



## Great Bustards on the wing

One of our members spotted a Great Bustard in the Radstock area early in April this year. It was in an atypical woodland habitat, but close to farmland and ran away rather quickly when startled! The last sighting in the Cam Valley wildlife Group area was in Chewton Mendip in 2017 in late summer/early autumn, a female that had originally been released on Salisbury Plain the year before. Great bustards have been released every year since 2004 and have coloured numbered wing tags for ease of identification. One adventurous female, *Black 6*, was already roving as far away as South Devon by 2011 and as the years go by the birds become increasingly mobile, so watch out for them flying over or settling in our area!

In 2003, the Department for the Environment, Food and Rural Affairs issued a 10-year trial-licence to release Great Bustards in the UK. Reintroduction presented an opportunity for the UK to meet an obligation under EU legislation (Habitats Directive 1992) to reintroduce species where considered feasible. Great Bustard is an IUCN Red List (Threatened) species. The global population is now estimated at only 35,000. It was considered that plenty of habitat suitable for Great Bustard remained in the UK, in particular the rolling downland and arable fields of Wessex, and that reintroduction of this missing piece of UK wildlife heritage was a desirable outcome.



*Great Bustard, Otis tarda, male*  
courtesy of [www.volganet.ru](http://www.volganet.ru)

With European populations in long term decline, this was a priority species for European funding. So, following on from the initial establishment of the bird on Salisbury Plain, EU funding allowed the LIFE+ project, '*Reintroducing the Great Bustard*' to pursue its aim to significantly increase the small population of great bustards already established on Salisbury Plain. This programme was originally a five-year partnership project by the RSPB, Great Bustard Group, University of Bath and Natural England. It ended in November 2014 (see [http://greatbustard.org/life\\_project/life-bird-news/](http://greatbustard.org/life_project/life-bird-news/)). The Great Bustard Group, a UK Registered Charity, has continued to take the reintroduction project forward.

Great bustards are unmistakable and magnificent. They are described as being like a large goose, but with considerably longer legs and a straight neck. They have a wingspan of up to 2.5 metres and can stand up to one metre tall. When disturbed, they are likely to run rather than fly. They are one of the world's heaviest flying birds, weighing up to 16kg, although the heaviest recorded male was a spectacular 21kg in weight. There is pronounced sexual dimorphism. Male Great Bustards usually grow about 30% larger than the females; females can be as much as 50% smaller than males. Males in breeding plumage develop long white moustachial whiskers, some 20 cm long, and

the colours on their back and tail become much stronger. It is easy to see why they were targeted by trophy hunters, which along with changes to agricultural practices caused their loss to the UK. The date of this loss varies according to the source. Some sources claim that they became extinct in the 1840s, but Wikipedia states that the last bird was shot in 1832.

Further information about the reintroduction project and the birds can be found on the Great Bustard Group website at [greatbustard.org](http://greatbustard.org).

**Deborah Porter**

## Limestone fern: an unexpected treasure of the Colliers Way

On a recent CVWG Botany walk along the Colliers Way near Mells we were delighted by the diversity of species on the verges. Many grassland plants are benefitting from the management of the cycle path; we found Cowslips (*Primula veris*), Ox-eye Daisies (*Leucanthemum vulgare*), Common Broomrape (*Orobanche minor*), Common Spotted Orchids (*Dactylorhiza fuchsii*) and a good selection of vetches including Hairy Tare (*Vicia hirsuta*), Meadow Vetchling (*Lathyrus pratensis*) and Tufted Vetch (*Vicia cracca*). Indeed, we found ten members of the Pea family (Fabaceae), including lovely patches of Zig-zag Clover (*Trifolium medium*) which was not flowering but was identified vegetative by the shape of its stipules.

It had been a brilliant walk and we were about to turn back when I noticed a small fern on the stonework of a bridge. I stared at it incredulously as it is a species I know well ... but not at many sites outside Cheddar Gorge. Amazingly we had found Limestone Fern (*Gymnocarpium robertianum*). This Nationally Scarce fern is found mostly in northern and western England and Wales, concentrated in the Peak District and North Pennines, the mountains of North and South Wales, the Cotswolds and the Mendips, with scattered sites outside this main range. In Somerset, it reaches the south-west limit of its distribution in Britain. Limestone Fern has delicate attractive fronds arising individually from a creeping rhizome. The fronds are distinctively covered with minute glands, particularly when young, giving them a mealy appearance and a characteristic smell. Diana kindly photographed these and enlarged her image so that everyone could see the glands clearly. We found three small patches on the same wall, suggesting that it has been there for a while.



*Gymnocarpium robertianum* at Mells

The stronghold for this species in Somerset is the upper part of Cheddar Gorge, where it grows on scree on both sides of the gorge.

*Gymnocarpium robertianum* is also found in Goblin Combe on shaded mossy limestone scree, still persisting where it was noted by White in his 'Flora of the Bristol Coal-field' in 1886. At that time it also grew in Brockley Combe and Burrington Combe, both of which have limestone scree, but there

are no recent records from those sites. It also once grew amongst loose stones at Leigh Woods, on the Somerset side of the Avon Gorge where, before the construction of the Suspension Bridge, there was an area of limestone heath; it was last recorded there in 1843.

Away from Cheddar Gorge and Goblin Combe, Limestone Fern is currently known at three other locations in Somerset, all of them post-industrial sites. At Priddy Mineries, a small population has been known on the stonework of a derelict horizontal flue since 1987. In nearby Biddlecombe, north of Wells, *Gymnocarpium robertianum* was found in 1970 growing on the outside of a 'buddle house': a round, beehive-shaped stone building housing a stone-lined pit used for the sedimentation of lead by washing of lead ore. Both of these structures are likely to be contaminated with lead; Limestone Fern is a known metallophyte (a plant tolerant of heavy metals).



*Gymnocarpium robertianum* above Diagonal Walls, Cheddar Gorge

In 1981 a population of Limestone Fern was found at Treborough in the Brendon Hills towards Exmoor, where it is growing on the piles of waste at a disused slate quarry. This seems a remarkable site for a plant of limestone scree, but the slate was quarried from the Late Devonian Ilfracombe Slates Formation, which comprises sedimentary slates and also limestones and sandstones of marine origin. An outcrop of Roadwater Limestone near the slate quarry was the basis of a local lime-burning industry, producing lime for building and agricultural uses; the remains of lime kilns (built from slate) can be seen near the slate quarries. The spoil heaps thus contain fragments of other rocks quarried with the slate, including limestone, thereby providing a suitable substrate akin to the more usual habitat of limestone scree. It seems most likely that the *Gymnocarpium robertianum* has colonised since the closure of the quarries, presumably arriving as wind-blown spores from another native population.

Railways provide a range of habitats for ferns and extensive corridors for long-distance dispersal of spores. In 1894 *Gymnocarpium robertianum* was found by a ganger on the line, growing on the lias ledges of the Great Western Railway cutting near Saltford, between Bath and Bristol. It also grew for a while on the supporting wall of a platform at Congresbury Station in North Somerset, and indeed has also been found at several railway wall-mortar sites in eastern and southern England. It seems most likely that spores colonised such sites from native populations, perhaps travelling long distances within the railway coaches, entering through windows or doors and exiting to find suitable lime-rich mortar substrates, in former years kept moist by a regular drenchings of steam, creating perfect conditions for spore germination. The discovery of this species on walls below the canal between Bath and Batheaston in the late nineteenth century was probably also the result of colonisation by railway-borne spores, as the canal and railway run closely together along that

stretch. Over a century ago, White in his 'Flora of Bristol' (1912) observed that "There is no doubt that railways do much in distributing many species".

In the 'New Atlas of the British and Irish Flora' (2002) it was suggested that *Gymnocarpium robertianum* has become established on walls as a garden escape; however this is unlikely to be the case in Somerset. The population found on the platform wall at Kew Station in London may certainly have arrived as spores from Kew Gardens, but this species is probably only grown by fern enthusiasts and botanic gardens and is not often offered for sale. At most sites where *Gymnocarpium robertianum* has been found in non-natural habitats it seems more likely that plants have arisen as a result of long-distance spore dispersal from native populations (perhaps inadvertently human-aided), rather than arriving as escapes from cultivation.

In his 'Flora of Somerset' (1896) Murray mentioned a record for Limestone Fern from Mells found by G. Horner. There are no details of location or habitat, but it is possible that we re-found a long lost site for this scarce fern. Hopefully it will continue to thrive on this bridge, where the damp west-facing stonework provides an ideal habitat for ferns, and it can be admired by passing pteridologists for centuries to come.

**Helena Crouch**

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