

## Tiger Moths – Flying in a postcode near you?

If I bump into someone who tells me they have recently seen a Tiger Moth my immediate thoughts might turn to old biplanes, Biggles books, Dogfights and the Red Baron! Indeed, the de Havilland aircraft company ran an insect theme when naming many of their early models including the Tiger and Gypsy Moth in the 1930s and later, the Mosquito. However, if I know I am talking to a fellow Lepidoptera (butterflies and moths) enthusiast like yourselves, I will almost certainly conclude that they have seen one of our striking macromoths. These moths are so named due to the bold reticulate, spotted or streaked pattern of markings on their forewings, reminiscent of the coat of a Tiger.

Tiger Moths are part of the Arctiinae sub-family of the Erebidae family, closely related to Ermines, Footmen, and species such as Clouded Buff, Ruby Tiger and Cinnabar. As described above Tiger Moths have upper forewings with bold chocolate brown-black and white patterning whilst the upper side of the hindwings is usually red, orange or yellow with black spots. The furry thorax is also often brightly coloured. This striking appearance acts as deterrent to predators such as birds warning them that they are poisonous, or unpleasant, to eat. In addition, the adults can spray irritating chemicals from special glands when threatened. These toxic components are harvested and modified from some of their larval host plants (LHPs) such as foxglove and members of the daisy family; although many other common plants such as nettle, dandelion, bramble and groundsel are also consumed. With such a diverse diet the availability of specific plant species doesn't constrain the distribution of most Tiger Moths.

Despite their colourful, almost tropical, appearance, Tiger Moths are mainly temperate-boreal species with either a Holarctic (circum-polar) or Palaearctic (Eurasian) distribution. The genus *Arctia* for example contains over 50 species worldwide of which 2 are British species. Here we profile our five resident Tiger Moths (Garden, Wood, Cream-spot, Scarlet and Jersey), all are reasonably large, with wingspans in the range 35-65 mm. A further species - Patton's Tiger *Arctia testudinaria* has been recorded several times along the south coast of England since 2005 (Randle and others, 2019), this Southern European species occurs as a very rare migrant and is not considered further here. All UK species tend to fly in late Spring and Summer, after mating the eggs are laid and quickly hatch, they over-winter as larvae prior to brief pupation and emergence as adults the following year to complete the lifecycle.

Male Tiger Moths can be distinguished by their comb-like, pectinate, antennae. All species are active, or easily disturbed, during the day, when they can often be seen perched up on hard surfaces or vegetation; they can also be readily attracted to light at night.

### **Garden Tiger *Arctia caja***

The Garden Tiger (Figure 1) is the most familiar Tiger Moth species in the UK having been widely distributed in all but the most mountainous areas until a few decades ago. Since numbers have declined quite markedly so that this is now quite rare in many areas.



Figure 1. Garden Tiger: (left) with wings spread showing the orange hindwings with black dots and (right) with closed wings. Note the pectinate antennae indicating this is a male. The large squares of the graph paper are 10mm (1 cm).

Figure 2 shows the distribution of accepted records in iRecord in January 2025. Most of these records are from the last 25 years showing that the former almost nationwide distribution has now become patchy with coastal areas favoured. The blue and green dots show areas where the species was recorded before 2010, but not since suggesting loss of territory. Reasons suggested for this decline include the wetter and warmer winter-spring weather resulting from climate change. (Randle and others, 2019)

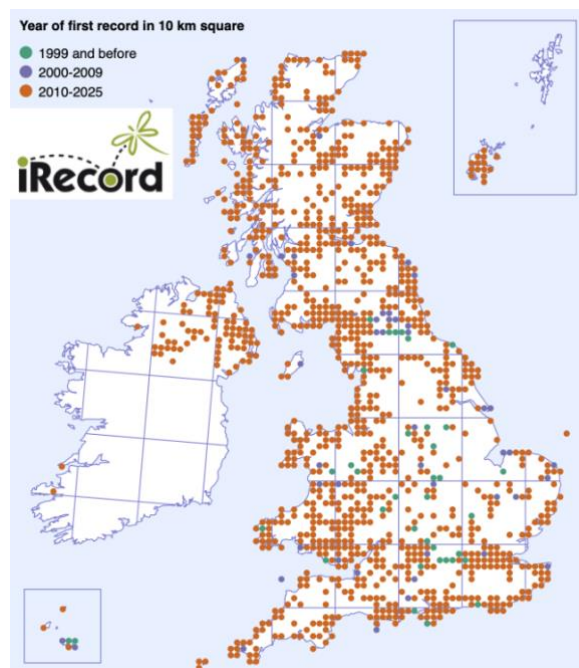


Figure 2. Distribution of the 4951 verified records of Garden Tiger in iRecord in January 2025.

Garden Tiger occurs in a wide variety of habitats including gardens, water meadows, fens, sand dunes, open woodland, hedgerows, and wasteland in urban areas. The preferred LHPs include nettle, dock, dandelion, ragwort, hawthorn and foxglove; but it is also found on trees-shrubs including apple, blackthorn and willows.

A large moth with wingspans in the 45-65mm range Garden Tiger is a diurnal flyer from June-August, it readily comes to light. Following mating, egg laying and hatching the species over-winters as a larva (caterpillar), these are popularly known as 'woolly bears' due to their very furry appearance (Figure 3).



Figure 3. A Garden Tiger caterpillar, commonly referred to as woolly bears, their length is up to about 5cm.

#### **Wood Tiger *Parasemia plantaginis***

Compared to our other Tiger moths the more diminutive Wood Tiger (Figure 4) is the smallest and perhaps least well-known of the group. It has a wingspan in the range 35-40mm, the hindwings being yellow with black dots and stripes, these are more prominent in the male. In northern forms the male may have white rather than yellow underwings (*form hospita*).



Figure 4. Wood Tiger courtesy and copyright of Keith Tailby (left) and Richard Fox (right).

A Holarctic species Wood Tiger was formerly widely distributed in moorland and heathland across the UK but with a patchier distribution in Eastern and Southeast England. As with the Garden Tiger In recent decades the numbers and range of the Wood Tiger have been decreasing (Figure 5).

The iRecord data holdings which are predominantly post 2000 show Wood Tiger is now almost absent from Southeast England and the South Midlands. (Figure 5). Whilst scattered records cover South-central England, Northern England, parts of Scotland and Northern Ireland, the only clusters of occupied hectads (10km squares) lie in the Southern and Northern Pennines.

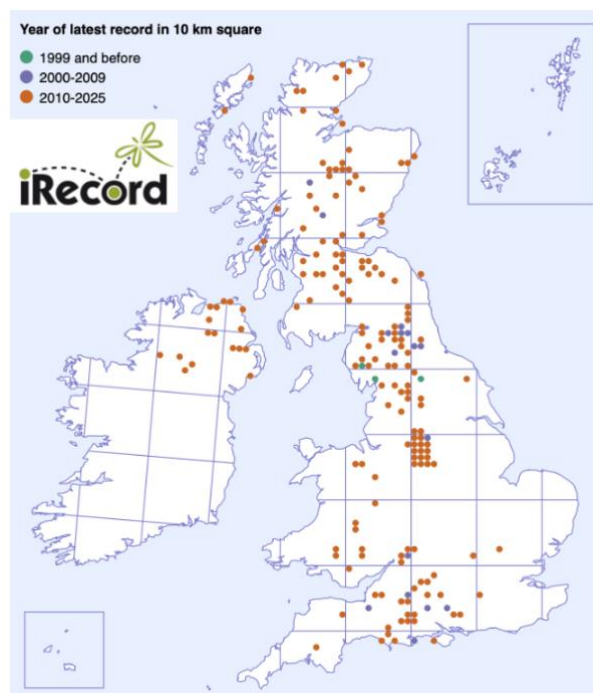


Figure 5. Distribution of the 852 verified records of Wood Tiger held in iRecord in January 2025.

LHPs include Bell Heather, Plantains, Rock Rose, Salad Burnet and Groundsel. A varied selection, some of which can be found in most areas. Compared to our other Tiger Moths the Wood Tiger seems to be more of a habitat specialist meaning that large tracts of our countryside are unsuitable for it to occupy.

The flight season is mainly May-June with the males flying during the day and the females at night.

### **Cream-spot Tiger *Arctia villica***

The Cream-spot Tiger has black forewings with large white-cream blotches which can vary a little from individual to individual. The hindwings are bright yellow with black dots and

patterning. Wingspans are in the range 45-60mm. This species has a Palearctic distribution that also extends into North Africa.



Figure 6. Cream-spot Tiger showing spread wings with yellow underwing (left) and with wings closed (right). Left hand image courtesy and copyright Keith Tailby.

Cream-spot Tiger has a flight season from May to July, individuals are often seen perched during the day and both sexes are active at night and attracted to light. The most common larval host plants include Groundsel and Chickweed with the preferred habitats including heathlands, grasslands and open woodland.

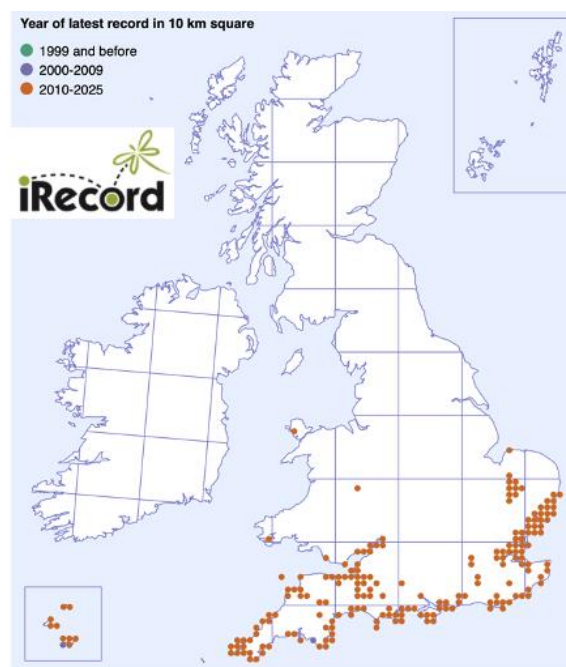


Figure 7. The distribution of 890 verified records of Cream-spot Tiger held by iRecord in January 2025. These records are predominantly post 2000.

Figure 7 shows the current distribution that is mainly confined to the Channel Isles and Southern England with a strong preference for coastal locations. Overall, the species is

declining in numbers and its' distribution is contracting slightly (compare with Randle and others, 2019).

### **Scarlet Tiger** *Callimorpha dominula*

The Scarlet Tiger has black forewings with blotches of white and cream and a vivid red hindwing, which gives the species its' name, together with black markings. The species has a wingspan in the range 45-55mm and is a diurnal flyer in June-July.

In terms of LHPs Comfrey, Alkanet and Nettle are favoured and traditional habitats were stated to be fens, flood meadows along river courses and coastlines.

The species has been increasing in numbers and expanding its range northwards since the Millennium, it has now spread across most of the Midlands from its' former strongholds in West Wales, South and Southwest England. (Figure 8). This coverage suggests that the species is not being constrained by the availability of specific habitats nor the presence of LHPs. This distribution shows further expansion of the range compared to that shown in Randle and others, 2019.

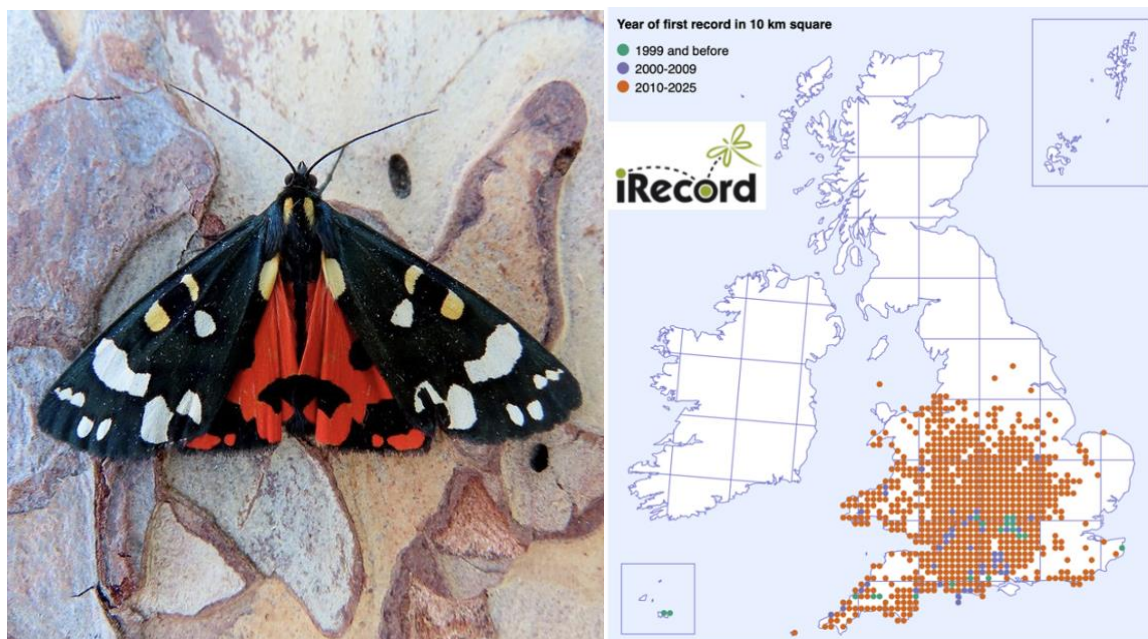


Figure 8. Female Scarlet Tiger (left) courtesy and copyright Dave Evans, and (right) distribution of c. 9400 verified records for Scarlet Tiger held in iRecord in January 2025.

### **Jersey Tiger** *Euplagia quadripunctaria*

The distinctive Jersey Tiger has black forewings traversed by streaks of white-cream, the wingspan is in the range 50-65mm. The underwings are orange-red with black dots (Figure 9). The flight season is July-Sept with irregular flying both during the day and night. LHPs include Nettles, Ground Ivy and Bramble and so there is no constraint on the availability and distribution of these ubiquitous plant species.

As the name indicates, originally the Jersey Tiger (Figure 9) was resident only in the Channel Isles and occurred in Great Britain only as a rare migrant. By 2000 it had expanded its' range into coastal Southern England (Randle and others, 2019) and is now rapidly spreading northwards into the Midlands and Southwest Wales (Figure 10). Moth trap results sometimes report catches of hundreds of individuals suggesting that numbers are increasing, and swarms of individuals are forming (Figure 9).



Figure 9. Female Jersey Tiger (left) courtesy and copyright Keith Tailby and (right) a moth trap crowded with Jersey Tigers (240 counted in all) from Ware north of London, courtesy and copyright Liz Goodyear from the Herts and Middlesex Moth Group Facebook Group.

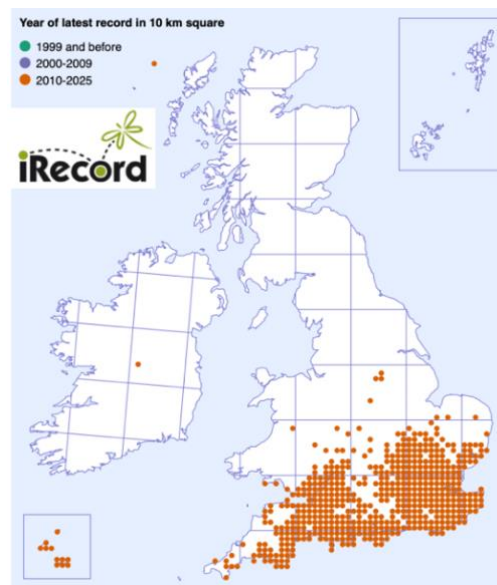


Figure 10. Distribution of c.15 000 verified records of Jersey Tiger in iRecord in January 2025.

## **Round-up**

The five resident species of Tiger Moth in the UK exhibit very different trends in terms of their populations and distribution.

The Garden Tiger appears to be in serious decline everywhere, the recorded distribution is becoming fragmented, and numbers are much reduced compared to 30-50 years ago. The species was given a Near-threatened status in a systematic review of macromoth Species (Fox, Parsons & Harrower, 2019). This study concluded that all the other four species can be considered as being of Least Concern.

Wood Tiger and Cream-spot Tiger appear stable showing just slight erosion of their distribution and population. Whilst Scarlet and Jersey Tigers have in recent decades seen a rapid northward expansion in range in southern Britain coupled with a strong increase in numbers.

Explaining these differing trends as the results of climate change is likely to be an oversimplification. The data presented here emphasises the importance of citizen science in accurately mapping the changing distributions of these iconic moths over time.

## **References cited**

Fox, R., Parsons, M.S. and Harrower, C.A. 2019. A review of the status of the macro-moths of Great Britain. Butterfly Conservation Report No. S19-17. 71pp.

Randle, Z. and 10 others 2019. Atlas of Britain & Ireland's Larger Moths, Pisces Publications, Newbury. 492pp.