UPDATED PLAN NOVEMBER 2021

DOTTED BEE-FLY
Bombylius discolor

There is no need for further targeted management as the species is increasing naturally, due to the increase and spread of its two main hosts, *Andrena cineraria* and A. *flavipes.*

1. INTRODUCTION

Readers may be familiar with the common dark-edged bee-fly *Bombylius major* which often comes into gardens but there is a much scarcer species with spotted wings and a darker body, the dotted bee-fly *B. discolor*, that occurs sparingly in the south of the county. It is associated with larger colonies of spring-flying mining bees, especially species like *Andrena cineraria* and *A. flavipes,* which nest in very short turf or bare ground in well-drained, sunny areas (e.g.south-facing slopes and along footpaths).

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The female bee-flies can be found hovering around such colonies flicking their eggs into the nesting holes. The larvae are parasitoids of the *Andrena* grubs in their underground nest cells, seemingly waiting until the grubs are fully-grown before devouring them. In Warwickshire the adults fly from late March to late April and feed on plants like ground-ivy, violets and coltsfoot. Local sites include old limestone quarries, disused railways in limestone areas (where these support plentiful open habitat) and gorse-clad hillsides in the Cotswold fringe (where land-slipping and grazing exposes soil).

2.	**OBJECTIVES**	**TARGETS**
Associated Action Plans are: '*Open Mosaic Habitats on Previously Developed Land'*, '*Quarries & Gravel Pits*', '*Lowland Calcareous Grassland'*, *'A Cuckoo Bee'* and '*Rare Bumblebees'*		
PLEASE CONSULT THE ***'GENERIC SPECIES'*** ACTION PLAN IN CONJUNCTION WITH THIS DOCUMENT FOR OBJECTIVES COMMON TO ALL SPECIES PLANS		
A.	**To monitor and maintain up-to-date listings of sites.**	**Targeted action is no longer required**
B.	**To maintain the size and range of known populations of *B. discolor*.**	
C.	**To increase the population size and range in the sub-region.**	

3. NATIONAL BAP OBJECTIVES & TARGETS

Bombylius discolor is not on the current UK Biodiversity Action Plan (BAP) Priority Species list published in 2007(Joint Nature Conservation Committee). It was a UK Priority Species in the original UKBAP Tranches 1 and 2 (1995-1999).

4. CURRENT STATUS

This is a very localised southern species, graded as 'Nationally Scarce' by Falk in 1991, with records extending north to Worcestershire, Warwickshire and Cambridgeshire (for most recent national map see National Biological Network). In Warwickshire, it was originally identified from Oxhouse Farm, Combrook, but appears to have become extinct here due to scrub encroachment. However, since the mid 1990s, it has been recorded from Ufton Fields, Harbury Spoilbank, Bishops Bowl Quarry, Bishops Hill, Gredenton Hill and Brailes Hill, all designated Local Wildlife Sites (LWS); also from Avon Hill Quarry, Brailes Castle, Ratley Grange Quarry, the garden of Upton House and a hillside near Avon Dassett, 11 sites in all.

Most populations seem quite small though permanent. However, recent disturbance at Ratley Grange since 2001 has probably eradicated it here at least temporarily. The Brailes Hill colony was a particularly strong one, with many dozen seen on a single day in April 1997. That year seems to have represented an upsurge in its status within many parts of its range (such upsurges are well known in *B.major*) with several new sites discovered in neighbouring parts of the Cotswolds. This may be linked to the arrival of its main host *Andrena flavipes* in Warwickshire, which has resulted in many new potential sites for the beefly.

By 2017 the species was no longer a Section 41 species, being fairly frequent in south Warwickshire and not at all endangered; one was found in Kenilworth Allotments. It is nevertheless a good flagship for nice Warwickshire sites, especially the old quarries. Its increase is due to the increase/spread of its two main mining bee hosts, *Andrena cineraria* and *A. flavipes.*

4.1 Legal and Policy Status

A wide range of species and habitats are protected under international and domestic laws, including the Wild Birds Directive (1979), the Wildlife and Countryside Act (1981), the Conservation Regulations(1994) and EC Habitats Directive (1992). Protection of sites is afforded nationally through Sites of Special Scientific Interest (SSSI) designation, Special Areas of Conservation (SAC) and Local Nature Reserve (LNR) statutory status. Other sites are offered recognition of their value through Local Wildlife Site status (LWS), Local Character Areas and identified Landscape Scale Areas. The National Planning Policy Framework (2012) chapter/section 11 states conditions with regard to any development negatively affecting biodiversity, including protected sites, ancient woodland and other irreplaceable habitats (paragraph 118). The Wildlife & Countryside Act and schedule 2 of the Conservation of Habitats & Species Regulations (as amendment, 2019, EU exit) make it an offence to intentionally kill, injure, take, possess, sell, buy or transport a range of species.

No legal protection exists for the fly itself but Ufton Fields and Harbury Spoilbank (part of Harbury Railway Cutting) are both SSSIs ; 4 of the other 9 sites are designated LWSs. However, it should be noted that the Brailes Castle population is associated with floristically poor sheep-grazed hillsides with scattered gorse scrub, a habitat type that is not neatly catered for by any local Habitat Action Plans (HAPs), and hard to designate as LWS quality beyond its value for mining bee colonies and associated insects. As a 'Nationally Scarce' species, the fly can be used to support SSSI and LWS designation.

4.2 Current Factors Affecting the Species

- **Scrub encroachment and other successional processes** that result in the loss of large mining bee colonies.
- **Ongoing quarrying** where this results in catastrophic losses to host nesting colonies and foraging areas (piecemeal disturbance by contrast is probably beneficial).
- **Land-filling or unsympathetic landscaping** of quarries and their associated spoil-heaps.
- **Damage to gorse-clad hillsides** supporting strong mining bee colonies through gorse removal, fertilising and sometimes conversion to arable.
- **Removal of blossom-rich hedges and other habitats with plentiful spring flowers** near to mining bee colonies.
- **The lack of formal designation** (SSSI or LWS) for some of known sites, coupled with the uncertain future facing many quarries and other brown-field sites.

5. LOCAL ACTION

- Entomological survey work by Steven Falk has clarified our understanding of the bee-flies status in the County, as well as that of its host bees. This was augmented by several visits to the area in 2002 by David Gibbs who had been studying the fly nationally for English Nature, now Natural England.
- Scrub clearance of sites such as Harbury Spoilbank, Ufton Fields, Stockton Cutting and Nelson's (Stockton) Quarry through the SITA Trust 'Bringing Back the Blue' project is helping to create new areas of suitable habitats for the beefly and its hosts.
- Since the species is increasing naturally due to the increase and spread of its two main mining bee hosts, there seems no need for further management such as the designation of further sites as LWS and expansion of its range into new quarry sites.

6. PROPOSED LOCAL ACTIONS

ACTION	Lead	Partners	By
PLEASE CONSULT THE ***'GENERIC SPECIES'*** ACTION PLAN IN CONJUNCTION WITH THIS DOCUMENT FOR ACTIONS COMMON TO ALL SPECIES PLANS			
Policy, Legislation & Protection			
PL1. Designate all remaining known *B.discolor* sites, and any new sites, that qualify as LWSs at the earliest instance.	LWSP	WWT HBA LAs	**Targeted actions are no longer required in view of the species recent natural increase, due to the increase/ spread of its two main mining bee hosts.**

ACTION	Lead	Partners	By
Site / Species Safeguard & Management			
SM1. Prepare and implement management plans that increase the quality of at least 3 of the 11 existing sites by 2016 and another 3 by 2020, to fulfil the habitat requirements of *B.discolor* and its hosts.	WCC	NE WWT LWSP QOs SDC LOs	**Targeted actions are no longer required In view of the species recent natural increase, due to the increase/ spread of its two main mining bee hosts.**
SM2. Work with quarrying companies and other key landowners to produce new sites suitable for *B.discolor*, as opportunities arise.	WCC	BC LWSP WWT LAs QOs LOs	
SM3. Using information gained by **RM3**, double the number of sites for *B. discolor,* aiming at strategic locations to strengthen existing populations in the Harbury/Ufton and Brailes/Ratley areas and to extend the range, potentially between these two existing foci.	WCC	QOs WWT CRec	
SM4. Actively target appropriate sites to include the habitat requirements of *B. discolor* in the management agreements of agri-environment schemes**.**	NE	WCC	
Advisory			
A1. Contact owners/managers of known sites, explaining the significance of the population on their land and providing advice on best practice management.	WCC	NE WWT LOs SDC LWSP QOs	**Targeted actions are no longer required In view of the species recent natural increase, due to the increase/ spread of its two main mining bee hosts.**
Research & Monitoring			
RM1. Maintain an up-to-date listing of *B. discolor* sites and monitor losses and gains.	WBRC	CRec	**Targeted actions are no longer required In view of the species recent natural**

ACTION	Lead	Partners	By
RM2. Monitor the effectiveness and success of any habitat management, enhancement and creation undertaken at key sites, and write up case studies.	WBRC	WWT HBA Unis	**increase, due to the increase/ spread of its 2 main mining bee hosts.**
RM3. Identify more potential sites for *B.discolor*, targeting areas near to existing colonies.	WBRC	Unis WWT HBA	

Abbreviations: CRec – County Recorder, **HBA** – Habitat Biodiversity Audit partnership, **LAs** – Local Authorities, **LOs** – Landowners, **LWSP** – Local Wildlife Sites Project, **NE** – Natural England, **QOs** – Quarry owners, **SDC** – Stratford District Council , **Unis** – Universities, **WBRC** – Warwickshire Biological Record Centre, **WCC** – Warwickshire County Council, **WWT** – Warwickshire Wildlife Trust.

7. PROGRESS WITH ACTIONS

From 2015–2020 there will be a rolling programme of reporting on progress, of 10 action plans per year with an annual summary of results. Progress with this plan up to 2017 can be seen at https://www.warwickshirewildlifetrust.org.uk/LBAP.

8. BIBLIOGRAPHY

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9. FURTHER INFORMATION

Kirby, P. (1992). Habitat management for Invertebrates: a Practical Handbook. RSPB.

Buglife - the Invertebrate Conservation Trust. (2014) Promoting habitat mosaics for invertebrates in chalk downland provides information on the habitat-management requirements of key invertebrates.

MineralsUK - the British Geological Survey's Centre for Sustainable Mineral Development. This website has a wealth of information on mineral resources, mineral planning, policy and legislation, sustainable development, statistics and exploration.

Nature After Minerals is a resource for everyone with an interest in quarry restoration & minerals planning for biodiversity.

Warwickshire CC Mineral Strategy - the minerals development framework comprises a number of documents.

10. CONTACT

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