsebere Brook overflow tank, near Zoon's Court, Hucclecote C.P., SO81U, 6/10/2012 (JS), twenty-five plants. VC 33 (Worcestershire Administrative County). Broad Marston, Pebworth C.P., SP14H & M, 15/7/2012 (CK and MARK), dominant in parts of bean field.
- 115/1/1 *Hippuris vulgaris* L., **Mare's-tail**. Native. VC 33. Wildmoorway, South Cerney C.P., SU09T, 18/9/2012 (JRD), frequent in Humpback Lane on disused canal.
- 117/1/1n *Verbasicum blattaria* L., **Moth Mullein**. Introduced-naturalised. VC 34. South of Stup Pill, Avonmouth, Bristol ST58F, 28/6/2011 (CK and MARK), six flowering together with non-flowering rosettes.
- 117/5/1 *Limosella aquatica* L., **Mudwort**. Native. VC 34. Wildfowl and Wetlands Trust, Slimbridge C.P., SO70H, 4/9/2012 (JPM), very large population on bare mud around South Lake. The only other extant site is Upper Lode, Forthampton. The last VC 34 record was in 1921 at Siston Common.
- 118/1/6 *Stachys palustris* L., **Marsh Woundwort**. Native. VC 33. Near Cerney Wick, South Cerney C.P., SU09T, 16/8/2012 (JW), by edge of lake.

- 118/6/4 *Lamium hybridum* Vill., **Cut-leaved Dead-nettle**. Archaeophyte. VC 33. Little Haresfield, Standish C.P., SO80E, 3/8/2012 (JAB), in maize field in its second year. VC 34. West of West Littleton, Tormarton C.P., ST77M, 25/6/2012 (CK and MARK), single plant in barley field.
- 118/27/5 *Salvia officinalis* L., **Sage**. Introduced-casual. VC 33. Cotswold Farm, Duntisbourne Abbots C.P., SO90U, 13/6/2012 (JRD).
- 121/2/6x8 *Euphrasia nemorosa* (Pers.) Wallr. x *E. confusa* Pugsley, a **hybrid eyebright**. Native. VC 34. Breakheart Hill, North Nibley C.P., ST79N, 13/6/2011 (CK and MARK det. AJS), new 10km and fourth VC record for what appears to be the commonest British *Euphrasia* hybrid.
- 121/8/2 *Lathraea clandestina* L., **Purple Toothwort**. Introduced-naturalised. VC 34. Sea Mills, Bristol, ST57N, 29/3/2012 (JPM), amongst ivy on damp ground by River Trym. Known locality.
- 121/9/10 *Orobancha minor* Sm., **Common Broomrape**. Native. VC 33. Cotswold Farm, Duntisbourne Abbots C.P., SO90U, 13/6/2012 (JRD).
- 124/1/1 *Verbena officinalis* L., **Vervain**. Archaeophyte. VC 7 (Gloucestershire Administrative County). Neigh Bridge, Somerford Keynes C.P., SU09H, 9/10/2012 (JRD), in rough grassland.
- 126/1/13 *Campanula trachelium* L., **Nettle-leaved Bellflower**. Native. VC 33. Castlett Wood, Guiting Power C.P., SP02Y, 24/8/2012 (MD), along woodland edge by track.
- 128/7/1 *Onopordum acanthium* L., **Cotton Thistle**. Archaeophyte. VC 33. Near Foxhill Farm, Cold Ashton C.P., SP11P, July 2012 (MRB), group of 8-10 plants on dumped building waste in field entrance. VC 34. East of Lasborough, Westonbirt with Lasborough C.P., ST89G, 13/7/2012 (LC), single plant on A46 road verge.
- 128/10/1 *Serratula tinctoria* L., **Saw-wort**. Native. VC 34. Wanswell Court, Hamfallow C.P., SO60V, 6/6/2012 (JRD and DJ), one plant in meadow.
- 128/12/3 *Centaurea montana* L., **Perennial Cornflower**. Introduced-naturalised. VC 34. Ashleworth, Ashleworth C.P., SO82C, 23/6/2012 (JAB), one plant on road verge.
- 128/26/2 *Tragopogon porrifolius* L., **Salsify**. Introduced-naturalised. VC 33. Knightsbridge, Elmstone Hardwick C.P., SO82Y, 21/6/2012 (RJC, CK and MARK with GPG), two plants on wheatfield edge.
- 128/35/2x7 *Pilosella x stolonifera* (Waldst. Kit.) F.W. Schultz & Sch.Bip. = *P. officinarum* x *P. aurantiaca*. VC 33. Native. Sheepscombe, Painswick C.P. SO81V, 18/06/2012 (EP), two patches at side of lane. First county and VC record.
- 128/35/7 *Pilosella aurantiaca* (L.) F.W. Schultz & Sch.Bip., **Fox-and-cubs**. Introduced-naturalised. VC 34. Thornbury, Thornbury C.P., ST59K, August 2012 (JG), growing from pavement crack in Charles Close.
- 128/36/297 *Hieracium submutabile* (Zahn) Pugsley, **Variable Hawkweed**. A British endemic. VC 34. Tintern Quarry, Tidenham C.P., ST59P, 11/6/2012 (DEG det. DJM), frequent along quarry rim. Herb NMW. First post 1970 County and VC record.

- 128/36/299 *Hieracium daedalolepioides* (Zahn) Roffey, **Petite-leaved Hawkweed**. Endemic? VC 34. Plump Hill, Mitcheldean C.P., SO61T, 28/6/2012 (DEG conf. DJM), more than fifty plants by roadside.
- 128/36/373 *Hieracium grandidens* Dahlst., **Grand-toothed Hawkweed**. Introduced. VC 33. Cranham Woods, Cranham C.P., SO91, 24/6/1955 (RMH det. DJM comm. TGCR), by woodland path on opposite side of valley to inn. Herb NMW. VC 34. Tintern Quarry, Tidenham C.P., ST59P, 11/6/2012 (DEG det. DJM).
- 128/36/389 *Hieracium glevense* (Pugsley) P.D. Sell and C. West, **Gloucester Hawkweed**. Probably native and possibly endemic. VC 33. Cranham Woods, Cranham C.P., SO91, 24/6/1955 (RMH det. DJM and comm. TCGR), Herb NMW, by woodland path on opposite side of valley to inn. VC 34. Staunton, Staunton Coleford C.P., SO51L, 23/8/2012 (DEG conf. DJM), fifty plants on A4136 road verge.
- 128/36/402 *Hieracium exotericum* Jord. ex Boreau, **Jordan's Hawkweed**. Probably introduced. VC 34. Tintern Quarry, Tidenham C.P., ST59P, 24/5/2012 (DEG det. DJM), in three places. First county and VC record.
- 128/39/1 *Filago vulgaris* Lam., **Common Cudweed**. Native. VC 34. Tintern Quarry, Tidenham C.P., ST59P, 11/4/2012 (DEG), two groups each of about thirty previous year's spikes.
- 128/45/5 *Gnaphalium uliginosum* L., **Marsh Cudweed**. Native. VC 33. Little Haresfield, Standish C.P., SO80E, 3/8/2012 (JAB), in maize field in its second year.
- 128/54/4 *Erigeron karvinskianus* DC., **Mexican Fleabane**. Introduced-naturalised. VC 34. Avon Gorge, Bristol, ST57S, 22/1/2012 (CML), originally just by the cave entrance in Black Rocks but now greatly increased.
- 128/54/6 *Erigeron acris* L., **Blue Fleabane**. Native. VC 34. Lydney Harbour, Lydney C.P., SO60K, 27/8/2012 (JAB and DH).
- 128/55/2 *Conyza floribunda* Knuth, **Bilboa's Fleabane**. Introduced-naturalised. VC 34. Great Quarry, Avon Gorge, Bristol, ST57S, 22/1/2012 (CML), frequent.
- 128/55/3 *Conyza sumatrensis* (Retz.) E. Walker, **Guernsey Fleabane**. Introduced-naturalised. VC 34. Great Quarry, Avon Gorge, Bristol, ST57S, 22/1/2012 (CML), in former car park.
- 128/74/20 *Senecio viscosus* L., **Sticky Groundsel**. Native. VC 33. Little Haresfield, Standish C.P., SO80E, 1/9/2012 (JAB), growing in stony drive.
- 128/91/1 *Helianthus annuus* L., **Sunflower**. Introduced-casual. VC 33. Little Haresfield, Standish C.P., SO80E, 3/8/2012 (JAB), in maize field in its second year.
- 128/92/1 *Guizotia abyssinica* (L.f.) Cass., **Niger**. Introduced-naturalised. VC 34. Wildfowl and Wetlands Trust, Slimbridge C.P., SO70H, 4/9/2012 (JPM), single plant in mud on the South Lake.
- 128/95/1 *Bidens cernua* L., **Nodding Bur-marigold**. Native. VC 34. Wildfowl and Wetlands Trust, Slimbridge C.P., SO70H, 4/9/2012 (JPM), around South Lake where much scarcer than the dominant *B. tripartita*.

- 128/95/2 *Bidens tripartita* L., **Trifid Bur-marigold**. Native. VC 34. Wildfowl and Wetlands Trust, Slimbridge C.P., SO70H, 4/9/2012 (JPM), abundant around South Lake.
- 131/1/4 *Sambucus ebulis* L., **Dwarf Elder**. Archaeophyte. VC 7 (Gloucestershire Administrative County). Poole Keynes, Poole Keynes C.P., SU09C, 9/10/2012 (JRD), long established on road verge.
- 138/6/1 *Scandix pecten-veneris* L., **Shepherd's-needle**. Archaeophyte. VC 33. Gardner's Farm, Weston Subedge C.P., SP14F, 22/6/2012 (CK and MARK), locally frequent on Second World War hut base.
- 138/18/1 *Oenanthe fistulosa* L., **Tubular Water-dropwort**. Native. VC 33. Coombe Hill Canal Meadows, Deerhurst C.P., SO82T, 20/6/2012 (JPM), single clump in field. Upham Meadow, Twyning C.P., SO93D, 6/7/2012 (JAB and MS), plentiful at known locality.
- 138/18/2 *Oenanthe silaifolia* M. Bieb., **Narrow-leaved Water-dropwort**. Native. VC 33. Upham Meadow, Twyning C.P., SO93D, 6/7/2012 (JAB and MS), large number of fruiting plants at well-known locality.
- 138/18/3 *Oenanthe pimpinelloides* L., **Corky-fruited Water-dropwort**. Native. VC 33. Coombe Hill Canal Meadows, Deerhurst C.P., SO82Y, 29/5/2011 (PBH and JPM); SO82T, 20/6/2012 (JPM), one plant. Lea Court, Epney, Moreton Vallence C.P., SO71Q, 6/6/2012 (JRD and DJ), rare in semi-improved ridge and furrow meadow. Leigh Meadows, Norton C.P., SO82S, 3/7/2012 (JAB), plentiful. Sudmeadow, Gloucester, SO81E, 11/1/2012 (JRD), in unmanaged wet meadow. Rees Farm, Watery Lane, Upton St Leonards C.P., SO81R, 7/11/2012 (JRD), frequent in species-poor grassland. The Leigh, Leigh C.P., SO82T, 1/5/2012 (JRD and DJ), in three unimproved and semi-improved meadows. VC 34. Wanswell, Hamfallow C.P., SO60V, 6/6/2012 (JRD and DJ), in several meadows.
- 138/18/7 *Oenanthe aquatica* (L.) Poir., **Fine-leaved Water-dropwort**. Native. VC 33. Coombe Hill Canal, Deerhurst C.P., SO82Y, 20/6/2012 (JPM), along the canal.
- 138/26/5 *Bupleurum rotundifolium* L., **Throw-wax**. Archaeophyte but now only casual. VC 33. Somerford Road allotments, Cirencester C.P., SP00F, 2011 and 2012 (CM det. and comm. FJR), allotments probably created from former arable land.
- 138/31/2 *Petroselinum segetum* (L.) W.D.J. Koch, **Corn Parsley**. Native. VC 34. Littleton Warth, Aust C.P., ST59Q, 16/6/2012 (JPM), very locally abundant along arable field margin.
- 138/49/2 *Torilis arvensis* (Huds.) Link, **Spreading Hedge-parsley**. Archaeophyte. VC 34. Littleton Warth, Aust C.P., ST59V, 16/6/2012 (JPM), recorded in an additional field to those where found in previous years where found to be in slightly reduced quantity.
- 138/49/3 *Torilis nodosa* (L.) Gaertn., **Knotted Hedge-parsley**. Native. VC 33. Gardner's Farm, Weston Subedge C.P., SP14F, 22/6/2012 (CK and MARK), abundant on Second World War hut bases and on air-raid shelter. VC 34. Hamfield

- Farm, Berkeley Nuclear Power Station, Ham and Stone C.P., ST69U, 21/8/2012 (JAB, CK, MARK and PAW), growing along hedge fence base.
- 140/1/ *Lysichiton* sp., **Skunk-cabbage**. Introduced-naturalised. VC 33. Stow Bridge Coppice, Wick Rissington C.P., SP12R, 17/5/2012 (JAB and JMF), exact species not determined at time of visit.
- 150/1/7 *Potamogeton lucens* L., **Shining Pondweed**. Native. Cotswold Water Park, Cerney Wick, South Cerney C.P., SU09S, 15/6/2012 (CK and MARK), lakeside strand-line wash-up.
- 150/1/22 *Potamogeton pusillus* L., **Lesser Pondweed**. Native. VC 33. Coombe Hill Canal Meadows, Deerhurst C.P., SO82Y, 25/7/2012 (CK, MARK, JPM and GPG det JPM), in a water trough.
- 150/2/1 *Groenlandia densa* (L.) Fourr. **Opposite-leaved Pondweed**. Native. VC 33. Bibury, Bibury C.P., SP10D, 5/5/2012 (ILR), locally frequent in slow-flowing carrier to River Coln. Chalford Roundhouse Pond, Chalford C.P., SO80W, 27/7/2012 (JRD and TM), occasional in the disused Stroudwater Canal.
- 154/1/1 *Paris quadrifolia* L., **Herb-Paris**. Native. VC 33. Littleworth Wood, Snowhill C.P., SP03W, 12/05/2012 (anon, comm. QJG and AL), several plants. Stow Bridge Coppice, Wick Rissington C.P., SP12R, 17/5/2012 (JRD and JMF). VC 34. Colemans Wood, Longhope C.P., SO61Z, May 2012 (MG). Mailscot Wood, English Bicknor C.P., SO51M, 12/8/2011 (CK and MARK leading WBS). Turnips Grove, Tidenham C.P., ST59U, 13/4/2012 (DEG), two plants by track.
- 156/1/1 *Colchicum autumnale* L., **Meadow Saffron**. Native. VC 33. Castlett Wood, Guiting Power C.P., SP02T, 17/5/2012 (JRD and JMF). Guiting Wood, Temple Guiting C.P., SP02T, 5/9/2012 (MD), several large clumps on open wood edge. Thickwood, Duntisbourne Abbots C.P., SO90N, 26/8/2012 (AP), two clumps. VC 34. Gwen and Vera's Fields, Oxenham C.P., SO62Y, 22/5/2012 (JRD, AH and KCa). Park Hill, Tidenham C.P., ST59P, 21/5/2012 (JRD), large patch on road verge confirming continued existence at known locality.
- 158/2/1 *Cephalanthera damasonium* (Mill.) Druce, **White Helleborine**. Native. VC 33. Leckhampton Hill, SO91, 29/5/2012 (MW), known locality. Swifts Hill, Painswick C.P., SO80T, 1/6/2012 (JS), groups of 20 and 76 plants. VC 34. Chapman's Cross Plantation, Sapperton C.P., SO90F, 13/6/2012 (JRD).
- 158/2/2 *Cephalanthera longifolia* (L.) Fritsch, **Narrow-leaved Helleborine**. Native. VC 34. Lancut, Tidenham C.P., ST59H, June 2012 (AJ), a maximum count of 240 with 235 flowering at the main site with a single plant noted elsewhere. Rodborough Common, Rodborough C.P., SO80L, 22/5/2012 (JS), five plants. Both known localities.
- 158/2/3 *Cephalanthera rubra* (L.) Rich., **Red Helleborine**. Native. VC 33. Near Sheepscombe, Painswick C.P., SO81V, 3/7/2012 (MW), four flowering.

- 158/3/1 *Epipactis palustris* (L.) Crantz, **Marsh Helleborine**. Native. VC 33. Cotswold Water Park, Cerney Wick, South Cerney C.P., SU09S, 15/6/2012 (CK and MARK), lakeside patch in bud.
- 158/3/3 *Epipactis purpurata* Sm., **Violet Helleborine**. Native. VC 34. Lower Woods, Hawkesbury C.P., ST78N, 10/8/2012 (JS). Little Wood, Hawkesbury C.P., ST78N, 3/8/2012 (JS), recorded as var *rosea*, a single spike.
- 158/3/4 *Epipactis helleborine* (L.) Crantz, **Broad-leaved Helleborine**. Native. VC 33. Castlett Wood, Guiting Power C.P., SP02Y, 24/8/2012 (MD), two plants. Coates, Coates C.P., SO90Q, 10/10/2012 (JRD), two plants in beech/lime plantation. The Peak, Badgeworth C.P., SO91H, 10/8/2012 (JS), as var *viridiflora*. VC 34. Bond's Wood, Staunton Coleford C.P., SO51K, 2/8/2012 (DEG), more than twenty flowering with about the same number not yet in flower. Chapman's Cross Plantation, Sapperton C.P., SO90F, 13/6/2012 (JRD). Titanic Steelworks, Milkwall, West Dean C.P., SO50Z, 20/6/2012 (DD), in bud but subsequently picked.
- 158/3/5 *Epipactis leptochila* (Godfery) Godfery, **Narrow-lipped Helleborine**. Native. VC 33. Buckholt Wood, Cranham C.P., SO91B, 8/8/2012 (JS), four plants. Buckle Wood, Brimpsfield C.P., SO91B and G, 8/8/2012 (JS), a total of fifteen plants growing in two colonies. Piedmont, Bisley-with-Lypiatt, SO80Y, 8/8/2012 (AS), twelve flowering spikes and later the same day (JS), ten plants, confirming identification, a new locality. Witcombe Wood, Brimpsfield C.P., SO91G, 8/8/2012 (JS).
- 158/3/8 *Epipactis phyllanthes* G.E. Sm., **Green-flowered Helleborine**. Native. VC 33. Cotswold Water Park, East of Fairford, Fairford C.P., SP10Q, 11/7/2012 (CK and MARK), two plants flowering near lakeside. Second Gloucestershire Water Park locality.
- 158/4/1 *Neottia ovata* (L.) Bluff and Fingerh., **Common Twayblade**. Native. VC 34. Clarke's Pool Meadows, Awre C.P., SO60T, 6/5/2012 (JAB, MA and GWT Habitats and Species Committee), very abundant. Frampton Gravel Pits, Frampton on Severn C.P., SO70C, 23/6/2012 (BB), more than eight hundred plants.
- 158/4/3 *Neottia nidus-avis* (L.) Rich., **Bird's-nest Orchid**. Native. VC 33. Coates, Coates C.P., SO90Q, 10/10/2012 (JRD), five spikes in beech/lime plantation. Cott Plantation, Withington C.P., SP01B, 27/3/2012 (JRD), several previous year's spikes where formerly noted in 2008. Hailey Wood, Coates C.P., SO90Q, 13/6/2012 (JRD), five plants in mature beech wood by saw-mill. Hales Wood, Thrupp C.P., SO80S, 1/3/2012 (JRD), eight plants by side of footpath, presumably previous year's spikes. Keeper's Cottage, Toadsmoor Woods, Bisley-with-Lypiatt C.P., SO80X, 23/5/2012 (JRD and JMF), more than thirty scattered through a small part of the wood. Mackhouse Wood, Thrupp C.P., SO80R, 1/3/2012 (JRD), single previous year's spike. Parsonage Wood, Toadsmoor, Chalford C.P., SO80W, 13/1/2012 (JRD), previous year's spikes. Stringer's Wood, Thrupp C.P., SO80R, 1/3/2012 (JRD), six plants confirming continued presence at known locality. Toadsmoor Woods, Bisley-

with-Lypiatt C.P., SO80X, 13/1/2012 (JRD), two colonies each of more than six previous year's spikes. VC 34. Chapman's Cross Plantation, Sapperton C.P., SO80F, 13/6/2012 (JRD).

158/6/1 *Dactylorhiza fuchsii* (Druce) Soó, **Common Spotted-orchid**. Native. VC 33. Cotswold Farm, Duntisbourne Abbots C.P., SO90U, 13/6/2012 (JRD).

158/9/1 *Spiranthes spiralis* (L.) Chevall., **Autumn Lady's-tresses**. Native. VC 33. Rough Bank Nature Reserve, Miserden C.P., SO90E, 14/8/2012 (GHJM), five spikes, with forty counted on 26/8/2012. Swifts Hill, Painswick C.P., SO80T, 22/9/2012 (JS), one hundred and fifty spikes. VC 34. Minchinhampton Common, Minchinhampton C.P., SO80K, 31/8/2012 (AM), thirteen spikes; SO80Q, 5/9/2012 (MCC), twelve spikes. Selsley Common, King's Stanley C.P., SO80G, 26/8/2012 (KM), three spikes; 7/9/2012 (MCC), two spikes on the King's Stanley side of the Common.

158/11/1 *Herminium monorchis* (L.) R. Br., **Musk Orchid**. Native. VC 33. Barrow Wake, Cowley C.P., SO91H, 3/7/2012 (JS), six hundred, with four hundred spikes in the main colony; also 5/7/2012 (MW). Cleeve Common, Prestbury C.P., SO92X, 7/8/2012 (TR), five or six spikes. Juniper Hill, Painswick C.P., SO80U, 4/7/2011 (JE), three flowering spikes with one more found at a late date and in 2012, three spikes. Swift's Hill, Painswick C.P., SO80T, 8/7/2012 (MW); 13/7/2012 (JS), twenty seven spikes and 21/7/2010 (TR).

158/12/1 *Platanthera chlorantha* (Custer) Rehb., **Greater Butterfly-orchid**. Native. VC 33. Buckle Wood, Brimpsfield C.P., SO91B, 12/6/2012 (JS), twenty spikes. Stow Bridge Coppice, Wick Rissington C.P., SP12R, 17/5/2012 (JRD and JMF). VC 34. Coleman's Wood, Longhope C.P., SO61Z, May 2012 (MG), not yet in flower.

158/12/2 *Platanthera bifolia* (L.) Rich., **Lesser Butterfly-orchid**. Native. VC 33. Bulls Cross, Painswick C.P., SO80U, 1/6/2012 (JS), fifty-six plants. Juniper Hill, Painswick C.P., SO80U, 2012 (JE).

158/14/2 *Gymnadenia densiflora* (Wahlenb.) A. Dietr., **Marsh Fragrant-orchid**. Native. VC 34. Near Newnham, Newnham C.P., SO61Q, 7/7/2012 (CK and MARK), sixteen flowering in small bog. First post 1970 County and VC record (see Plate 25).

158/15/1 *Coeloglossum viride* (L.) Hartm., **Frog Orchid**. Native. VC 33. Cleeve Common, Southam C.P., SO92Y, 7/7/2012 (JS), four colonies totalling twenty six spikes.

158/16/1 *Dactylorhiza fuchsii* (Druce) Soó, **Common Spotted-orchid**. Native. VC 33. Cotswold Farm, Duntisbourne Abbots C.P., SO90U, 13/6/2012 (JRD). Cotswold Water Park, Cerney Wick, South Cerney C.P., SU09T, 4/6/2012 (MG and JWe), by lakeside. Near Waterhatch, Sudeley C.P., SP02H, 12/7/2012 (JW), about fifty spikes. VC 34. Frampton Gravel Pits, Frampton on Severn C.P., SO70N, 16/6/2012 (RBI comm. RBe), more than five hundred; 23/6/2012 (BB), more than 530. Robinswood Hill County Park, Gloucester, SO81M, 23/6/2012 (IE comm. RBe), small numbers but spreading into new areas; 26/6/2012 (KK comm. RBe), nine on the golf course.

158/16/1x4 *Dactylorhiza x grandis* (Druce) P.F. Hunt = *D. fuchsii* (Druce) Soó x *D. praetermissa* (Druce) Soó. Native. VC 33. Cotswold Water Park, Cerney Wick, South Cerney C.P., SU09T, 4/6/2012 (MG and JWe), around lake margin. Probably the commonest hybrid orchid in southern Britain.

158/16/2 *Dactylorhiza maculata* (L.) Soó ssp. *ericetorum* (E.F. Linton) P.F. Hunt & Summerh., **Heath Spotted-orchid**. Native. VC 34. Poors Allotment, Tidenham C.P., ST59, 5/7/2012 (MG), thirty in flower.

158/16/4 *Dactylorhiza praetermissa* (Druce) Soó, **Southern Marsh-orchid**. Native. VC 33. Cotswold Water Park, Cerney Wick, South Cerney C.P., SU09T, June 2012 (MG), around lake margin.

158/17/1 *Orchis mascula* (L.) L., **Early-purple Orchid**. Native. VC 33. Slaughter Wood (South), Lower Slaughter C.P., SP12S, 29/5/2012 (JRD). Stow Bridge Coppice, Wick Rissington C.P., SP12R, 17/5/2012 (JRD and JMF). Swifts Hill, Painswick C.P., SO80T, a white-flowered plant noted. VC 34. Clarke's Pool Meadows, Awre C.P., SO60T, 6/5/2012 (JAB, MS and Habitats and Species Committee), one spike. Colemans Wood, Longhope C.P., SO61Z, May 2012 (MG), patches of three and fifteen plants. Minchinhampton Common, Minchinhampton C.P., SO80K, 5/5/2012 (MCA).

158/19/1 *Anacamptis pyramidalis* (L.) Rich., **Pyramidal Orchid**. Native. VC 33. Abbeywood, Gloucester, SO81T, 1/7/2012 (AK comm. RBe), single spike on mown verge by housing. Lower Tuffley, Gloucester, SO81H, 27/7/2012 (KK comm. RBe), in orchard. Prestbury Hill, Southam C.P., SO92X, 21/7/2012 (JW). Robinswood Hill, Gloucester, SO81M, 27/6/2012 (KK comm. RBe), at least sixteen on golf course. Cory's Landfill site, Stoke Orchard, Stoke Orchard C.P., SO92I, 5/6/2012 (JSa), one spike.

158/19/3 *Anacamptis morio* (L.) R.M. Bateman, Pridgeon & M.W. Chase, **Green-winged Orchid**. Native. VC 33. Ile's Green Meadow, Bisley-with-Lypiatt C.P., SO90G, 23/5/2012 (JRD and JMF), hundreds in two fields. Swifts Hill, Painswick C.P., SO80T, 8/5/2012 (JS). VC 34. Blackwells-end Green, Hartpury C.P., SO72X, 2011 (JAB), two spikes on ex-arable field sown with green hay; additionally 13/5/2012 (JAB), one hundred and five flowering spikes. Clarke's Pool Meadows, Awre C.P., SO60T, 6/5/2012 (JAB, MS and GWT Habitats and Species Committee), abundant especially in the nature reserve's larger eastern field with many thousands of spikes. Flaxley Churchyard, Blaisdon C.P., SO61X, 10/5/2012 (PT conf. VEP), five spikes; also 2012 (CF and DF comm. JAB). Gorsley, Newent C.P., SO62S, 21/5/2012 (RK), more than one hundred in churchyard. Minchinhampton Common, Minchinhampton C.P., SO80K, 5/5/2012 (MCA), groups of about 23 and 30 plants; 11/5/2012 (MCA and MM), groups of about 60 and 180 spikes; 12/5/2012 (MCA and MM), about 630 spikes distributed along both sides of the road between Tom Long's Post and the Halfway House making a grand total of about 940 spikes for the common in 2012. Nibley Green, Awre C.P., SO60T, May 2012 (RK), single spike on wide

road verge which has been managed as a mini meadow by the parish council for the past eight years. Sedbury Park, Tidenham C.P., ST59L, 2012 (AJ), known on the front lawn of Sedbury Park Nursing Home for some years. A poor year at this locality where several hundred is the norm. Staunton Crossroads, Corse C.P., SO72Y, May 2012 (MG), hundreds in two fields at this known locality.

158/20/1 *Himantoglossum hircinium* (L.) Spreng., **Lizard Orchid**. Native. VC 34. Wick Wick, Kendleshire, Westerleigh C.P., ST67U, 21/1/2012 (BL and AB), forty-one rosettes counted but few large enough to flower in 2012 at this well known locality.

158/22/1 *Ophrys insectifera* L., **Fly Orchid**. Native. VC 33. Juniper Hill, Painswick C.P., SO80U, 2012 (JE). Swifts Hill, Painswick C.P., SO80T, 12/5/2012 (JS), twenty-two spikes.

158/22/3 *Ophrys apifera* Huds., **Bee Orchid**. Native. VC 33. Bishop's Cleeve, Bishop's Cleeve C.P., SO92N, 1/6/2012 (JSa), sixty noted on Grundon's landfill site, with site manager stating 129 found on another part of the site. Cotswold Farm, Duntisbourne Abbots C.P., SO90U, 13/6/2012 (JRD), more than a hundred plants on steep verges. Cotswold Water Park, Cerney Wick, South Cerney C.P., SU09T, 4/6/2012 (MG and JW), frequent along lake margin. Juniper Hill, Painswick C.P., SO80U, 2012 (JE). Robinswood Hill, Matson, Gloucester, SO81M, 26/6/2012 (KK comm. RBe), at least three on the old nine hole golf course. Stoke Orchard, Stoke Orchard C.P., SO92I, 5/6/2012 (JSa), fifty plants on Cory's landfill site. Swifts Hill, Painswick C.P., SO80T, 1/6/2012 (JS), a single spike. Woodmancote, Woodmancote C.P., SO92T, 2/7/2012 (JW), three on green by housing. VC 34. Frampton Gravel Pits, Frampton on Severn C.P., SO70C, 16/6/2011 (RBi comm. RBe), six spikes; 23/6/2012 (BB), three populations totalling 29 plants. Minchinhampton Common, Minchinhampton C.P., SO80, 17/6/2012 (MW).

159/5/10 *Iris foetidissima* L., **Stinking Iris**. Native. VC 33. Churchdown, Churchdown C.P., SO82V, 14/11/2012 (JRD), growing by cycle path underpass on south side of A40. Nether Lypiatt, Thrupp C.P., SO80R, 1/3/2012 (JRD), in old hedgerow. Slaughter Wood (South), Lower Slaughter C.P., SP12S, 29/5/2012 (JRD). Stonehouse, Stonehouse C.P., SO80D, 2/5/2012 (JRD), on Gloucester-Swindon railway line embankment. Tunley Farm Wood, Bisley-with-Lypiatt C.P., SO90H, 14/2/2012 (JRD), near side of track. VC 34. Birdwood Coppice, Churcham C.P., SO71J, 22/3/2012 (JRD), northwest corner of wood. Corseleas Brake, Highnam C.P., SO71Z, 22/3/2012 (JRD), at side of access track.

159/9/2 *Gladiolus communis* L., ssp. *byzantinus* (Mill.) R.C.V. Douin, **Eastern Gladiolus**. Neophyte. VC 33. Standish Moreton, Standish C.P., SO70Z, 22/6/2012 (JAB), single plant on track verge beside M5 motorway. VC 34. Ashleworth, Ashleworth C.P., SO82C, 21/6/2012 (LS comm. JAB), single plant on roadside, probable garden throwout.

160/3/1 *Hemerocallis fulva* (L.) L., **Orange Day-lily**. Introduced-naturalised. VC 33. Compton Abdale, Compton Abdale C.P., SP01T, 14/3/2011 (CK and MARK), roadside patch on the Saltway; identified 2/7/2011 when in flower. First VC record.

161/11/1 *Galanthus nivalis* L., **Snowdrop**. Introduced-naturalised. VC 33. Mackhouse Wood, Thrupp C.P., SO80R, 1/3/2012 (JRD). Toadsmoor Woods, Bisley-with-Lypiatt C.P., SO80X, 13/1/2012 (JRD), at wood edge by footpaths.

161/12/16 *Narcissus pseudonarcissus* L., **Daffodil**. Native. VC 33. Cleeve Common, Southam C.P., SO92X, 2008 (VP) and 19/4/2009 (CH and VP) predating the record of 2011 previously published. VC 34. Ampney Lane, Northwood Green, Westbury-on-Severn C.P., SO71I, 22/3/2012 (JRD), clump of about ten on roadside verge below hedge. Near Birdwood, Westbury-on-Severn C.P., SO71J, 22/3/2012 (JRD), small roadside clump at base of hedge. Birdwood Coppice, Churcham C.P., SO71I, 22/3/2012 (JRD), locally frequent, scattered within and around northwest corner of wood. Frewens Lane, Westbury-on-Severn C.P., SO71I, 22/3/2012 (JRD), on steep roadside bank below Copland Wood. Glasshouse Orchard, Glasshouse, Taynton C.P., SO72A, 2012 (EJB), a splendid show in 2012. Hampney, Westbury-on-Severn C.P., SO71I, 22/3/2012 (JRD), along the Ley Brook and in improved pasture. Highnam Woods, Highnam C.P., SO71Z, 10/3/2012 (JS), fifty plants. Hinder's Farm, Huntley C.P., SO71E, 22/3/2012 (JRD), within semi-natural woodland beside the Ley Brook and more than two-hundred and fifty within improved pasture. Ley Park Wood, Westbury-on-Severn C.P., SO71I, 22/3/2012 (JRD), beside bridlepath. Merestones, Westbury-on-Severn C.P., SO71I, 23/3/2012 (JRD), along wooded north edge of unimproved meadow. Near Park Farm, North Nibley C.P., ST79N, 16/3/2012 (VP), two patches about ten metres apart. Westley Farm, Sapperton C.P., SO90B, 15/3/2011 (VP), along farm drive and patches in field just beyond.

162/1/1 *Convallaria majalis* L., **Lily-of-the-valley**. Native. VC 34. Dannel Hill, Tidenham C.P., ST59N, 16/5/2012 (DEG).

162/5/2 *Ornithogalum umbellatum* L., **Star-of-Bethlehem**. Introduced-naturalised. VC 33. Near Sheephouse Barn, West of Kington, Temple Guiting C.P., SP02Y, 22/5/2012 (JW), about ten on wide grass verge.

162/7/2 *Hyacinthoides non-scripta* (L.) Chouard ex Rothm., **Bluebell**. Native. VC 33. West Down, Southam C.P., SP02B, 29/3/2012 (JW), an early flowering date.

162/9/2 *Muscari armeniacum* Leichtlin ex Baker, **Garden Grape-hyacinth**. Introduced-naturalised. VC 34. Frewens Lane, Westbury-on-Severn C.P., SO71I, on steep road side bank below Copland Wood. Temple Quay, Bristol, ST57W, 30/3/2012 (JPM), in flower on disturbed ground.

165/2/2 *Typha angustifolia* L., **Lesser Bulrush**. Native. VC 7 (Gloucestershire Administrative County). Lower Mill Farm, Somerford Keynes C.P., SU09H, 15/8/2012 (CK and Mark), dominant in pond.

168/2/1 *Luzula forsteri* (Sm.) DC., **Southern wood-rush**. Native. VC 34. Park Hill, Woolaston C.P., ST59U, 13/4/2012 (DEG), more than 150 on wooded banks, both sides of small lane.

168/2/2 *Luzula pilosa* (L.) Willd., **Hairy Wood-rush**. Native. VC 34. Twinberrow Hill, Dursley C.P., ST79N, 31/3/2012 (GB).

168/2/5 *Luzula campestris* (L.) DC., **Field Wood-rush**. Native. VC 34. Newnham-on-Severn, Newnham-on-Severn C.P., SO61V, 12/4/2012 (GC), thirty or forty small clumps scattered through parish churchyard.

169/5/2 *Schoenoplectus tabernaemontani* (C.C. Gmel.) Palla, **Grey Club-rush**. Native. VC 33. Coombe Hill Canal, Deerhurst C.P. and Leigh C.P., SO82Y, 20/6/2012 (JPM), common along the canal.

169/11/1 *Blysmus compressus* (L.) Panz. ex Link, **Flat-sedge**. Native. VC 33. Cotswold Water Park, Cerney Wick, South Cerney C.P., SU09T, 15/6/2012 (CK and MARK), lakeside patch (see Plate 24).

169/16/25x26 *Carex x sooi* Jákucs = *C. acutiformis* Ehrh. x *C. riparia* Curtis. Native. VC 33. Cirencester Park, Cirencester C.P., SP00A, 9/6/2012 (KC), large stand in pond.

169/16/27 *Carex pseudocyperus* L., **Cyperus Sedge**. Native. VC 33. Cotswold Water Park, Cerney Wick, South Cerney C.P., SU09S, 15/6/2012 (CK and MARK), around lake margin. Coombe Hill Canal, Deerhurst C.P., SO82Y, 20/6/2012 (JPM).

169/16/29 *Carex vesicaria* L., **Bladder-sedge**. Native. VC 33. Coombe Hill Meadows, Deerhurst C.P., SO82T, 20/6/2012 (JPM), flowering and fruiting clump near the Grundon Hide.

169/16/35 *Carex strigosa* Huds., **Thin-spiked Wood-sedge**. Native. VC 33. Slaughter Wood (South), Lower Slaughter C.P., SP12S, 29/5/2012 (JRD).

169/16/37 *Carex panicea* L., **Carnation Sedge**. Native. VC 34. Tingley Wood, Lydney C.P., SO60M, 1/6/2012 (JRD).

169/16/48 *Carex demissa* Hornem, **Common Yellow-sedge**. Native. VC 34. Tintern Quarry, Tidenham C.P., ST59P, 24/7/2012 (JRD), at top of disused quarry.

169/16/50 *Carex pallescens* L., **Pale Sedge**. Native. VC 34. Flaxley Woods, Blaisdon C.P., SO61T, 23/6/2012 (CK and MARK), about six plants in wet flush in the woods. Tidenham Quarry, Tidenham C.P., ST59P, 11/6/2012 (DEG), on track above quarry and along access track from road. Tingley Wood, Lydney C.P., SO60M, 1/6/2012 (JRD).

169/16/51 *Carex digitata* L., **Fingered Sedge**. Native. VC 33. Hales Grove, Thrupp C.P., SO80R, 1/3/2012 (JRD), frequent along track side confirming 1987 record. 'Hillhouse Farm Wood', Bisley-with-Lypiatt C.P., SO90G, 14/2/2012 (JRD), on wooded roadside bank opposite Hillhouse Wood. Toadsmoor Woods, Bisley-with-Lypiatt C.P., SO80X, 13/1/2012 (JRD), two clumps confirming 1987 records plus one additional previously unrecorded population. VC 34. Dennel Hill, Tidenham C.P., ST59N, 16/5/2012 (DEG), eight clumps on steep path up to Offa's Dyke. Tintern

Quarry, Tidenham C.P., ST59P, 11/4/2012 (DEG), ninety-seven counted on limestone track and bank below access to quarry with 95% flowering. Additional populations found above the quarry on 16/5/2012. Twinberrow Hill, Dursley, ST79N, 31/3/2012 (GB), twelve plants with seven flowering.

170/21/2 *Vulpia bromoides* (L.) Gray, **Squirrel-tail Fescue**. Native. VC 34. Frampton Common Wood, Sapperton C.P., SO90G, 13/6/2012 (JRD), on stoned track.

170/21/3 *Vulpia myuros* (L.) C.C. Gmel., **Rat's-tail Fescue**. Native. VC 33. Gloucester, SO81J, 18/7/2012 (JAB), plentiful in St. Mary de Crypt churchyard. VC 34. Lydney Harbour, Lydney C.P., SO60K, 27/8/2012 (JAB and DH). Newent, Newent C.P., SO72D, 12/6/2012 (JAB), dense patch on B4215 road verge below rock outcrops.

170/24/2 *Puccinella distans* (Jacq.) Parl., **Reflexed Saltmarsh-grass**. Native. VC 34. Near Dyrham Park, Dyrham and Hinton C.P., ST77M, 25/6/2012 (CK and MARK), frequent along A46 road verge. Ludstock Bridge, Dymock C.P., SO63X, 19/7/2011 (CK and MARK), plentiful along road verge.

170/26/1 *Poa infirma* Kunth, **Early Meadow-grass**. Native. VC 34. Near Templemeads Railway Station, Clarence Road, Bristol, ST57W, 4/7/2011 (TCGR), a few plants along road verge. First county and VC record.

170/26/6 *Poa angustifolia* L., **Narrow-leaved Meadow-grass**. Native. VC 33. Northeast of Childswickham, Childswickham C.P., SP03Z, 15/5/2012 (CK and MARK with HVC, RJC and MJP). Tarlton Bridge, Coates C.P., SO90Q, 29/6/2012 (CK and MARK), road verge near canal bridge.

170/26/10 *Poa compressa* L., **Flattened Meadow-grass**. Native. VC 34. Cinderford Linear Park, Cinderford C.P., SO61, 4/7/2012 (JRD).

170/29/1 *Catapodium rigidum* (L.) C.E. Hubb., **Fern-grass**. Native. VC 34. Frampton Common Wood, Sapperton C.P., ST90G, 13/6/2012 (JRD). Lydney Harbour, Lydney C.P., SO60K, 27/8/2012 (JAB and JH). Tintern Quarry, Tidenham C.P., ST59P, 24/7/2012 (JRD), at top of disused quarry.

170/29/2 *Catapodium marimum* (L.) C.E. Hubb., **Sea Fern-grass**. Native. VC 34. New Passage, Pilning and Severn Beach C.P., ST58N, 9/6/2012 (JPM), plentiful.

170/36/chi *Avena chinensis* (Fischer ex Roemer & Schultes) Metzger. Introduced-casual. VC 34. Redfield, Bristol, ST67B, August 2012 (DG det AC), minimum of three spikes growing from pavement crack in Barnes Street near pet shop, the possible source. First county and VC record.

170/49/1 *Calamagrostis epigejos* (L.) Roth, **Wood Small-reed**. Native. VC 34. Tidenham Chase, Tidenham C.P., ST59P, 11/6/2012 (DEG). Tintern Quarry, Tidenham C.P., ST59P, 24/7/2012 (JRD), abundant at top of disused quarry.

170/55/2 *Polypogon viridis* (Gouan) Breister., **Water Bent**. Introduced-naturalised. VC 34. Bristol, ST57W, 19/6/2012 (JPM), alongside the Floating Harbour between Castle Park and Passage Street Bridge. Bristol, east of Temple Way, ST57W, 1/10/2012 (JPM).

170/60/1 *Melica nutans* L., **Mountain Melick**. Native. VC 34. Mailscott Wood, English Bicknor C.P., SO51M, 12/8/2011 (CK and MARK), three populations.

170/62/1 *Anisantha diandra* (Roth) Tutin ex Tzvelev, **Great Brome**. Introduced-naturalised. VC 33. Knightsbridge, Elmstone Hardwicke C.P., SO82Y, 21/6/2012 (CK and MARK with GPG), locally frequent along wheatfield edge.

170/69/1 *Hordelymus europaeus* (L.) Jess. ex Harz, **Wood Barley**. Native. VC 33. Lawrenceland Wood, Thrupp C.P., SO80R, 1/3/2012 (JRD), about fifteen plants above sunken track confirming 1987 record. Toadsmoor Woods, Bisley-with-Lypiatt C.P., SO80X, 13/1/2012 (JRD), more than fifteen plants on steep bank above footpath. VC 34. Westridge Wood, North Nibley C.P., ST79M, 12/1/2012 (JRD), known locality.

170/90/1 *Echinochloa crus-galli* (L.) P. Beauv, **Cockspur**. Introduced-naturalised. VC 33. Gloucester Docks, Gloucester, SO81J, 8/9/2010 (VEP), one clump in drain beside LLanthony Bridge. Little Haresfield, Standish C.P., SO80E, 3/8/2012 (JAB), in maize field in its second year. VC 34. East of Temple Way, Bristol, ST57W, 1/10/2012 (JPM). Redfield, Bristol, ST67B, August 2012 (DG), growing from pavement crack in Barnes Street near the pet shop.

Amphibian and Reptile Report 2012

Colin Twissell

In a garden pond in Churchdown, Great Crested Newts (*Triturus cristatus*) were seen in early January with numbers building during the Spring to possibly 15 to 20 individuals. In Tuffley (GA) and Kingswood (JB*), Great Crested Newts were discovered in their garden ponds. Although Great Crested Newts are said to prefer larger bodies of water, they do seem to be sustainable in smaller ponds although the population size may be restricted. With the loss of so many field ponds through neglect and land development, remnant individuals are finding garden ponds a potential survival strategy. The number of Forest of Dean ponds have been well surveyed again this year (DD) confirming the presence in previously surveyed ponds and discovering new populations in others.

The presence of Smooth Newts (*Lissotriton vulgaris*) was recorded from numerous ponds in the Forest of Dean. A search for Great Crested Newts in a garden pond in Tuffley, only revealed Smooth Newts, and on Cleve Hill four individuals were found under reptile survey mats.

All but one record for the Palmate Newt (*Lissotriton helveticus*) came from the Forest of Dean and that was from a garden pond in Whiteshill. The Forest of Dean is a hot-spot for Palmate Newts, so in any pond survey there is a very good chance that this species will be found.

The first sighting of Common Frog spawn (*Rana temporaria*) I received was from St Briavels (RG) on the 14th February. At Laymoor Quag and Mallards Pike in the Forest of Dean, spawn was seen on the 24th and 26th February respectively. By the beginning of March, further spawning was noted. 100+ frogs and 40 – 50 spawn clumps were seen in a garden pond in Cranham (TT). On the 18th March, well over 200 frogs and at least 140 spawn clumps were recorded from a garden in Nailsworth (TG). This Nailsworth garden has seven ponds located on its lower slopes. With an adjacent woodland and orchard it makes the garden a favourable, combined aquatic and terrestrial habitat for amphibians. Maintaining a balanced ecosystem, the ponds do attract avian predators and grass snakes! It was noted on the 22nd August (PA), that a water-filled ditch near Symonds Yat view-point had numerous Common Frog tadpoles, which lacked any sign of development. There are several environmental conditions, i.e. temperature, food, overcrowding, that could delay the tadpoles' development. The tadpoles will probably overwinter in suspended metamorphosis and continue their development the following year.

Common Toad (*Bufo bufo*) activity was observed on the 27th February, an evening of fine drizzle and a temperature of 10°C, making their way to a roadside garden pond. Toad activity continued into March, the relatively warmer temperatures helping to stimulate their migration. I did manage to rescue, from the edge of Woorgreens Lake in the Forest of Dean, a moribund female toad from a "ball" of at least ten male amorous suitors. Once out of the water the male toads soon dispersed and the overwhelmed female slowly recovered and returned to the lake. This activity can cause the female toad to drown. By May, toad tadpoles were seen in some of the larger water-bodies – the fishing lakes at The Mythe, Tewkesbury and Campden House Lake, near Chipping Campden. I received several reports of toads of various ages, being found under refugia, quite often some distance from water.

I received numerous reports of Common Lizard (*Zootoca vivipara*) sightings from areas of the Forest of Dean and the Cotswolds. The first sightings were during a reptile survey in early March on Cleeve Hill where lizards were seen basking. At the Ringhill Farm conservation area, where log-piles had been constructed, lizards used these areas for basking and shelter. These constructions proved rewarding, allowing for better observations and head counts (RP). Despite a very wet summer and reduced sunlight radiation, lizards seemed to have done well with numerous young lizards being seen in various locations later in the year.

Of the 29 Slow Worm (*Anguis fragilis*) records received, 15 were from the Forest of Dean and 14 from the Cotswolds. Regular visits and checking the different refugia at Ringhill Farm conservation area had a peak number of 18 Slow Worms of varying ages on the 1st July. At Chedworth NR, 7 adults and 3 juveniles were seen (CM), and in Dursley, checking reptile survey mats, 7 adults and 15 juveniles were recorded (JD & EW).

Very few Grass Snake (*Natrix natrix*) sightings were received this year. Single observations of individual Grass Snakes were reported from Dursley, Nailsworth and Stroud. Grass Snake activity was often witnessed on a garden compost heap near Taynton (EB). This activity is an indication that the site is being used for egg-laying, where the heat of decomposition helps to incubate the developing embryo in the snake's eggs.

My first Adder (*Vipera berus*) sightings were on the 25th February on Leckhampton Hill, on the 26th February at the New Fancy view-point, four males basking on Cleeve Hill on the 5th March, and two males on the 21st March on Crickley Hill. The number of Adder sightings received was encouraging, the Forest of Dean being the most numerous (see Plate 22). Given the right habitat structure, the Adder can be found basking in the less disturbed areas of the Forest. Despite the foot-fall along the

Cinderford Linear Park, five single sightings of Adder were seen on a moth meeting in June. On Leckhampton Hill six young Adders with one adult male and two adult females were seen and photographed, in mid-October (AS). I did receive one report of a person being bitten by an Adder whilst strimming grass in an area near Poulton (CM). I assumed the snake was handled, presumed dead! It was reported in the British Medical Journal (July 1976) that a person was bitten by a decapitated Adder's head twenty minutes after the event, indicating that the snake's envenoming reflexes can still function after decapitation, but whether this is what happened on this occasion, I do not know. Despite the weather this year, 2013, I saw one Adder on Leckhampton Hill on the 19th February after a morning frost and overnight temperature of minus 3°C with an air temperature at the time of the sighting of plus 4°C.

I would like to thank those who sent me records:-

G. Anderson, P. Andrews, J. Bailey, J. Bigwood*, A. Bingle, A. Bluett, E. Butler, G. Champken, D. Dewsbury, J. Doe, J. Elworthy, J. Fleming, L. Garner, R. Gaunt, S. Glover, T. Grant, D. Haigh, J. Harper, C. McLaren, G. Meredith, L. Moore, R. Pearce, E. Phillips, A. Sharpe, T. Taylor, C. Tracey, I. Twissell, J. Widgery, E. Winter, J. Woodbridge.

ORTHOPTERA (GRASSHOPPERS AND CRICKETS) AND RELATED INSECTS IN GLOUCESTERSHIRE – 2012

John Widgery

It was a fairly quiet year for the Orthoptera and the weather was unfavourable for much of the time for any meaningful surveys. Despite this, the overall impression was that populations seem to have remained reasonably stable except there was a noticeable decline in the number of **Long-winged Coneheads** (*Conocephalus discolor*) recorded but weather conditions at the time of surveying possibly influenced this. It was encouraging to find **Woodland Grasshopper** (*Omocestus rufipes*) still present in good numbers in Cirencester Park (c.SO9602) in August. Highlights were far and few between but Helen Pitel found two specimens of **Great Green Bush-cricket** (*Tettigonia viridissima*) in her garden at Whiteshill, Stroud (SO8406) on 27th August which represents a new 2km square record for this species. The Great Green Bush-cricket has a very restricted range in Gloucestershire and is rarely found away from its traditional sites and whilst this was not too far from its known locations Helen's sighting is worthy of mention. I got a new 10km square record for the **Short-winged Conehead** (*Conocephalus dorsalis*) at Twyning (SO8935) on 27th July and a new 2km square record for **Dusky Cockroach** (*Ectobius lapponicus*) along Spruce Ride in the Forest of Dean (SO6211) on 24th May.

Thanks to Jeremy Doe, Ian Elphick, Michael Foley, David Iliff, David Haigh, Guy Meredith, Helen Pitel, and Colin & Ingrid Twissell for their records.

Spiders in Gloucestershire 2012

David Haigh

Venues visited by the Gloucestershire Invertebrate Group (GIG) took in 4 sites in the FOD, 2 in the Severn Vale and 2 in the Cotswolds. I am grateful to Colin Twissell (CT) for collecting spiders on the two occasions I was unable to attend. As in recent years I received records from David Priddis (DP), John Widgery (JW) and John Harper (JFH). The annual 'Bughunt' in July at Lower Woods yielded 2 'good' spider records while a visit to a city garden in Gloucester produced a refind of a Nationally Scarce Notable A spider. Other good records were submitted by individuals who, in some cases, were concerned by the spiders' presence.

Records :

Red Data Book: RDB 3

Episinus maculipes, male and female. A refind at Lancaut, 8th July 2012 and beaten from yew. First recorded at Lancaut, 18th June 1998 and known only from Shorncliff, Ban-y-Gor and Woolaston Lime Wood.

Nationally Scarce Notable A (Na)

Trematocephalus cristatus, male, Lancaut, 8th July 2012. 2nd county record. First recorded at Black Morgan's Wood, 12th May 2007.

Nigma walckenaeri Records from JW were from Woodmancote on *Thuja*, Twyning Green also on *Thuja*, Slimbridge (Ryalls Lane Pumping Station) hedge and Buckland on Lawson's Cypress. A further record was the refind of 2 immatures in a Gloucester garden. This species has been recorded almost annually since its first record at Alderton in 1998 by Nigel Burston.

Nationally Scarce Notable B (Nb)

Achaearanea riparia, male, Olio Lane, Cheltenham, September. Discovered while weeding. One previous record from Tewkesbury, 16th August 2004 by JFH.

Hybocoptus decollatus, 2 females, Woolaston Common, 15th June 2012, DP. 2nd county record. First record at same site by DP in 2011.

Tetragnatha pinicola, male, Campden House Woods, 26th June 2012, CT. Also a female at Lancaut 8th July 2012, JFH. First recorded by me at Pinchley Wood, 21st May 1989 and there are now in excess of 24 records.

Zilla diodia, female, WWT 100 Acre, 19th May 2012. First record at Pope's Hill, FOD 7th July 2002. Most records are from west of the River Severn. Fewer than 20 records.

Nigma puella, females, from Splatt Bridge and WWT 100 Acre, 19th May 2012 and 2 males, Netheridge NR, 13th June 2012. The first record was from Clarke's Pool Meadow, 26th June 1999 and over 40 records since then.

Philodromus albidus, females from Campden House Woods, 26th June 2012, CT and 'Bughunt' Lower Woods, 1st July 2012. The first record was from Sedbury Cliffs, 21st May 2000 and more than 25 records since then.

The Atlas of British Spiders 2002 indicates statuses RDB and Notable and describing remaining species as scarce, very local, local, uncommon, frequent, common and very common. Local and scarce spiders are generally confined to a specific habitat and their status often reflects the rarity of that habitat. An example of a very local spider is *Arctosa leopardus*, a wetland lycosid and widespread in Wales and East Anglia, but absent from much of central England. Gloucestershire has 9 records from 7 sites and this year produced the 10th record from Clanna, FOD, 15th June 2012, DP.

Araneus triguttatus, local. Male and female at Splatt Bridge, Salt Marsh Meadow and WWT 100 Acre, 19th May 2012. 6th county record, all previous records by JFH. Most records are from southeast England, thinning out considerably to the west and north of the Midlands.

Larinioides scolopetarius, very local. Cerney Wick (near Gateway Centre), 30th October 2012, JW. This orb-web spinner is confined to hard structures (bridges, barges, hides) adjacent to, or over, open water as in CWP, Sharpness-Gloucester Canal and Stroudwater Canal. See TGN No 17, June 2006 for the then current map and photograph.

Hyposinga albiovittata, uncommon. A sub-adult male, Brassey NR, September 2012, Kathy Meakin. 11th record east of the River Severn in Gloucestershire and all from species-rich unimproved limestone grassland.

Xysticus bifasciatus, scarce. A male from Laymoor Quag FOD, 30th May 2012, CT. This is the first record west of the River Severn and second record for VC 34. This is one of the largest crab spiders.

Xysticus lanio, local. A female at 'Bughunt' at Lower Woods, 1st July 2012. This spider is the only member of the genus commonly found on shrubs or young trees, especially oaks. There are 4 previous records and this is the first record since 2005.

Two 'recently-arrived' spiders to north Gloucestershire continue to be recorded:

Segestria florentina First recorded in 2008 at Tredworth, Gloucester and reported in the Press and on Central Television. There were 3 records in 2012:

- On a school wall, south of Gloucester, 1st May 2012.
- Trinity Rooms, Stroud, 15th May 2012. Collected by Juliet Bailey who had an uncomfortably 'close encounter' with this large spider.
- In a house in Dursley, October 2012 and of some concern to the householders.

Heavy rain in 2012 may have washed the spider out of its tube web within old brick/stone walls and observations were of displaced individuals. This spider is now recorded in 9 tetrads, south to Wickwar. It has been well-established in Bristol for many years (Bristowe, 1939).

Steatoda grossa a 'False Widow' (see photograph on front cover, TGN No 22, 2011). Martin Matthews provided the first record of 2012 at Tewkesbury, March 2012.

Adults and juveniles were discovered in a house in Cheltenham occupying animal cages. The anxious householder telephoned me to identify and remove the 'widows'. Interestingly, the tetrad for this house is SO92F and is the second record from this tetrad, both sites within 0.2Km of the main railway line.

John Harper (JFH) has emailed me a selection of spider records from his collecting activity at Awres Glow. JFH visited the site in April (GIG) and June and July. Among his records are a New County Record, Na, Nb, and local species, as follows:

New County Record *Zygiella stroemi* Nb. A male beaten from pine tree foliage, 25th June 2012. JFH has written up the discovery of this spider in a separate report and included photographs (see page 65 and Plates 33 & 34).

Bianor aurocinctus Na. A male, female and sub-adult males, 25th June and 5th July 2012. Apart from a single record from Siccaridge Wood (VC 33), 5th June 2001, all other records are from VC 34, Clearwell Meend and The Park (heathland restoration). The last record for this 'jumping spider' was from Stenders Quarry 12th August 2005, also by JFH.

Tetragnatha pinicola Nb. Male 25th June 2012 and male 15th July 2012. See note above for record history.

Philodromus collinus Nb. Female 25th June 2012. First recorded by me at Edgehills Bog in 1993 and 6 records since then, the last record being 24th September 2011 by John Widgery.

Thyreosthenius parasiticus local. Female 15th April 2012. The 3rd record, the previous records being from Lineover Wood, 2nd September 1999 and Siccaridge Wood, 26th February 2002.

Minyriolus pusillus local. Female 25th June 2012. 5 previous records, the first from Highbury Wood, Spider Recording Scheme 1990 and 4 further records all in 2005 by JFH.

Xysticus ulmi local. Female 5th July 2012. Widespread in southeast England and becoming scattered to the west and north. Usually occurring in damp sites. 5 records, the last record from Brassey NR mire 17th May 2010, Kathy Meakin.

JFH included a further 8 local/infrequent species and I must applaud John's industry at Awres Glow in the 'summer' of 2012. Might this area in the FOD be considered another 'spider hotspot', producing as it does a community of Nationally Scarce and local spiders.

May I thank contributors who have significantly added to the knowledge of the county's spider distributions. I wish to thank John Harper especially for his contribution on the discovery of *Zygiella stroemi*. Close examination of tree trunks will become a necessary activity in future spider forays.

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Odonata Report 2012

Ingrid Twissell

2012 was not a particularly good year for many invertebrates, including Odonata. This was very disappointing as it was the final year, of five, for surveying for the new National Dragonfly Atlas, when an attempt to fill in gaps in recording in the county was to be undertaken. It turned out to be an extremely frustrating task in view of the weather(!) – although some progress was achieved. In spite of this, **Large Red Damselfly** (*Pyrrosoma nymphula*) was first seen on the last day of April (CFT, IT), and a total of 16 species of Odonata were recorded by the end of May - 9 Damselflies and 7 early-season Dragonflies.

Two meetings were held in the Forest of Dean, for the British Dragonfly Society (BDS) and Gloucestershire Wildlife Trust (GWT), primarily to look for the Red Data List (Near Threatened) **Scarce Blue-tailed Damselfly** (*Ischnura pumilio*). This damselfly was thought to be approaching extinction in the UK in the early 2000's, so it was pleasing to successfully spot this rarity at the new ponds at Laymoor Quag on both of the meetings, albeit in very small numbers. One was also spotted on the other side of the railway embankment at Laymoor Quag NR on 28th June (Martin Matthews). The earliest and latest dates were 25th May (John and Viv Phillips) and 15th July, when a mating pair was seen (CFT, IT), with a maximum of 6-8 adults on 10th July (Phil Mugridge).

A meeting was held for the FOD Wildlife Watch Group on 15th July, also at the Cinderford Linear Park – North, which was attended by some very enthusiastic youngsters with their parents. This included pond-dipping for larvae and other invertebrates, and seeing how many damselflies could be caught in a net! A further Wildlife Watch meeting, for the Stroud Group, took place at Saul on 12th August. This involved pond-dipping in the new wildlife pond, followed by a walk along a short stretch of disused canal and continuing along a cleared stretch of the R. Frome to Saul Junction. After stopping for ice-creams, drinks and a rest, the party headed back to Saul trying to beat the approaching storm – but failing!

The Tewkesbury branch of the University of the Third Age (U3A) requested a walk to look for dragonflies and damselflies, and this was arranged for the 12th July, where a walk along the disused Thames and Severn canal and on the very muddy path around Lake 6 at the Cotswold Water Park was taken by the members. Afterwards refreshments were enjoyed at Coot's Cafe at the Gateway Centre.

The last dragonfly field meeting for 2012 was on the 2nd September when a GNS meeting was held to look for late-flying dragonflies and damselflies at Coombe Hill NR when six species were seen on a dull morning.

A new location for **Scarce Chaser** (*Libellula fulva*) was at Coombe Hill Canal NR when a female was seen on 27th June, and a male on 5th July (CFT, IT). The male appeared to have been mated, but whether this is a breeding site it is still unknown at present. It was good to see their presence at the known breeding locations of The Mythe, when 10, including two mating pairs and a newly-emerged adult, were seen on 18th June, and at Twynning, when on 25th June a grand total of 63, including 6 mating pairs as well as immatures, were present (CFT, IT).

There was also a new location for **Common Clubtail** (*Gomphus vulgatissimus*) along the Severn Way at Apperley, when a single adult was seen and photographed on 11th July (CFT, IT) (see Plate 23). Ten, including a newly-emerged adult, were present at The Mythe on 18th June (CFT, IT). Three were seen along the R. Wye on 14th June (AGS via BDS website) and a single adult was at Symond's Yat Viewpoint on 19th June (Phil and Chris Andrews).

A Gloucestershire Invertebrate Group meeting was held at Salt Marsh Field at Frampton on 19th May, this site being alongside the WWT Slimbridge 100-acres. Restoration of the R. Cam channel had been carried out and the meeting was held to determine whether the site was now a suitable habitat for **Hairy Dragonfly** (*Brachytron pratense*), and to survey for other invertebrates that may be present. A larva was scooped from the channel in a kitchen sieve (an integral part of a GIG member's kit) by John Fleming, which was identified as a Hairy Dragonfly larva, and newly-emerged adults were present – one carefully picked up from long grass by Tony Taylor, shown to GIG members and photographed. This evidence of breeding showed that the restoration of the site was a success. Dave Paynter, WWT Slimbridge Reserve Manager, kindly allowed the group access to 100-acres in the afternoon, which was where they were first re-discovered breeding in 2002; they are now breeding throughout the reserve. 4+ adults were present on 27th May (NJP, VEP), and 1 female on 1st June (Andy Jayne) at Walmore Common, which was where they were first discovered in 2011. They are probably breeding here, but neither larvae nor newly-emerged adults have yet been seen.

Also at Walmore Common, **Golden-ringed Dragonfly** (*Cordulegaster boltonii*) was spotted for the first time on 1st June (AJ), this species being confined in Gloucestershire to the Forest of Dean.

A newly-dug “pondscape”, or series of linked ponds, formed part of a Heathland Restoration project started in autumn 2011 on the Larch-cleared site northwest of Woorgreens Lake and being carried out by the Forestry Commission in conjunction with the Gloucestershire Wildlife Trust. A total of 18 species were recorded here, an astonishing number for a site in one season. The highlight of the year occurred on 26th July when a male **Red-veined Darter** (*Sympetrum fonscolombii*) was spotted (NJP, VEP). This species is a rare vagrant and has only been seen twice before in Gloucestershire – in July 2002 – when there was one at Awre and another at Flaxley (NJP, VEP). There were major influxes of Red-veined Darter in the spring and summer in several locations of the UK in 2012, mainly in the south of the UK, with 100+ recorded at Severn Beach, including teneral and immatures, although there were a few locations further north earlier in the year. Locally bred second generations were discovered in the autumn at 5-6 sites, as reported in Adrian Parr's Rarities Update 2012. On the following day (27th July) an adult male (possibly two) was still present at the “pondscape” allowing photographs to be taken, and we had the excitement of our first sighting of Red-veined Darter in the UK. Also at this site, the only record of **Black Darter** (*Sympetrum danae*) occurred in 2012 – on 22nd September (CFT, IT).

After the drainage of Woorgreens Lake in 2011, which was undertaken to try to eliminate fish present, and then allowed to fill naturally, a thorough survey of the lake was undertaken by Beth Adams of GWT and others, to establish the effect on Dragonfly populations. A total of 14 species were recorded around the lake, with the new “pondscape” also being surveyed.

There were fewer than usual records of **Downy Emerald** (*Cordulia aenea*), but they were present at Woorgreens Lake and the Cinderford Linear Park, both North and South, in May and June (MM, CFT, IT, and AGS via BDS website) with 3 being seen for the first time at the new ponds at Laymoor Quag on 30th May (CFT, IT). At the new “pondscape” behind Woorgreens Lake, one was present on 27th July (Tony Eveleigh). In the Cotswold Water Park, two were present at two locations – Whelford NR on 13th May (David Hastings) and at Edward Richardson Phyllis Amey NR on 12th June (Will Masefield).

An illustrated talk was given to the GWT FOD Group - the subject being the new National Dragonfly Atlas, recording in Gloucestershire, and changes in Odonata species in the county and the UK, including new breeding colonies, that have occurred since the last National Atlas was published in 1996. I am grateful to Steve Prentice of the BDS for sending me photographs for my talk, of species new to, or re-found in, the UK, and to Steve Cham for the draft pages as examples of the new Dragonfly Atlas.

The Cotswold Water Park Dragonfly Atlas is currently in preparation by Gareth Harris who hopes to publish prior to the new National Dragonfly Atlas in the autumn of 2013. All credit is due to Gareth's hard work and his organisation of all the recorders he has mustered in the CWP to help in recording for the project.

The last sightings of the dismal year were of **Common Darter** (*Sympetrum striolatum*) on 3rd November at Woorgreens Lake, **Migrant Hawker** (*Aeshna mixta*) on 11th November at WWT Slimbridge (both Martin McGill), and **Southern Hawker** (*Aeshna cyanea*) on 14th November at Cannop Ponds (Laurie Pierce).

I would like to thank everyone, named in the text or not, who has sent or given me records in 2012 – over 60 people. I greatly appreciate all the records received. I would also like to thank Mark Yeates at MapMate, Linda Moore at GCER, and Steve Prentice at BDS for all their help in sorting out problems of importing records into MapMate. Lastly, my thanks go to Colin Twissell for the use of his photographs in my talk, and his enthusiasm when looking for dragonflies and exuviae when out in the county.

COLOUR-RINGED CURLEWS ON THE LOWER SEVERN May 2012 to April 2013

John Sanders

Introduction

In the Septembers of 2010 and 2011 a total of 95 Curlews (*Numenius arquata*) were trapped at the high-tide roost on the Severn estuary at Wibdon Warth, Tidenham, and fitted with unique combinations of five colour rings, plus one metal. I have used these colour-ringed birds as the basis for a study, in an effort to discover more about the population that winters on the Lower Severn. The area covered extends from Lydney Harbour and Sharpness Docks in the north, down to the first Severn Road Bridge, and this report includes observations made during the period from May 2012 to April 2013 inclusive. In conducting the fieldwork I made about a hundred visits, which generated a total of 1,126 ring sightings.

Colour rings

From the outset it has to be said that Curlews are not ideal subjects for a colour-ring study, since their rings are very difficult to identify with certainty (see Plate 1). Their lives are controlled by the run of the tides rather than light and dark. At low water they are generally feeding at great distance in the centre of the river, much too far away even to see the rings. As the tide surges in and the mud banks are covered, they fly to roosts at long-established sites at the edge of the estuary, but here they are exceptionally wary. They take off at the slightest sudden movement, and will not allow an approach to within two hundred metres, so it is never the case that one can walk up to a flock, set a telescope, and read off the rings. One has to have a detailed knowledge of the birds' behaviour, and be screened in some way, in order to be close enough to them to identify the rings. Most of the estuary is an open landscape, and only at the roost at Guscar Rocks is there a hedge that allows one to approach without being seen. Even here, one is often two hundred metres away from the birds, which is the maximum range at which one has any hope of recording the different coloured rings. Ideal weather conditions are still required, a good light, with little wind. Late afternoon and early evening roosts are out of the question, since one is looking south, and into the setting sun. Because of these difficulties, I have made myself a lightweight portable screen that I can set near the roost sites, in order to make closer observations and take pictures, but still a large measure of organisation and patience is required.

The furthest roost site is an hour's walk from the car. The tide starts to run about five hours before high water, and the lowest mud banks are covered four hours before. It is at this time that the Curlews begin to move. Most fly to feed on higher banks, some

fly up-river ahead of the tide, but a very small number already come into the roosts. For this reason, ideally, I have to have my screen set, and be in position at least four hours before high tide (see Plate 2). I then have to wait for another hour and a half, before all the mud banks are covered, and the main arrivals into the roosts occur (see Plate 3).

With all the birds in front of me there are still difficulties to overcome. Curlews at roost invariably stand on one leg, sometimes for hours at a time, and even as the tide comes in they will hop in front of the approaching water. Staff at the British Trust for Ornithology (BTO), in their wisdom, devised a scheme where a single colour ring was placed on the left tibia (blue, lime or white) and two colour rings on the right. All birds have a yellow and white ring on the left tarsus, which are unique to the ringing scheme (see Plate 1). This means that both tibiae have to be seen simultaneously in order to identify an individual bird. There is nothing more frustrating, after a long walk, and a long wait, than to see a dozen colour-ringed birds all standing on one leg. Yet, I have to admit, there seems to be no perfect solution for marking Curlews. Rings placed on the tarsi get covered in mud, and cannot be seen when the birds are feeding in grass. The best I can suggest would be to use coded rings, with duplicate rings on both tibiae for each individual. Even this would not be ideal, since when the birds are completely relaxed they slump down, so that the belly feathers obscure much of the tibia. It follows that the optimum time to record rings is immediately as the birds land in the roost, while they are still standing on two legs, and before they become relaxed (see Plate 3). Occasionally one gets further opportunities, such as when the birds are flushed by a Peregrine, or low-flying aircraft. They will briefly circle around, and come back into the roost, but recording Curlew rings is never straightforward.

Roost sites

There are five main roost sites on this part of the estuary, but not all are occupied at every high tide:

Aylburton Warth, ST618994 (see Plate 4): this site is the one that is used most consistently, although it was largely deserted in late March and early April 2013, when it was noticed that no birds were feeding on the river off Lydney New Grounds. The birds did return in good numbers, however, later in April. At neap tides the birds roost on a small rocky outcrop on a promontory immediately south of abandoned salmon putchers (see Plate 13). On higher spring tides they are pushed off the shore and rest on the salting immediately above. For this reason, observations are best made on the lowest neap tides, when it is a simple matter to set a screen under a high bank at the top of the shore (see Plate 2). Birds tend to start arriving a little later than at the other roosts, about three hours before high water. Late afternoon and early evening tides are best avoided, since one is looking south into the sun. Disturbance is rare,

with just the odd visit from farm workers, river authority staff, wildfowlers and birdwatchers. When the birds are disturbed they tend to fly a short distance to the southwest, and rest on the salting on a promontory at ST611991.

Guscar Rocks, ST595982 (see Plate 5): here there is a large expanse of seaweed-covered rocks, with a vegetated mud bank on the landward side. Birds start to arrive four hours before high water, and it is usual for them to settle initially in the seaweed, where rings are difficult to read, before they move under the mud bank, where they are out of sight. For this reason it is best viewed on high tides of 10.5 metres and above (measured at Narlwood Rocks, mid-river off Oldbury Power Station), when the birds are pushed inshore on to the top of the bank. Setting a screen is more of a problem, since there is only a low ridge at the top of the beach, but there is always a lot of driftwood lying around, which can be arranged to provide extra cover. On the highest spring tides the birds rest in a field immediately above the shore, and when disturbed either fly north to a site below Plusterwine at ST602986, or south to Woolaston Grange at ST590980. Human disturbance is a little more of a problem here, and in addition to that mentioned for Aylburton Warth, dog walkers are occasionally seen.

Wibdon Warth, ST571962 (see Plate 6): this is a stretch of salting, over a kilometre long, with a muddy shore below. The Curlews sometimes start to congregate on the beach about five hours before high water, and on the higher tides fly up on to the salting. Observations are difficult, but are best made on lower tides, when the birds remain on the shore. The main problem is that it is not possible to predict exactly where the birds will settle, they change their roost position from time to time. In addition, although there is a high bank above the beach, the mud below is soft and sticky, so setting the screen can be a very messy business. But when things go well this roost can be the most rewarding. As it is near the ringing site, the percentage of colour-ringed birds is highest here. Disturbance is minimal, with just the odd wildfowler during the shooting season, farmworker and fisherman at Pillhouse Rocks to the south.

Pillhead Gout, Oldbury-on-Severn, ST597923 (see Plate 7): this is the main roost site on the east side of the estuary, and lies just south of Thornbury Sailing Club. It is used less frequently than the three sites already mentioned, presumably because there is more human disturbance. The occasional jogger appears in the early mornings, and there are many dog walkers, plus ramblers walking the Severn Way footpath, later in the day. The site consists of an earth sea wall, a narrow band of salting, and wide muddy shore. The site is exposed, there is no convenient bank under which to set a screen, so it is difficult to remain concealed, and make observations. Lower tides are

best, which do not push the birds up on to the salting. When they are flushed they either fly downriver to Littleton Warth, ST584910, or across to Wibdon Warth.

Lagoon 3, Oldbury Power Station, ST604941 (see Plate 8): this is a settling lagoon for cooling water pumped from the nuclear power station. Maintenance staff are often present during working hours, so this disturbance means that the roost is occupied most frequently at night at the highest spring tides. Despite the fact that there is a hide, observations can be difficult. They have to be made in the very early mornings, when the light is poor. Added to which, the birds are often at long range, and standing in vegetation. As there is no tide to move them they are invariably motionless, and standing on one leg, so for a variety of reasons this site tends to be the least productive. In former winters a few Curlews used to roost at lagoon 1, ST608952, but only one recent sighting has been made here. A very small number of birds feed on the shore at Shepperdine, ST608956, and at neap high tides remain to roost at the top of the beach.

Numbers

It has been impossible for me, working alone, to make simultaneous counts at the five roost sites, so I have been unable to produce accurate tallies for all the birds wintering in the area. The largest numbers that I have seen have been 'scoped from Guscar Rocks. Being about the mid-point in this part of the estuary it is possible to scan a large area. I estimated 800 from here in the third week of July, and 900 in mid-August. My highest counts were about 1,100 during cold weather on 20th January 2013 (when some duplication may have occurred) and 1,000 at low tide on 2nd March 2013. The last count may well have included passage migrants, since a small number of winter visitors were known to have already left by this time. My best guess is that there are between 900 and 1,000 Curlews regularly wintering on the Lower Severn, which means that about ten per cent, or slightly less, should be colour-ringed.

Early summer

This report begins in May, when all the breeding birds have left the estuary, and only a few remain. These are likely to be first-summerers, since it is generally agreed that Curlews do not start nesting until their second-summerers (third calendar years). I believe that it is important to make counts of these remaining birds, since they give some indication of the numbers recruiting into the wintering flock, bearing in mind that we have no way of knowing whether all the first-summerers remain on the estuary. At least 30 birds were present during May 2012. This appears to be a low total, taking into account the fact that wintering birds number in excess of 900, and it would suggest that Curlews have to live to an average age of 30 years, in order to maintain a stable population. Counts will have to be made in future years in order to discover whether 2011 was a particularly unsuccessful breeding season.

Late summer return

The first adult colour-ringed birds reappeared at the end of June, earlier than I had anticipated, and before I had started to make planned observations. I made two sightings in the last week of June, and then there was a mass return during the first half of July, when a further 59 birds were seen. Eleven more arrived at the end of July, and fourteen in the first half of August, bringing the total of ringed individuals to 86. After this no more new birds were seen up until the end of April 2013.

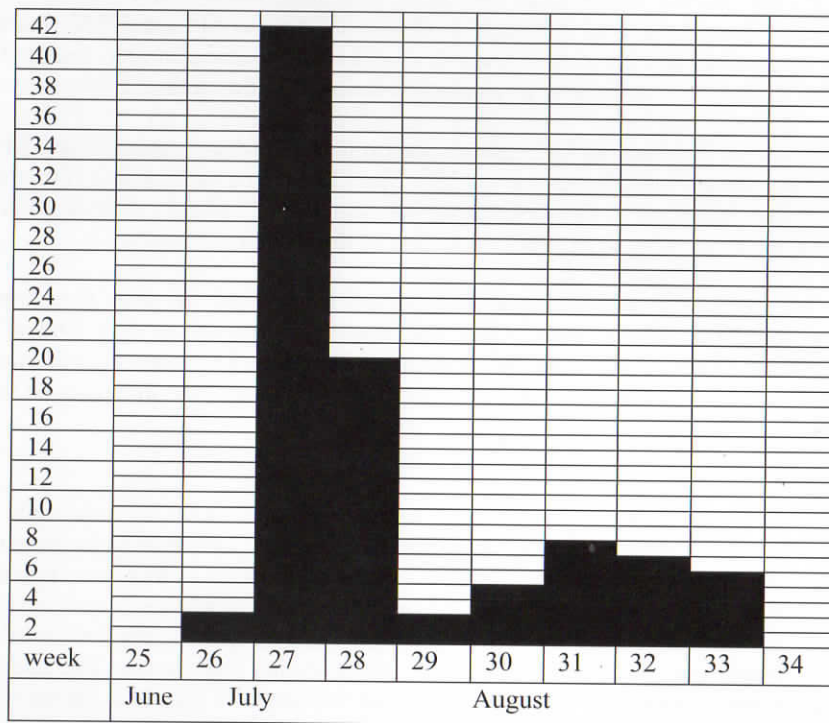


Table 1. In the table above I have plotted the number of new ringed arrivals against the week in which they were first seen. Observations are always subject to the vagaries of weather and tide, as well as the behaviour of the birds, but it is evident that I did not start early enough, and it is likely that more arrived in late June than are charted here.

It was clear that these returning birds were in active primary moult, so it would appear that there is pressure on them to come back quickly to the relative safety of the estuary. Obviously it would be a disadvantage to continental breeding birds to

undertake migrations when the efficiency of their flight feathers is impaired (see Plate 9).

It is easy to assume that the birds that breed closest to the estuary return first, while those from higher latitudes on the Continent come later, but so far I have no evidence to support this. Eight ringed birds have been identified on their breeding grounds, and the first of these to be seen was from The Netherlands on 27th June 2012 (see Plate 10). This was closely followed by two more from that country on 4th and 6th July. These birds breed on a similar latitude to Gloucestershire, at 51° and 52° N. Another bird, colour-ringed and breeding in Germany, on a corresponding latitude, returned on 4th July, while two from Finland also returned during the first week of July.

Of those known to be nesting in England, one from near Banbury appeared on 4th July and another from North Yorkshire on 12th. The closest known breeding bird, from Coombe Hill, just north of Gloucester, also was seen on 12th. Clearly there is still a lot to be learned about what determines the timing of the autumn migration.

There is no easy way of identifying first-winters in the field, so when they appear remains something of a mystery. Only one was colour-ringed out of a total of 95 birds. As the ringing dates were 26th September 2010 and 27th September 2011 this may well indicate that the main arrival is later than September, and that juvenile birds do not accompany their parents to winter quarters.

Roosts

During July a majority of the Curlews roosted at the three sites on the west bank, but from mid-August onwards there was a dispersal, when they started using the roosts on the east side. From October to December many flew into fields to feed over high tide, sometimes at a considerable distance from the river, which made ring-reading difficult. At Guscar Rocks some frequented a pool just behind the sea wall, while at Wibdon Warth very few were seen on the shore during this period. The habit of feeding in fields stopped in January, apart from the times of very high spring tides, when the whole estuary was flooded and the birds were forced off the shore. It follows that the optimum times for ring-reading are from late June to September, and again from February to April.

Feeding sites

Three main feeding sites have been identified on the Lower Severn, Oldbury Sands, Sheperdine Sands and Lydney Sand. At spring tides, not only does the water come in to a greater height, it goes out further at low water, and exposes a wider expanse of mud. The birds prefer to feed at these lower levels, and then move on to the higher banks as the tide comes in. A few fly upstream, ahead of the approaching water, so it

is easy to assume that birds on this stretch of the estuary move freely between the mud banks, according to the availability of food. My colour-ringing studies show that Curlews are extremely site-faithful; it is the same individuals that return winter after winter to the Lower Severn. However, sightings at the five main roost sites further suggest that the site fidelity may be even more precise. It is as if there is an invisible dividing line extending from Guscar Rocks to Sheperdine, with some birds being seen far more frequently to the north, while others occur more often to the south, with an intermingling at the Guscar Rocks roost. The highest mud bank at the upper end of this section of the estuary is the northernmost part of Lydney Sand. The birds congregate here as the tide rises, and then most fly to roost at Aylburton Warth, with a few carrying on down to Guscar Rocks. At the lower end the highest point is on Oldbury Sands, and after gathering here the birds fly to Oldbury-on-Severn, Wibdon Warth and Guscar Rocks, with much interchange between these three sites. There are about 25 ringed birds that habitually roost at Aylburton, that are rarely seen at Wibdon and Oldbury, and conversely, 28 that frequent the Wibdon and Oldbury roosts which seldom, if ever, visit Aylburton. It is obvious that all colour-ringed birds had to be at Wibdon Warth in order to be fitted with their rings. A little more analysis reveals that only four birds trapped out of a total of 66 on 26th September 2010 were what I would describe as 'Aylburton' birds, yet at the second catch on 27th September 2011 the proportion was 21 out of 29. The reason for this disparity is that birds were deliberately disturbed from the roosts at Aylburton Warth and Guscar Rocks before the second catch, in order to drive them down to the Wibdon Warth roost, while at the first catch there was no disturbance, and 500 birds were said to have remained at Guscar Rocks. It is clear that in 2011 a majority of the trapped birds were those that had been forced downriver.

There are important implications in a conservation context, in that it is possible that the loss of a single mud bank may mean the demise of the Curlews that perhaps habitually feed there. The idea that individual birds have favoured feeding sites is supported by observations made on the shore south of Sheperdine, one of the few places where it is possible to get relatively close views. About fifteen birds regularly frequent this area at low tide, and with them are often two ringed birds, for which many repeat sightings have been made. Similarly, another ringed individual is regularly seen feeding alone on the shore in the Pillhead Gout area. It is interesting to note that birds moved around the estuary more freely in April, when obviously there were lower numbers, and presumably less competition for food. There was a period early in the month when no birds fed on Lydney Sand, and none appeared in the roost at Aylburton Warth. What I regard as 'Aylburton' birds then arrived in the roost at Wibdon Warth. Yet on 20th April the situation was reversed. 290 birds fed at low tide on Lydney Sand, and later appeared in the Aylburton Warth roost, including several 'Wibdon' birds.

Spring departure

From January to April 2013 a total of 74 ringed birds were identified, twelve less than in the previous autumn. It is not known whether the missing individuals moved on to spend the early winter elsewhere, or whether a few mistakes were made in their identifications in the autumn. It is all too easy to make errors, particularly when the light is poor, and dark colours, blue, green and black are especially difficult to separate. It is known that a very small number, perhaps up to five, feed on the estuary between Purton and Fretherne, and roost on the Dumbles at the Wildfowl and Wetlands Trust, Slimbridge. Two were identified in this area in September (M. Smart, pers.comm.)

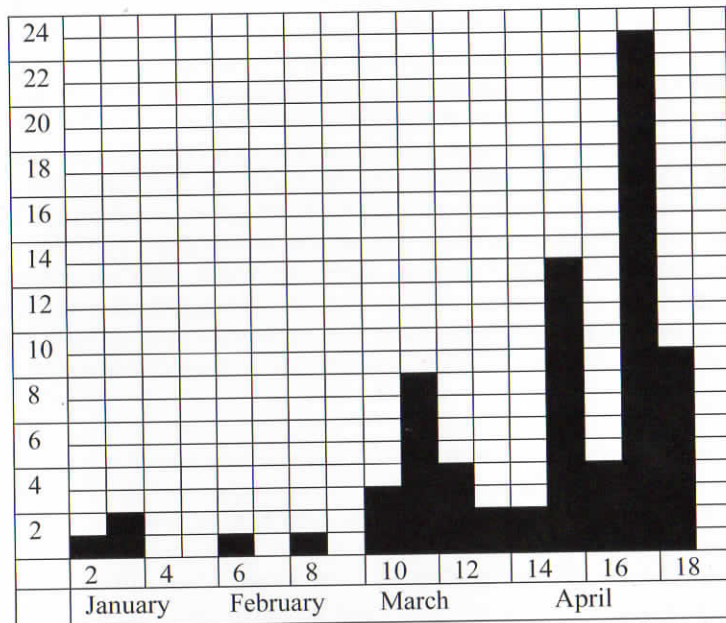


Table 2. In the table above the first four months of the year are divided into weeks, and the numbers of last sightings for each week are plotted. Four birds were last seen in January. One of these was at Guscar Rocks on 30th, and back on its breeding ground in The Netherlands about two weeks later. Not all the Dutch birds left together, however, a second bird was last seen on 28th February, and a third on 7th April. A known German breeding bird was last seen on 14th March, and two from Finland on 7th April. Others from Banbury and North Yorkshire left after 5th and 6th March.

Perhaps the most unexpected finding was that two thirds of the ringed birds, 50 out of 74, remained into April, the last being seen on 24th. It is possible that this indicates that a large proportion of the wintering population breeds at high latitudes in Scandinavia, since late April and early May is a time when Whimbrels and Bar-tailed Godwits are on passage up the estuary in relatively large numbers. Regrettably we do not have sufficient observations of ringed birds from these northern parts from which we can draw conclusions.

Objectives

Staff at the BTO have informed me that the objectives of this colour-ringing scheme are to study turnover and survival of the Curlews wintering on the Lower Severn. From my own observations it appears that turnover is negligible, it is the same birds that return each autumn, and remain until the following spring. Of the adults that arrive after the breeding season it is possible that a small number move on to other sites, since 86 colour-ringed birds were seen in the autumn, against 74 in the spring, but such is the difficulty of identifying individuals by the ordinary birdwatcher we have received no recent sightings from other wintering areas to support this. In addition, so few Curlews are colour-ringed in other parts of Britain and Europe that passage through the estuary is virtually impossible to prove. Just one marked in Germany is known to be a regular wintering bird (see Plate 11). As for survival, I believe it was a mistake to put five colour rings on each bird. Curlews are likely to be long lived, and inevitably one or more rings will be lost with time. Just the loss of one ring from the tibia makes an individual unidentifiable, so this is not a satisfactory way of measuring longevity (see Plate 12).

Furthermore, only one first-winter was trapped, and two more that had been ringed as juveniles were controlled, hence these three birds are the only ones of known ages. An unsuccessful attempt was made to colour ring more Curlews in September 2012 and further attempts are contemplated in future years. I believe it is a mistake to mark more birds without making arrangements for a team of trained fieldworkers to track their movements, since ordinary birdwatchers have such great difficulty in identifying them.

Conclusions

Despite the shortcomings of the scheme, much useful information has been gathered. For me the biggest revelation has been how late the majority of Curlews remain in spring, and how soon they return in the summer. For birds that breed in higher latitudes there seems hardly enough time for them to complete their breeding season, but clearly they have to be quickly back on the estuary to complete moult. It is obvious that juveniles do not accompany their parents to winter quarters, so it would be interesting to know how these are selected. Another unexpected finding was how

faithful individual birds are to their feeding and roost sites. I have formed the impression that they are not adaptable, in the way that gulls are, for instance. This leads me to believe that any change in the environment, such as that brought about by the construction of a barrage, would adversely affect the numbers of Curlews wintering on the Lower Severn.

Acknowledgements

I gratefully acknowledge the help given by birdwatchers who have sent me records of their colour-ring sightings and counts of Curlews. During the year Peter Hazelwood sent many detailed counts and 22 records of ringed birds from the stretch of the estuary around the Oldbury Power Station. Mike Smart made five visits to the roost at Guscar Rocks and reported 86 ring sightings, while Andy Jayne recorded seven ringed birds, and Lewis Thomson one, on single visits.



Plate 1. Curlew, white / black / red at Aylburton Warth on 23rd October 2012. For ease of identification the colour of the left tibia ring is given first, followed by the two on the right, top over bottom. (Plates 1-13 by John Sanders)



Plate 2. The screen set at the top of the shore at Aylburton Warth.



Plate 3. Curlews arriving at the Aylburton Warth roost.



Plate 4. Aylburton Warth roost site. The Curlews gather on the rocks and mud in the centre right of the picture, and then move left, up on to the salting, on the high spring tides.



Plate 5. Guscar Rocks at low tide. The Curlews gather on the seaweed-covered rocks in the centre of the picture, and then move on to the mud to the left as the tide rises.



Plate 6. Wibdon Warth. The Curlews generally gather on the mud, where it extends furthest into the river, in the centre left of the picture. The spring tide roost and ringing site is on the salting to the right and above.



Plate 7. Pillhead Gout. Curlews assemble along the shoreline, and then move up on to the mud bank and salting, at the centre right of the picture, as the tide rises.



Plate 8. Lagoon 3, Oldbury Power Station.



Plate 9. A Curlew in the final stage of wing moult on 11th September 2012. The outer primary, p10, is old, while all the other primaries are new.



Plate 10. Curlew, lime / orange / green, a Dutch breeding male that was first seen back at Aylburton Warth on 27th June 2012. Coincidentally, it was one of the first birds to leave the estuary, and was last seen on 30th January 2013.



Plate 11. A German-ringed Curlew, black / yellow / metal / yellow, last seen at Aylburton Warth on 14th March 2013.



Plate 12. Curlew, blue / orange / orange with a white ring missing from the left tarsus.



Plate 13. Aylburton Warth, sunrise over the abandoned salmon trap. In former years funnel-shaped baskets, or putchers, were fitted into the framework in order to catch the fish. Spring tides on the Severn invariably occur early in the morning, which means very early starts for the Curlew watcher.



Plate 14. Hoverfly *Cheilosia chrysocoma* (male), Sherborne, 2nd May 2012. (Photo: Richard Spyvee)



Plate 15. Hoverfly *Chalcosyrphus nemorum* (female). (Photo: David Iliff)



Plate 16. Hoverfly *Chrysotoxum festivum* (male), The Horns, 11th August 2012. (Photo: David Iliff)



Plate 17. Hoverfly *Eristalis horticola* (female) (Photo: David Iliff)



Plate 18. Hoverfly *Helophilus hybridus* (pair), Highnam Court, 2nd September 2012. (Photo: David Iliff)



Plate 19. *Brachynotocoris puncticornis*, Winchcombe, 29th October 2012. (Photo: John Widgery)



Plate 20. The leafhopper *Idiocerus herrichi*, Slimbridge WWT, 27th October 2012. (Photo: John Widgery)



Plate 21. Cream-spot Ladybird (*Calvia 14-guttata*), Lower Woods, 1st July 2012 (photo: David Iliff)



Plate 22. Adders sharing an anthill solarium. Laymoor Quag, 15th July 2012. (Photo: Colin Twissell)



Plate 23. Female Common Clubtail (*Gomphus vulgatissimus*) at Apperley, 11th July 2012. (Photo: Colin Twissell)



Plate 24 (left). *Blysmus compressus*, Cerney Wick 2nd July 2012. (Photo: C & M Kitchen)



Plate 25 (right). *Gymnadenia densiflora*, Newnham, 7th July 2012. (Photo: C & M Kitchen)



Plate 26 (left). *Hottonia palustris*, Walmore Common, 5th July 2012. (Photo: C & M Kitchen)



Plate 27 (right). *Pyrola rotundifolia*, Cerney Wick, 15th June 2012. (Photo: C & M Kitchen)

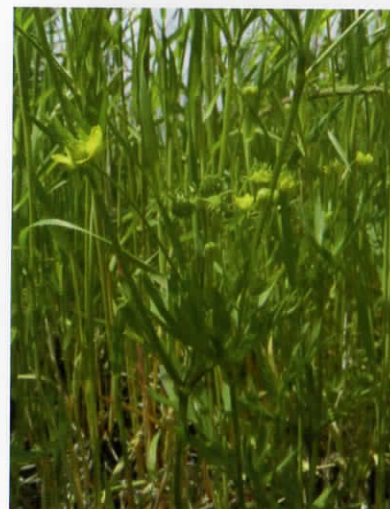


Plate 28 (left). *Ranunculus arvensis*, Aston Subedge, 22nd June 2012. (Photo: C & M Kitchen)



Plate 29. *Hyoscyamus niger*, Great Hill, 28th May 2012. (Photo: C & M Kitchen)



Plate 30. *Myosurus minimus*, Okle Green, 28th April 2012. (Photo: C & M Kitchen)

Plate 31 (right). *Papaver argemone*, Weston Subedge, 22nd June 2012. (Photo: C & M Kitchen)



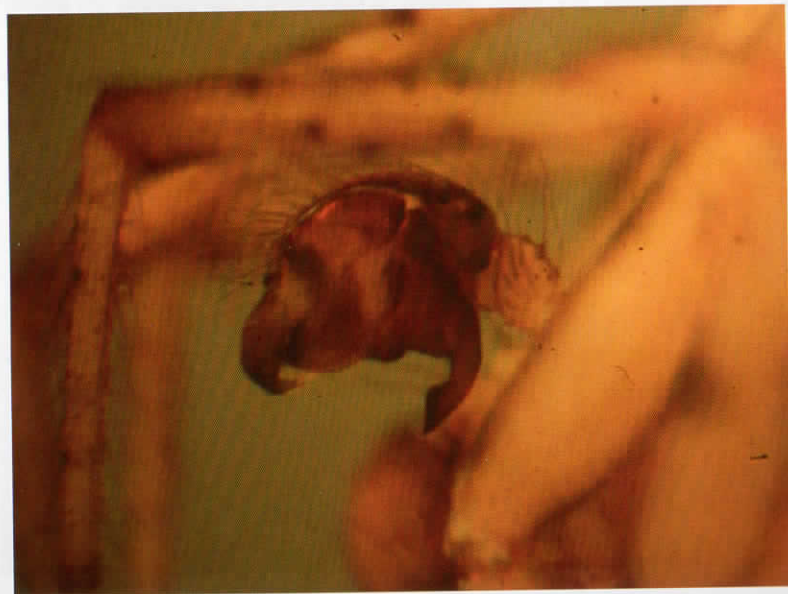
Plate 32 (below). *Nothofagus* woodland, Welshbury Wood, 30th April 2012. (Photo: C & M Kitchen)





Plate 33 (left). *Zygiella stroemi* - dorsal view showing the characteristic pattern of the carapace and abdomen. Scale: body length from 'head to tail' = 3.25mm

Plate 34 (below). *Zygiella stroemi* - lateral view of the reproductive palp (the darker brown globose structure) showing the characteristic curved shape of the two processes. Scale: length of the palp = 0.77mm



Zygiella stroemi - a spider new to Gloucestershire

John Harper

While surveying Awres Glow (SO639102 altitude 130m asl), a shallow valley in the Forest of Dean, pine tree foliage was beaten into a net (as one of several methods used to collect invertebrates). One orb web spider looked like the familiar *Zygiella x-notata*, a common inhabitant on the outside of buildings - being found on window frames, fences and sheds - so its presence there on a pine tree would have been most unusual. Examination under the microscope later showed in fact that the specimen was a male *Zygiella stroemi* (Thorell 1870) - new to vice county 34 and to the whole of Gloucestershire.

As with the vast majority of spiders, especially if difficult to identify or new to an area, the identity must be confirmed by recourse to the detailed structure of the reproductive organs - in the case of a male spider this would be the specialised reproductive palps in front of the head (at top edge of Plate 33). This was achieved as seen in Plate 34.

Z. stroemi is not a common spider at all in the UK, indeed it is rated as Nationally Scarce, (Notable B). Its main distribution (totalling 14 hectads*) is in the central southern counties of England, the nearest being Oxfordshire and Wiltshire. In addition there are two nearer sites in Herefordshire, 46 miles north and north-west of Awres Glow respectively - at Brockhampton Estate, Bromyard (1997) and at Moccas Park, Hereford (1993 & 1994).

Z. stroemi is typically found on pine trunks (according to *Spiders of Britain and Northern Europe*, Michael J. Roberts, Collins Field Guide, 1995) where it spins a web, with a retreat for the occupant in the fissured bark. Since the pine tree involved was young (perhaps 15 - 20 years) the clusters of foliage probably sufficed quite adequately.

* A hectad is a 10km x 10km square of the national grid - used for mapping species distribution nationally.

HOVERFLY REPORT 2012

David Iliff

The extremely dry weather in March followed by long periods of wet conditions throughout much of the spring and summer made 2012 a difficult year for finding hoverflies (and insects in many other groups). It was perhaps unfortunate that the national Hoverfly Recording Scheme chose 2012 as the year in which to introduce its "Big Hover Watch", modelled loosely on the RSPB's Big Garden Birdwatch; the hoverfly watch requires participants to visit a site of their choice once in mid-May and once in mid-June and count hoverflies for a two hour period. Several hoverfly recorders in Gloucestershire took part, with little success; I chose Arle Grove, which had proved a rich source of hoverfly records since I first visited in 2009, but in my second two hour search, on 20th June (a rare warm and sunny day) I found only 4 hoverflies (of 3 species)! The Recording Scheme reported a similar lack of success all over the UK.

Fortunately there were some highlights in the county even during such an unproductive year. Foremost among them was the rediscovery of the nationally Scarce *Cheilosia chrysocoma* (see Plate 14). Richard Spyvee photographed a male at Northfield Barn car park, Sherborne SP175154 on 2nd May. This was the fifth county record but the first for about a century. The only earlier record with a known date was by Wainwright at Painswick in 1893. The other, undated, records are again by Wainwright at Cranham, R C Bradley at Selsley (it is known that Bradley was recording in Selsley in 1894) and V R Perkins, a contemporary of Wainwright and Bradley, probably from the Wotton-under-Edge area. Most *Cheilosia* are black but *C. chrysocoma* is covered with ginger fur and mimics the Tawny Mining Bee *Andrena fulva*.

John Harper found *Chrysogaster virescens* at Awres Glow SO6410 on 25th June, and John Phillips found the same species at Crabtree Hill on 18th August. These were the first two records of this hoverfly within the present Gloucestershire borders; the species has been listed as having occurred in Lower Woods (in the South Gloucestershire part of VC34, but in a reserve managed by GWT) in the past, but no details of this record are available. Also at Awres Glow, on 15th April, Maris Midgley took the fairly scarce ancient woodland species *Chalcosyrphus nemorum* (see Plate 15), and John Harper recorded *Platycheirus sticticus* (Nationally Scarce), the third Gloucestershire record - this hoverfly is one of three seldom-reported species that closely resemble the very common *Platycheirus albimanus*, and which are consequently likely to be under-recorded.

Although hoverfly numbers were clearly exceptionally low in 2012, some species were seen at higher than normal frequency. *Epistrophe diaphana*, a relatively scarce species which fared better in the county in 2011 than for many years, was even more in evidence in 2012, albeit for a fairly short period. Martin Matthews saw it in exceptionally large numbers at the Mythe on 9th June and it was among the commonest of the hoverflies recorded by the GIG at Campden House on 23rd June. Indeed it was recorded more in the county in 2012 than the two most common members of the genus, *E. elegans* and *E. grossulariae*. Another similar paradox involved the genus *Scaeva*, with the scarce *S. selenitica* being recorded more often than the usually common *S. pyrastris*.

The colourful *Chrysotoxum festivum* (see Plate 16), which is often elusive, was seen on several occasions, including at The Horns SO8604 on 11th August when several examples were present. The formerly common *Chrysotoxum cautum* was once more unrecorded during the year (the last county record was in 2009), but its smaller relative, *C. verralli*, new to Gloucestershire in 2006, but found regularly since, was recorded twice in 2012. Another large and colourful species, *Eristalis horticola* (see Plate 17), was also seen in numbers at The Horns on 11th August.

Helophilus hybridus (see Plate 18) and the spectacular *Helophilus trivittatus* are normally far less common than the familiar *H. pendulus*, but in August and September 2012 both were present in large numbers, often together, at several Gloucestershire sites - a phenomenon also noted in other parts of Britain - perhaps suggesting that a mass migration had occurred.

Other records of interest in 2012 include:

Platycheirus fulviventris: Mallard's Pike SO637092, 17th July (Maris Midgley).

Eupeodes nitens (Nationally Scarce): Little London Orchard SO 713187, 9th September.

Cheilosia griseiventris: Little London Orchard SO 713187, 9th September.

Sphegina elegans: The Horns Valley SO8604, 11th August (John Phillips)

Sphegina chunipes: Parkhill Inclosure SO618066, 30th August (Maris Midgley);

Soudley Ponds SO663116, 1st September (Maris Midgley); Clanna Woods SO584023, 6th October (John Harper).

"Britain's Hoverflies" - subtitled "An introduction to the hoverflies of Britain" - by Stuart Ball and Roger Morris - was published this year by the Princeton University Press in the WildGuide series. The authors are the joint coordinators of the Hoverfly Recording Scheme and were both involved in the revision and updating of the similarly-titled "British Hoverflies" (Stubbs and Falk) for its second edition. The new WildGuide (which has a foreword by Alan Stubbs, and for which Steven Falk

contributed many of the photographs) does not in any way supersede "British Hoverflies", which remains the standard work on the UK Syrphid fauna, and which itself will be reprinted soon. Rather, the two books are complementary and serve somewhat different purposes: the WildGuide was produced partly in response to the growth of insect photography resulting from the advent of digital cameras and is illustrated throughout with photographs which have been chosen to show the particular features of each species that are essential for correct determination. The book has been produced in a format that makes it ideal for use in the field, and is wholeheartedly recommended to anyone who wishes to take up the study of hoverflies.

The new WildGuide reveals for the first time the long-awaited revised status classification for hoverfly species (due to be published by the same authors). As expected, the success of the Hoverfly Recording Scheme in recent years has led to the status of many species being downgraded. For example, three hoverfly species that have featured regularly in these reports since 2000, and which were recorded in the county on several occasions in 2012, albeit at a reduced level - *Rhingia rostrata* (formerly RDB3) and *Volucella inanis* and *Volucella zonaria* (both formerly Nationally Scarce) - no longer qualify even for the Nationally Scarce status.

Finally I thank the following who contributed records: John Fleming, John Harper, Martin Matthews, Jon Melling, Maris Midgley, John Phillips, Richard Spyvee, Tony Taylor, Val Taylor, Neil Woodward.

LADYBIRD REPORT 2012

David Iliff

As has been usual since the arrival of the Harlequin Ladybird (*Harmonia axyridis*) in Britain in 2004, concern continues to be expressed about its effect on native ladybird species. Four years have elapsed since the year by which it was predicted that as a result of the invasion of this alien species our native ladybirds would be confined to the ecological margins. Clearly this has not happened, although the proliferation of the Harlequin certainly has. During 2012 Helen Roy published a paper based on the Harlequin Ladybird survey which found that native ladybird species that shared habitat with the Harlequin were the most vulnerable to this invader through both competition for food and larval predation. Thus arboreal species such as the 2-Spot Ladybird (*Adalia 2-punctata*) (see Plate 21), 10-Spot Ladybird (*Adalia 10-punctata*), Cream-spot Ladybird (*Calvia 14-guttata*) and Pine Ladybird (*Exochomus 4-pustulatus*), all of which are aphid feeders, are especially at risk, but the Orange Ladybird (*Halyzia 16-guttata*), although not an aphid feeder, is also vulnerable as it shares a habitat niche with the Harlequin. These species have all reportedly declined in numbers since the Harlequin's arrival. Conversely the 7-Spot Ladybird (*Coccinella 7-punctata*) is mainly found on herbaceous vegetation and therefore does not share its habitat with the Harlequin. In addition it is a large ladybird, of similar size to the Harlequin, and probably sufficiently robust to hold its own against the alien competition.

Within Gloucestershire the early part of the year was very productive for ladybird recording. As in the three previous years, the 7-Spot was abundant in many places in the early months of 2012, seemingly outnumbering the Harlequin. Another species that appears unaffected by Harlequin competition is the 14-Spot Ladybird (*Propylea 14-punctata*) which was again seen in its usual numbers, although it is never as abundant as the 7-Spot. The 14-Spot, although an aphid feeder and a small species, is a ground vegetation dweller. Of the species cited by Helen Roy as especially vulnerable, the 2-Spot appears to have had a good year in the county. It was common in my garden for much of the summer, and breeding was observed there. Both 10-Spot and the Cream-spot (see Plate 21), which had been very scarce in the county in 2011, were recorded several times in 2012. Numbers of records for the Pine and Orange ladybirds were again disappointing.

The railings at Pittville Park have been dominated by the Harlequin in recent years, but it is encouraging to report that a fair number of the other species that had been recorded there in the past were seen at the site in the first half of 2012, including relatively scarce species such as the Eyed Ladybird (*Anatis ocellata*), the 18-Spot

Ladybird (*Myrrha 18-guttata*) and the Cream-streaked Ladybird (*Harmonia 4-punctata*).

A matter of concern during the year was the near-total absence of sightings of the 22-Spot Ladybird (*Psyllobora 22-punctata*). This familiar and common species has been regularly seen in my garden year after year and usually over a long season, sometimes present in very large numbers. Yet in 2012 I did not see a single example in my garden or indeed anywhere else in the county. John Widgery did however record it on two dates, at the Horns Valley on 11th August and two examples near Slimbridge on 29th September. This apparent sudden decline of the 22-Spot seems unlikely to be attributable to predation by the Harlequin, as the species appears to have thrived throughout the previous seven years since the alien's arrival in the UK.

2012 records of other species that have been scarce in recent years include a Larch Ladybird (*Aphidecta oblitterata*) at Clanna Woods (John Harper) on 6th-October, and an 11-Spot Ladybird (*Coccinella 11-punctata*), a species that has been declining in Gloucestershire since before the arrival of the Harlequin, taken by John Widgery near Great Barrington on 15th July.

John Widgery supplied the only 2012 records of smaller (i.e "non-conspicuous") ladybird species, seeing eight *Scymnus suturalis* at Woodmancote on 19th July.

Up till mid-September, 2012 could have been described as a reasonable year for ladybirds in Gloucestershire. However after that date numbers declined dramatically, including those of the 7-Spot and Harlequin, with very few ladybird observations, and the majority of the few late-season records resulting from sweeping.

My thanks to the following who supplied me with records: John Harper, Maris Midgley, Ingrid and Colin Twissell, John Widgery.

TERRESTRIAL HEMIPTERA (LAND BUGS & HOPPERS) IN GLOUCESTERSHIRE – 2012

John Widgery

One of the wettest summers on record resulted in less time in the field and, to an extent, this probably influenced the fact that only comparatively low numbers and a limited variety of species were found and, consequently, it is difficult to judge whether this reflected true reductions in populations or not. In the surveying carried out I did not come across as many Dock Bugs (*Coreus marginatus*), or the bright scarlet bugs *Corizus hyoscyami* as I have done in recent years and I had no records of the Box Bug (*Gonocerus acuteangulatus*), although in this latter case it is because I did not especially seek out Box trees to search for it as I had done in 2010 & 2011. Two firsts for Gloucestershire were recorded – the plant bug *Brachynotocoris puncticornis* and the leafhopper *Idiocerus herrichi* which are detailed in the following summary.

The most noteworthy observations for 2012 are summarised as follows:-

HETEROPTERA (Bugs)

Pentatomidae

Woundwort Shieldbug (*Eysarcoris venustissimus*)

An interesting observation was made by David Iliff on 21st May when he found five examples of this shieldbug on Sage (*Salvia* sp.) in his garden at Woodmancote (SO9627). This is a species usually found in the countryside on Hedge Woundwort (*Stachys sylvatica*) and, more rarely, on White Dead-nettle (*Lamium album*) or Black Horehound (*Ballota nigra*) and is not regarded as a species to be found in gardens. Whilst *Salvia* is in the same plant family as the known hosts for this species (Labiatae), as far as I am aware, this is the first record of this species using this garden herb which may indicate that it is beginning to colonise new habitats.

Miridae

Brachynotocoris puncticornis New to county – status uncertain at present

The highlight of the year was the discovery of this new species for Gloucestershire at the very end of the season on 29th October at Wincombe (SP0228). This was particularly special for me as I got the first UK record for it in Hertfordshire in 2003. I found it by sweeping rough grass and herbage underneath a Lime (*Tilia x europaea*) which was rather unexpected because it is normally associated with Ash (*Fraxinus excelsior*) although there is Ash in the vicinity. This is a small bright green insect about 5mm in length, very much like many other similarly sized green bugs, but there are a few diagnostic characters which can be seen with a 10X magnifying glass, the

most noticeable of these being the narrow pale yellow borders along the inner and outer edges of the wing giving the impression of the letter M (viewed from rear) when the wings are closed (see Plate 19).

***Stenodema holsatum* Common in grassland in and adjacent to woods**

Normally, this would not rank as a noteworthy record because it is a common insect but it is an interesting observation. It is included here because it has always been a bug associated exclusively with grass, the seeds of which are known to be its food source, but in August 2012, in Cirencester Park, I found many nymphs on the foliage of Norway Spruce (*Picea abies*) up to a height of c.3 metres. They were probably higher still but this was the extent of my reach with my beating tray. What they were doing there I have no idea but would guess there must be some other food source involved and I hope to investigate further in future years. Positive identification was made by rearing specimens to adult stage.

***Miridius quadrivirgatus* Uncommon but apparently increasing**

This attractive grass bug was found at a new site at Arlingham (SO7009) on 23rd July. It is the fifteenth record since first being recorded in the county in 1999.

***Dichrooscytus gustavii* New coloniser – status uncertain at present**

Whilst not found at any new locations this year, mainly because of lack of searching opportunities during its short season (June/July) due to the weather, I did find it for the first time in good numbers in my own garden in Woodmancote (SO9727) on Oriental Thuja (*Platyclus orientalis*) and on another Thuja-type tree which suggests it is becoming more strongly established now. It should be found elsewhere in the county if looked for (see image in The Gloucestershire Naturalist No.22., 2011, p.55).

Rhopalidae

***Stictopleurus punctatonervosus* New coloniser – status to date rare**

This species has always been rare since its arrival in the county in 2005. After an absence of records for four years a singleton was found in 2011 (see last year's report) and this was followed in 2012 by the discovery of a nymph in a weedy area of restored gravel workings at Twynning (SO8936) on 27th July.

Lygaeidae

***Gastrodes abietum* Local – probably well-established but difficult to find**

This species is probably not uncommon but is very difficult to find as it occurs exclusively in Norway Spruce (*Picea abies*) cones which are invariably in the higher canopy and therefore inaccessible. Occasionally, the cones are reachable and this was the case when I found nymphs of this bug on 12th July near Waterhatch (SP0426).

Although there are some old records up to 1943 this was only the third modern (post-2000) record for this insect.

HOMOPTERA (Leafhoppers & Froghoppers)

***Idiocerus herrichi* New to county – status uncertain at present**

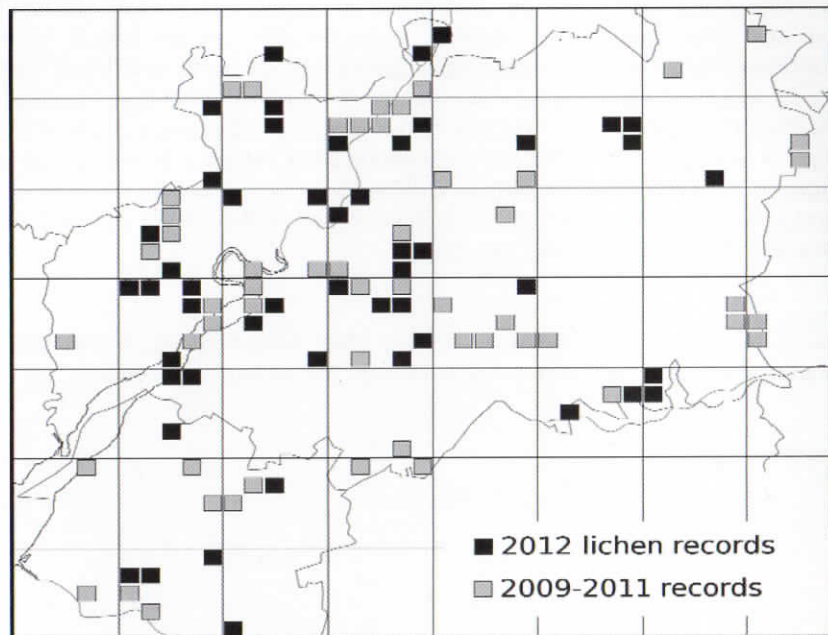
At the end of a birdwatching trip to Slimbridge (SO7204) on 27th October I went into the Visitor Centre and noticed a small insect on my jacket. It was placed into a glass tube and later examination showed it to be this species which is new to Gloucestershire. The facial markings, alternative yellowish and black dashes of varying lengths along the wing veins and the three very distinct dark triangles on the scutellum (triangular area at the top of the wings) are diagnostic. This is a species which was very scarce in Britain up to about 1980 but since then has expanded its range. It is to be found on White Willow (*Salix alba*) and Crack Willow (*Salix fragilis*) which are both fairly common in the county and therefore may well be found elsewhere if searched for (see Plate 20).

Thanks must go to Phil Andrews, Jeremy Doe, John Fleming, David Iliff, Maris Midgley, Rob Ryan and Colin & Ingrid Twissell for submitting records.

LICHEN REPORT 2012

Juliet Bailey

In 2012 1103 lichen records were made in Gloucestershire, involving 244 taxa in 50 tetrads.



Thirty seven species were recorded in 2012, but not in the previous three years, 2009-2011:

Anisomeridium ramunculosporum
Arthonia didyma
Arthopyrenia analepta
Calicium glaucellum
Caloplaca cerina
Caloplaca decipiens
Caloplaca limonea
Caloplaca marina
Catapyrenium squamulosum
Cladonia humilis
Cladonia pocillum

Hymenelia prevostii
Lecania rabenhorstii
Lecanora andrewii
Lecanora intumescens
Lecanora saligna
Lecidea lichenicola
Leptogium diffractum
Leptogium pulvinatum
Leptogium teretiusculum
Lobaria pulmonaria
Melanohalea exasperata

Opegrapha vermicellifera
Opegrapha viridipruinosa
Parmelia ernstiae
Parmelina pastillifera
Peltigera membranacea
Pleurosticta acetabulum
Protoblastenia calva
Protoblastenia immersa

Rinodina sophodes
Strigula jamesii
Thelidium fontigenum
Thelidium pyrenophorum
Thelotrema lepadinum
Verrucaria elaeomelaena
Verrucaria murina

The 20 most frequently recorded species are shown in the table below. This list is very similar to last year's Top Twenty and is a reflection not only of which species are truly common, but also of recording bias, in that most of these are twig species. Even if the weather is foul (2012 was one of the wettest on record) it is very easy to pick up a fallen branch that can be examined in comfort at home. There can hardly be a twig that does not carry two or three species, even in town centres. The 20 most frequently recorded species were:

Species	Number Records	Twig & Branch	Limestone & Mortar
<i>Xanthoria parietina</i>	53	x	x
<i>Physcia tenella</i>	43	x	
<i>Lecanora chlorotera</i>	37	x	
<i>Parmelia sulcata</i>	37	x	
<i>Lecidella elaeochroma</i>	36	x	
<i>Physcia adscendens</i>	34	x	
<i>Evernia prunastri</i>	30	x	
<i>Melanelixia subaurifera</i>	28	x	
<i>Ramalina farinacea</i>	26	x	
<i>Flavoparmelia caperata</i>	24	x	
<i>Punctelia jeckeri</i>	21	x	
<i>Arthonia radiata</i>	20	x	
<i>Caloplaca flavescens</i>	14		x
<i>Amandinea punctata</i>	14	x	
<i>Lecania cyrtella</i>	14	x	
<i>Xanthoria polycarpa</i>	13	x	
<i>Punctelia subrudecta</i> s. str.	13	x	
<i>Diploicia canescens</i>	13	x	x
<i>Verrucaria nigrescens</i>	12		x
<i>Physconia grisea</i>	12	x	

Many records were made at the 8 GNS Lichen Group meetings during the year. Once again, David Hill very generously provided his time and knowledge as the senior lichenologist present at most meetings.

22nd January 2012. This was a joint meeting of GNS and Bristol Naturalists' Society to examine the Downs Lichen Trail on Clifton Downs, Bristol, ST5775. In theory, this is a self-guided walk supported by a leaflet and markers on various trees and shrubs, though it would be very difficult to follow without a human guide. The biggest surprise was off the trail when Sheila Quin who was leading us, pointed out *Usnea florida* on a hawthorn bush. I do not know of this species in modern Gloucestershire, and it is thought to be declining rapidly nationally. I have subsequently heard of another station for this species in a private garden in Henleaze, Bristol, so it is clearly worth looking for, especially in vice-county 34 (West Gloucestershire).

10th April 2012, Painswick Beacon, SO8612. We examined the trees, shrubs, exposed stone and soils. The most unusual habitat is the shallow soils of the old quarries with stabilised screes but soil too poor to support lush grass. This lichen habitat is vulnerable to moss, grass and tree growth, and trampling. Unusual lichens for the county included the terricolous species *Collema bachmanianum*, and *Catapyrenium squamulosum*, and on whitebeam, *Parmelina pastillifera*.

8th May 2012, Swift's Hill Nature Reserve, Gloucestershire Wildlife Trust reserve, near Stroud, SO8706. A site with similar habitats to Painswick Beacon. The most notable lichens here were on a fist-sized calcareous stone dislodged from the thin turf near the barrier into the quarry – the sort of place where cars would be torched. David Hill found that this supported *Leptogium diffractum* (Near Threatened), *Thelidium fontigenum*, and *Lecidea lichenicola*, all of which are new county records, plus *Verrucaria muralis* and *Collema crispum* (common species).

12th June 2012, Betty Dawes Wood, Gloucestershire Wildlife Trust reserve near Newent, SO6928. No outstanding lichens were found in this ancient woodland site. However, although this is ancient woodland it does not contain ancient trees (the large oaks date from about 1850). The ground flora is lovely, with common cow-wheat and common-spotted orchid in bloom on the day of our visit, but it appears to lack the ecological continuity that ancient woodland lichens require.

10th July 2012, Stoke Park, Frenchay, Bristol, ST6177. This is the parkland immediately to the west of the M32. Nothing outstanding was found and it is interesting to contrast the rather poor lichens here with the abundance on Clifton Downs, presumably an effect of pollution whereby the Downs are bathed with clean air from the south and Frenchay gets fumes from Bristol and the motorway.

14th August 2012, Greystones Farm, Gloucestershire Wildlife Trust reserve, near Bourton on the Water, SP1720. This is a good site for lichens on trees. It was a pleasure to see a very healthy colony of the large attractive species *Pleurosticta*

acetabulum growing on the trunk of a well-lit field oak. This leafy lichen was found here by Ian Carle in 2006 and there are only two other Gloucestershire records, also Cotswolds.

11th September 2012, Mythe reserve, Tewkesbury, SO8834. This is a length of ex-railway track, where trees, especially ash, have colonised the tracksides and shade the old track-bed. The lichens are not outstanding, though the trees support the expected corticolous lichen flora shown in the Top Twenty above.

9th October 2012, Castlett Wood near Guiting Power, SP0826. The aim of this meeting was to look for *Lobaria pulmonaria* (tree lungwort), as part of a national resurvey of known sites by the British Lichen Society. We have records for the species at this tetrad from Francis Rose in 1990 and from the monad by Ian Carle in 2005. We found it on two ash trees in steep woodland going down to a stream in a sheltered valley. Resurvey of *Lobaria* sites continues in 2013.

Lichenologists are very worried by the advent in Great Britain of the disease ash die-back (*Chalara fraxinea*). Ash is a hugely important host species for lichens, especially the rare lichen communities on the trunks of ancient pollards. On the near-continent *Chalara* has killed upwards of 60% of all ash trees, with co-extinction of lichen communities. Though ash is unlikely to disappear permanently from the landscape – it is an outbreeding species with about 2% resistance that grows very readily from its abundantly produced seed – there could be an age bottle-neck, where there will be few of the ancient ashes that are most useful to lichens for several hundred years. The disease has not been recorded in Gloucestershire yet, but it can only be a matter of time. [At the time of editing, there has been one confirmed outbreak in a new planting area near Cirencester according to the Forestry Commission website. Ed.]

My thanks to the following for their records and company in 2012 – Cathy Beeching, Heather Colls, David Hill, Diane Hyett-Hudman, Ruth Ineson, Pam Jones, Clare Kitchen, Mark Kitchen, Jill Lang, Mary Palfrey, Sheila Quin, Justin Smith, Val Taylor - and to all the landowners and managers for granting access.

WILDLIFE RECORDING INFORMATION

The Society's official recording area is the whole of the vice-counties 33 (East Gloucestershire) and 34 (West Gloucestershire). However, for practical purposes, certain recorders only cover the administrative county of Gloucestershire, comprising the districts of Cotswold, Stroud, Forest of Dean, Cheltenham, Gloucester and Tewkesbury, since the Bristol Naturalists' Society covers the Unitary Authority of South Gloucestershire and the City of Bristol (further details available from the individual recorders as listed below).

The Society welcomes observations and records from members and others, and these should be sent to the Recorders as detailed below. Records may be submitted in any form (so long as they are legible and intelligible); some Recorders prefer them on A6 cards (one per species), or, for certain groups, on the appropriate recording form (available from the Recorders - see below), though a simple list (preferably in systematic order) is acceptable for groups such as moths.

Ideally the following information should be supplied:

- * Species name.
- * Where seen (name of location, preferably using names on the 1:50000/1:25000 Ordnance Survey maps; if in doubt include a sketch map of the site) plus six figure map reference. It is helpful to Recorders if the tetrad number is also given. For sightings in the Cotswold Water Park observers are asked to quote the official County Council pit numbers whenever possible.
- * Date.
- * Observer's name and address.

Also useful:

- * Number or abundance.
- * Habitat.
- * Where appropriate a description of the species or a note of how identification was made including details of any guidebook used.
- * Any other relevant information.

These details should be sent to the appropriate Recorder from the list below. The precise location of rare species will be kept confidential in the interests of conservation - records should be clearly labelled CONFIDENTIAL if they are to be so treated. Straightforward records are too numerous to be acknowledged individually by the Recorders, but *when a reply is required please enclose a stamped addressed envelope* if the recorder asks for a voucher specimen.

It is also possible to record your sightings online - see details below.

The most interesting records are published in the Society's "GNS News", but all records (common species or not) are valuable in building up a picture of the present status and distribution of species in our county, for compiling annual reports and for updating our records and those at the Gloucestershire Centre for Environmental Records and the national Biological Records Centre, CEH, Wallingford.

Under the Data Protection Act the GNS advises members and other observers that their personal details (name, address, telephone number, email address) will be stored, either on paper or electronically, as part of the Society's recording system. These details will not be passed on, or sold, to third parties with the exception of the Gloucestershire Centre for Environmental Records, subject to the Memorandum of Understanding between the two organisations. Should the observer wish that certain parts of a record remain confidential (e.g. for reasons such as sensitive species, sensitive site, restriction of access to land, anonymity), they should contact the relevant Recorder and discuss the matter, stating their reasons.

COUNTY RECORDERS' CONTACT DETAILS

Details of checklists and other GNS-published articles are available on the website and in The Gloucestershire Naturalist.

BIRDS: Richard Baatsen (01452 740161); email: baatsen@surfbirder.com. For those observers who are reporting a county rarity or BBRC species, the appropriate forms can be obtained from the Recorder; a guidance document listing all the species that require detailed descriptions is also available (please send sae); submission of records by email preferred (see also Gloucestershire Bird Report 2005 pp 18-20). The GNS website has a recording form showing all required information that can be printed off.

British Trust for Ornithology Representative: Gordon Kirk (01452 741724); email: GordonKirk@aol.com

Gloucestershire Bird Report (annual report on the county's avifauna) published by Gloucestershire Ornithological Coordinating Committee (GOCC).

MAMMALS: John Field, c/o The Gloucestershire Wildlife Trust, Conservation Centre, Robinswood Hill Country Park, Reservoir Road, Gloucester GL4 6SX (01452 383333);

email: john.field@gloucestershirewildlifetrust.co.uk

Gloucestershire Bat Group Recorder: David Wells email: dave-wells@mypostoffice.co.uk

REPTILES & AMPHIBIANS: David Dewsbury (01594 832068); email: david.dewsbury@btinternet.com

FISH: Pete Bradshaw, c/o The Gloucestershire Wildlife Trust, Church House, Standish, Stonehouse, Gloucestershire GL10 3EU; email: peter.bradshaw@gloucestershirewildlifetrust.co.uk

CRAYFISH: John Field, c/o The Gloucestershire Wildlife Trust, Conservation Centre, Robinswood Hill Country Park, Reservoir Road, Gloucester GL4 6SX (01452 383333); email: john.field@gloucestershirewildlifetrust.co.uk

INVERTEBRATES:

Gloucestershire Invertebrate Group (GIG): Andrew Leach, c/o The Gloucestershire Wildlife Trust, Conservation Centre, Robinswood Hill Country Park, Reservoir Road, Gloucester GL4 6SX. (01452 383333); email: Andrew.leach@gloucestershirewildlifetrust.co.uk

BUTTERFLIES: Chris Wiltshire (01452 545509); email: chriswiltshire164@o2.co.uk
Butterfly Conservation Gloucestershire Branch: www.gloucestershire-butterflies.org.uk

MOTHS: VC33 East Gloucestershire: Robert Homan (01242 235408); email: theapiary@hotmail.com
VC34 West Gloucestershire (west of the Severn): Michael Bradley (01531 822315); email: michaelw1184w@hotmail.co.uk
VC34 West Gloucestershire (east of the Severn): Neale Jordan-Mellersh (0117 9854730); email: sneale48@hotmail.co.uk
Online distribution maps and additional information for Gloucestershire moths can be found at http://www.gloucestershire-butterflies.org.uk/Guys_maps/mothmap.html

DRAGONFLIES: Ingrid Twissell (01452 714413); email: canditwissell@btinternet.com

HOVERFLIES & LADYBIRDS: David Iliff (01242 674398); email: davidiliff@talk21.com

ANTS, BEES & WASPS: Tony Taylor (01452 728734); email: taylor.ant@cotswoldwireless.co.uk

SPIDERS: David Haigh (01242 513544); email: djrhaigh@hotmail.co.uk

BETTERLES (other than Ladybirds), **BARKFLIES, WOODLICE, CENTIPEDES, MILLIPEDES, HARVESTMEN, FALSE SCORPIONS, LACEWINGS, SPRINGTAILS & FRESHWATER INVERTEBRATES:** David Scott-Langley email: dscottlangley@hotmail.co.uk.

GRASSHOPPERS, BUSH-CRICKETS, EARWIGS, & COCKROACHES, BUGS (HEMIPTERA): John Widgery (01242 673873); email: johnwidgery@waitrose.com

LAND & FRESHWATER MOLLUSCS: David Long (01242 527673); email: david@long55.wanadoo.co.uk

ECTOPARASITES (Lice, louse-flies): Robin Sellers (01946 725453); email: sellers@craghouse7.freemove.co.uk

FRESHWATER TRICLADS: Larry Bellamy (01594 516420); email: lar.amy@btinternet.com

FLOWERING PLANTS, FERNS & STONEWORTS: Mark and Clare Kitchen (01453 810958); email: markarkitchen@yahoo.com

MOSSES AND LIVERWORTS: Peter Martin (01666 503791); email: petermartin@btinternet.com

FUNGI: Cotswold Fungus Group & VC33 County recorder: Sheila Spence email: recorder@cotswoldfungusgroup.com.

Dean Fungus Group & VC34 recorders: Keith & Valerie Davies (01452 760278); email: keith.val@hotmail.com

LICHENS: Juliet Bailey email: glos.lichens@gmail.com

PLANT GALLS: Robert Homan (01242 235408) email: theapiary@hotmail.com

ONLINE RECORDING at www.universalquestions.com/nature

There is now an online county wildlife recording system at Richard Beal's website covering Birds, Butterflies, Dragonflies & Damselflies, Mammals and Orchids. It is a straightforward, but nevertheless sophisticated way, of getting your sightings from your desktop to the county recorders and by using the system you can make a valuable contribution to the GNS ongoing recording effort. After a simple registration

procedure you can start recording straightaway and you can return to the web site at any time by simply logging in.

NEW RECORDERS

The Society is always looking for new Recorders to fill vacant positions (particularly **DIPTERA** and **FRESHWATER FAUNA**) or to cover groups not listed above (no matter how obscure!). Anyone willing to undertake these tasks or to organise (or help organise) surveys in the county is invited to contact David Scott-Langley (Chairman, GNS Scientific & Publications Sub-committee), 19 Chesterton Grove, Cirencester, Gloucestershire GL7 1XN; Tel 01285 659631; email: dscottlangley@hotmail.co.uk

OTHER USEFUL CONTACTS AND ADDRESSES

GNS Web site: www.glosnats.org for sightings, recorders, events, archives and species information.

GNS Webmaster: Richard Beal; email: richard.beal@richardbeal.com

GNS Library: our library is housed in the Learning Resources Centre at Hartpury College. For opening hours see www.hartpury.ac.uk/Hartpury-College/Hartpury-Facilities/Learning-Resources-Centre or phone 01452 702160 before visiting. Membership card is required to borrow books, available from the GNS Membership Secretary.

GNS Chairman: Mike Smart, 143 Cheltenham Road, Gloucester GL2 0JH (01452 421131); email: smartmike@btinternet.com

GNS Membership Secretary: Andrew Bluett, 50 Kingsmead, Abbeydale, Gloucester, GL4 5DY (01452 610085); email: gnsmembership@btinternet.com. See also Membership page on GNS Website.

GNS Secretary: Lynne Garner (01452 614354); email: lynne@moorend1989.plus.com.

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Notes for Contributors

1. The Editor will be pleased to receive papers relating to the fauna and flora of Gloucestershire, of a more scientific nature than would be published in the GNS News, as well as annual reports from the County Recorders.
2. Wherever possible, papers for publication in The Gloucestershire Naturalist should be in Microsoft Word and saved as (.doc) files. Please do not embed photographs etc in the text. Formatting will be done by the editor.
3. The font is to be Times New Roman size 10.
4. Titles and section headings should be as in 3. above and will be formatted by the editor.
5. Page size is to be A5 Portrait. The editor will be pleased to email a formatted page for use by the contributor.
6. Drawings and sketches should be camera-ready and, unless the contributor has the technology to incorporate them into his paper, should be supplied on good quality paper or Polydraw drafting film.
7. Maps should be as in 6. above unless they can be electronically generated using programmes such as DMAP or Mapmate.
8. Photographs should be supplied as digital images, sent separately and not embedded in the text, or on good quality photographic paper.
9. All digital images should be as large as possible and saved as .tif or .jpg files and sent to the editor on Compact Disc or via email. Please do not embed photographs within articles as they may appear outside the colour section.
10. For those using traditional methods, manuscripts should be double-line spaced and clearly legible or they will be returned. Drawings, maps and photographs should be supplied as in 6., 7. & 8. above.
11. Contributors will be sent a copy of their paper for proofreading and final alterations before publication if requested.
12. Submission date shall be no later than February 28th.
13. New contributors are asked to submit two or three lines about themselves with their article for inclusion in the section "Notes on Contributors".