

# The State of Britain's Stag Beetles 2018

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people's  
trust for  
endangered  
species

**The stag beetle *Lucanus cervus* is Britain's largest terrestrial beetle.** Despite its large size (or maybe because of it) they are a firm favourite with the public and children in particular. Perhaps it's their association with warm summer evenings and their connection with urban and suburban gardens that brings out a certain nostalgia when we think of stag beetles.

The very first *Great Stag Hunt* was launched in 1998. It was a huge success and led to the production of up-to-date UK distribution maps. The survey was repeated in 2002 and 2006/7. We've since collected stag beetle records every year to date. The number of records received varies annually depending on the amount of press coverage we achieve. This report summarises the results of the 2017 *Great Stag Hunt*.

## Methodology

The *Great Stag Hunt* collects ad hoc records of stag beetles in the UK. The website is open to collect records all year round but the 2017 *Great Stag Hunt* was launched on 23<sup>rd</sup> May. People were asked to plot their sighting on a map, adding the date, time, sex, number of beetles, stage (larva or adult) and activity. They could then upload a photograph and add extra information about the sighting in the comments section.

## Great Stag Hunt 2017 summary results

Over 8,000 records were submitted to the *Great Stag Hunt* website. Once the records of other species, and the records from other countries and years were removed,

we had 6107 confirmed stag beetle records: 925 larvae and 5182 adults. Of the adults, 1689 were female and 2889 were male, the rest were unknown.

Adults were seen in all months except November. The earliest adult, a female, was spotted in January in Suffolk. No extra information was given apart from that the beetle was dead, so could have been dug up by the recorder before it was able to emerge or it could have been an adult from last year.

There appear to be two peaks in emergence for both females and males about four weeks apart. Males began to emerge about a week before the females did. The peak month for sightings was May (see Graph 1).

The highest  
number of records  
came from  
Greater London





## Stag beetle ID

Male beetles (right) appear to have huge antlers, hence the name stag beetle. They're actually over-sized mandibles, used in courtship displays and to wrestle other male beetles.

Adult males vary in size from 35mm – 75mm long and tend to be seen flying at dusk in the summer, looking for a mate.



Female beetles (left) are smaller at between 30 – 50mm long, with smaller mandibles. They are often seen on the ground looking for somewhere to lay their eggs.

A fully-grown stag beetle larva (below) can be up to 110mm long. They're fairly smooth skinned, have orange head and legs and brown jaws. They are nearly always found below ground and can be as deep as half a metre down.



Larvae were recorded from February to November. The largest number of larvae recorded in one place at one time was 50!

## Distribution

The distribution of 2017 records (map 1, opposite) was very similar to that of previous years (map 2, opposite). The majority of records came from South-east England with a scattering of records in Bedfordshire,

**Table 1.** Number of verified records reported in each county in 2017. Each record might have more than one individual and might be larva or adult.

County	Number of records
Greater London	928
Hampshire	715
Surrey	416
Dorset	367
Berkshire	312
Suffolk	215
West Sussex	207
Kent	203
Essex	177
Buckinghamshire	63
Oxfordshire	37
Hertfordshire	24
Isle of Wight	7
Gloucestershire	6
East Sussex	5
Devon	3
Bedfordshire	1
Somerset	1
Cardiff	1
Monmouthshire	1
Cambridgeshire	1
Norfolk	1
<b>TOTAL</b>	<b>3691</b>

**RIGHT:** Lesser stag beetles are the beetle most often mistaken for female stag beetles. However, lesser stags are uniformly black all over with matt wing cases, while female stag beetles have shiny brown or maroon wing cases. Lesser stag beetles tend to have a much squarer overall look.

**FAR RIGHT:** Longhorn beetles are a family of beetles which owe their name to their distinctive long antennae. Like the stag beetle, they depend on deadwood for the larval stage of their life cycle.



Cambridgeshire and Norfolk. A couple of records came from south Wales – one from Cardiff and one from Monmouthshire. The highest number of records came from Greater London, as in all previous years. There were three distinct population concentrations centred on a) Greater London, b) Essex - Suffolk borders and c) a line along the south coast from Bournemouth to Brighton.

## Activity

For each record we asked what the beetle was doing. The most commonly recorded activity was walking (37%), then flying (25%).

The survey didn't specifically ask for the type of place the stag beetle was seen but several people mentioned the location in the comments. The overwhelming majority were seen in gardens but people also mentioned allotments, school grounds and even the pub!

## Other species

Where there was a photograph attached to the record we were able to identify some very interesting non-stag beetle finds. The beetle most often mistaken for a stag beetle was the lesser stag beetle (*Dorcus parallelipipedus*). It's similar in appearance to the stag beetle but much smaller and matt black rather than shiny. The larvae are also very similar in appearance but they're found in rotting wood above ground whereas stag beetle larvae need buried dead wood.

Six surveyors sent images of tanner beetles (also known as sawyer beetles) which are a type of longhorn beetle. Although they are widespread across Europe, they're uncommon and known to be declining in the UK. Like stag beetles they rely on dead wood as a food source for their larvae. They prefer the decaying wood within open-grown mature oak trees.

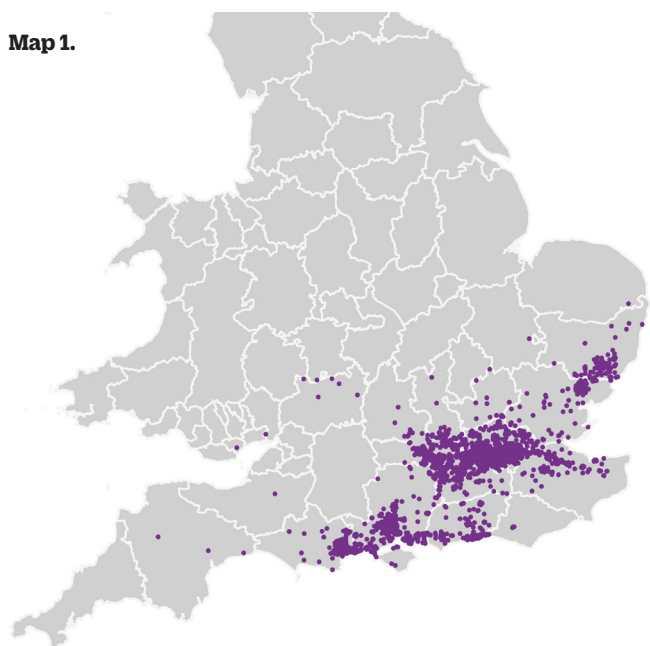


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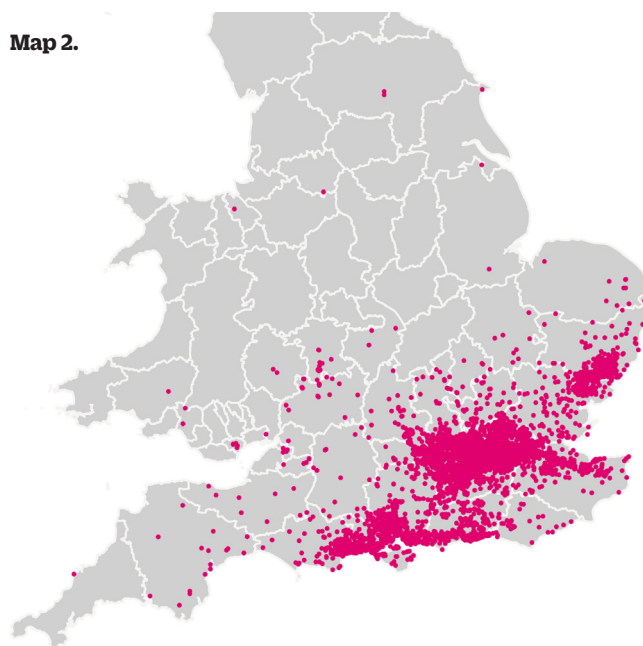
## Five ways to help stag beetles

1. Retain dead wood
2. Build a log pile
3. Make your garden safe for stags
4. Record a sighting at [www.ptes.org/gsh](http://www.ptes.org/gsh)
5. Monitor a transect over the summer (see population numbers box, overleaf).

**Map 1.**

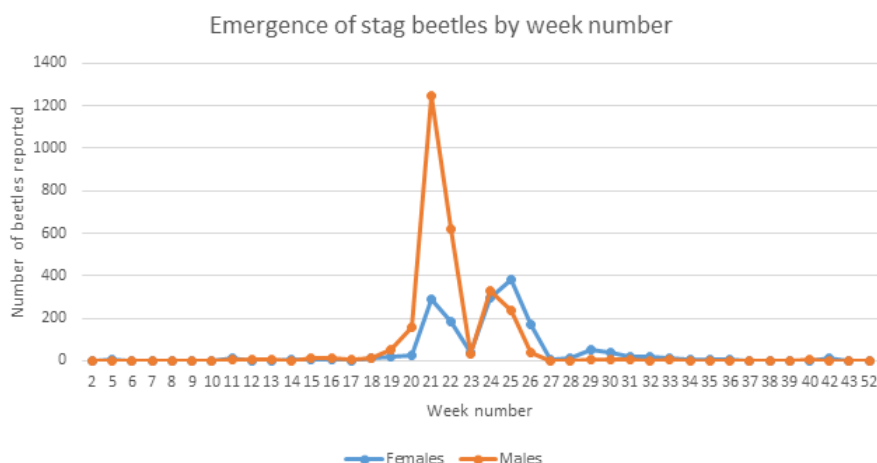


**Map 2.**



**Map 1** shows the distribution of stag beetles recorded in 2017. **Map 2** shows the distribution of stag beetles recorded between 1998 and 2016.





**Graph 1.** Shows the number of beetles recorded by week in 2017.

The rose chafers that were reported were in the larval stage. They do look quite similar to stag beetle larvae but are most likely to be found either in soil or compost heaps rather than in rotting wood.

Other species included:

- ▶ devils coach horse (*Ocypus olens*)
- ▶ minotaur beetle (*Typhaeus typhoeus*) - a type of dung beetle

### Interactions with other species

An interaction with another species doesn't necessarily mean that the stag beetle was killed or eaten by the other animal. 26 recorders mentioned cats, 22 dogs and 17 either magpies or crows. In one instance a larva was eaten by a chicken.

### How do people feel about stag beetles?

People also let us know how they felt about the stag beetle(s) they found. Huge, amazing, scared, beautiful and lovely were the most popular responses.

## Population numbers

Although we have some really important data allowing us to track the distribution of stag beetles across the UK, we don't really know how their numbers are doing. It's a difficult thing to measure. However last year we teamed up with some researchers in Europe to launch a Europe-wide project to monitor population numbers of stag beetles annually. This requires volunteers to walk a regular transect and count stag beetles allowing yearly data to be compared as well as spatial data.

We really need more people to take part, so please visit [www.stagbeetlemonitoring.org](http://www.stagbeetlemonitoring.org) to register your interest.

Thank you very much to everyone who has taken part in the *Great Stag Hunt* over the last 20 years. If you see a stag beetle please let us know at [www.ptes.org/gsh](http://www.ptes.org/gsh).



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