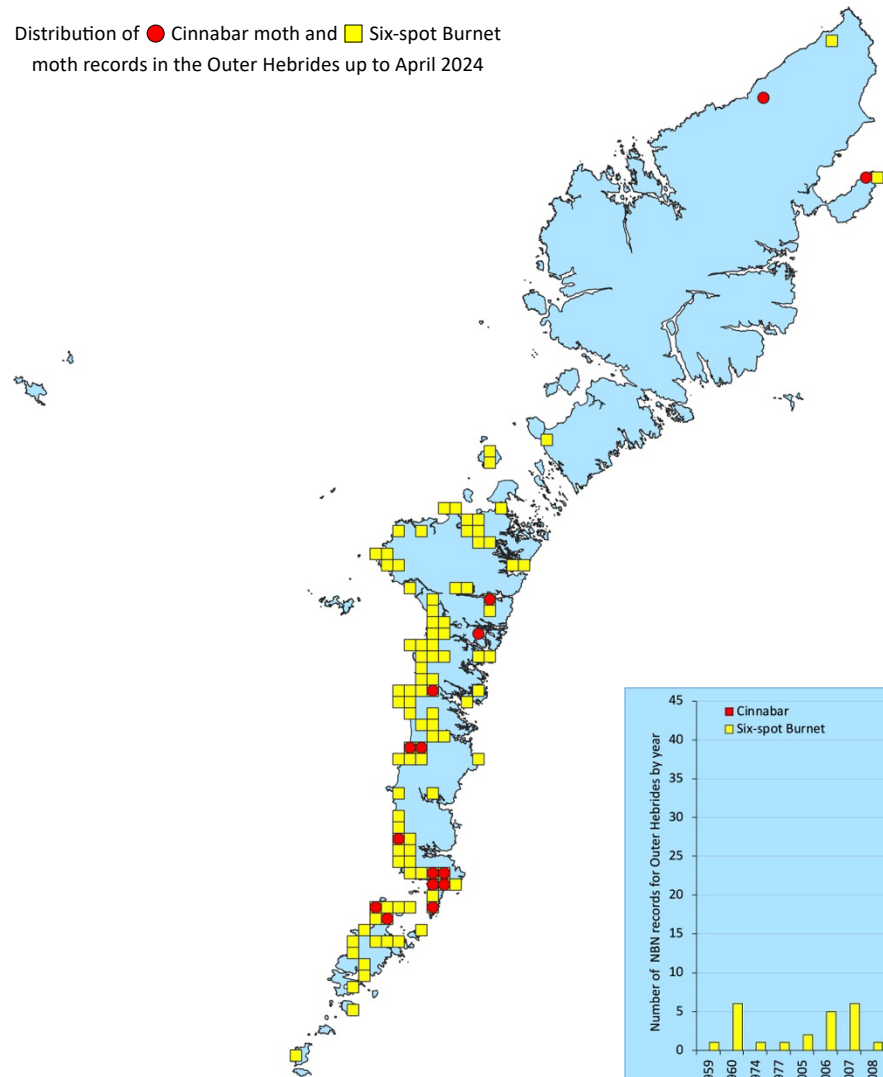


OHBR Cinnabar and Six-spot Burnet survey 2024

NBN Scotland currently (April 2024) has about 300 records of Six-spot Burnet moth and 50 of Cinnabar moth from the Outer Hebrides. Prior to 2009 there had been no records of Cinnabar in the Outer Hebrides and an average of only about 3 or 4 records per year of Six-spot Burnet moth. The Atlas of Britain and Ireland's Larger Moths (Zoë Randle et al, Pisces Publications, 2019) suggests that both species have spread more widely in Scotland since 1970. The lack of organised recording of moths prior to the setting up of the first recording scheme in 1967 may have led to a basic lack of information but both are distinctive and well-known species so that would seem unlikely. It could be that there was a real shift northward in their distribution. Certainly, there were very few records of Cinnabar anywhere in Scotland prior to 1990 with an average of only 3 records per year.

Distribution of ● Cinnabar moth and ■ Six-spot Burnet moth records in the Outer Hebrides up to April 2024

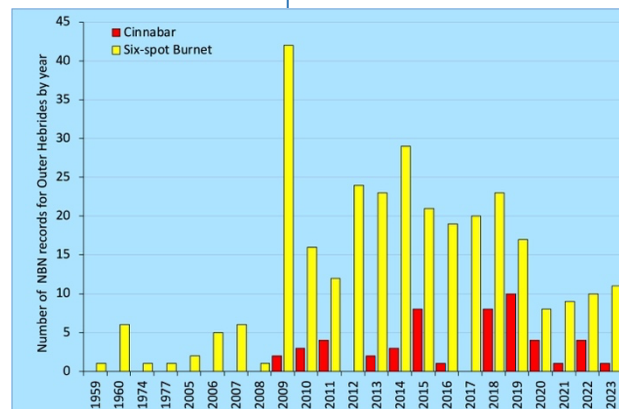


In 2024 Six-spot Burnet seems to be well distributed in Uist, with records from Mingulay in the south to Berneray and Pabbay just of North Uist. From there northwards there are just three locations at which it is known. Seemingly Cinnabar came later and appears to have just about established itself at the lower end of South Uist. There are odd records elsewhere each year but they seem to be just transient sightings as they are not followed up in later years with subsequent records. Both species feed on plants that are very common here especially in Machair areas; Cinnabar on Ragwort and Six-spot Burnet on Bird's-foot Trefoil and other members of the pea family.

In 2024 we would like to carry out an extensive survey of the two species, we are hoping to confirm or otherwise that the absence of records from Harris and Lewis is “real” and not just a consequence of there being rather fewer active recorders there. The following pages have some identification hints as the two species do share a bold black and red colouration that, whilst making them easy to separate from most other moths, can be quite confusing if all you get is a brief glimpse of one. Both are day active and you won't need a moth trap to catch them and in addition the caterpillars of the Cinnabar and the pupal cocoon of the Six-spot Burnet are easy to identify and conspicuous.

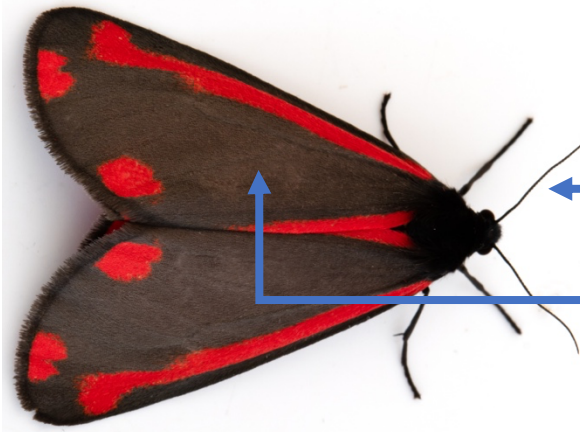
We would like to know:

- Which species, Cinnabar or Six-spot Burnet, you saw
- The stage in its life cycle: Adult, Larva (caterpillar) or Pupa (cocoon/chrysalis)
- A spatial location in the form of a grid reference (preferable 6 figure eg NF790461 or better) or perhaps more easily a What3Words reference
- The date/s you saw them
- How many there were if more than one
- You name so that the records can be attributed correctly
-



Any other information that you can provide such as the presence of known food plants (ragwort for cinnabar, and bird's foot trefoil and other vetches for Six-spot Burnet are important). To help time things we've put together a lifecycle calendar so you can see when you are likely to see adults, caterpillars (Cinnabar caterpillars are very conspicuous) or pupa (those of Six-spot Burnet are easy to spot).

Identification hints for Cinnabar and Six-spot Burnet



Cinnabar has a simple thread like antenna with a similar width along its whole length

The Six-spot Burnet has a widened tip to the antenna which is often held at a marked angle to the rest of the antenna

The wings of a Cinnabar tend to look matt black

Those of a Six-spot Burnet appear much glossier especially in bright sunlight.

Both species will fly during the day time, Six-spot Burnet are perhaps slightly more likely to be seen in the day than are Cinnabar moths. Conversely Six-spot Burnet moths are far less likely to be attracted to light than are Cinnabar.

The best distinguishing feature is the arrangement of the red markings on the forewings. In the Cinnabar there are long linear streaks of red along both the leading edge and along the trailing edge (to about half way) of the wing too.

The Six-spot Burnet has three pairs of red dots on each wing. The dots can appear orange-ish or even yellow. Sometimes the dots can merge together but if they do so they tend to merge across the wing rather than along the wing

Three pairs of red dots across each wing

The two basal dots can appear to be merged into one dot and can seem then to have just five dots and are known to have been misidentified as one of the Five-spot Burnets. In a Five-spot or Narrow-bordered Five-spot Burnet it's this dot that would be missing

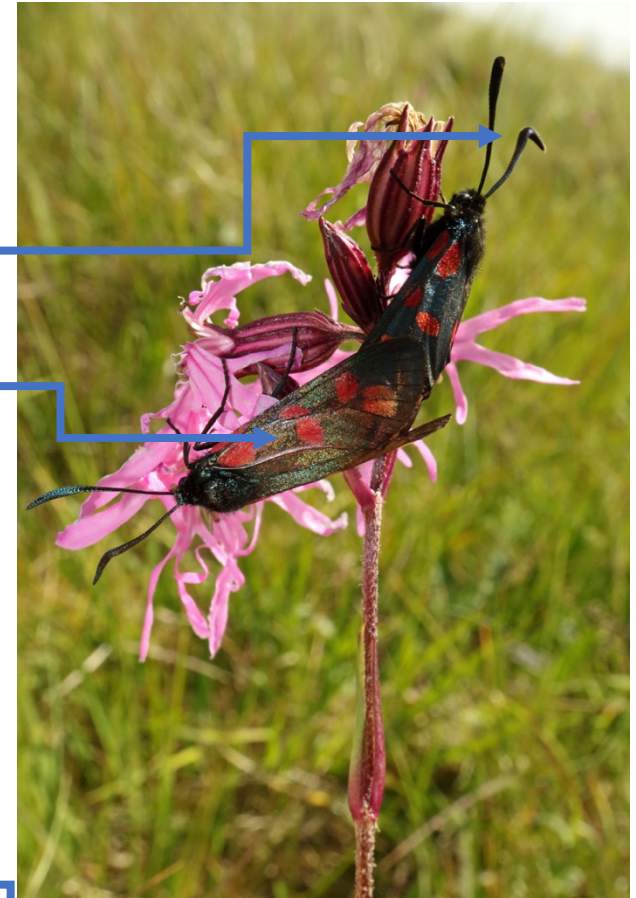
Both Cinnabar (shown left) and Six-spot Burnet have red hindwings which often leads members of the general public to think these brightly coloured day-flying insects must be butterflies. I suspect a fleeting glimpse may also lead to confusion between the two species and a resulting misidentification. The two species do have slightly different flight periods, in late July or early August its likely to be a Six-spot Burnet, in May more probably a Cinnabar but it's not a hard and fast rule they do overlap in time!

Red streak to about half way along trailing edge

Two red dots close to hind margin



Red streak almost all of way along leading edge



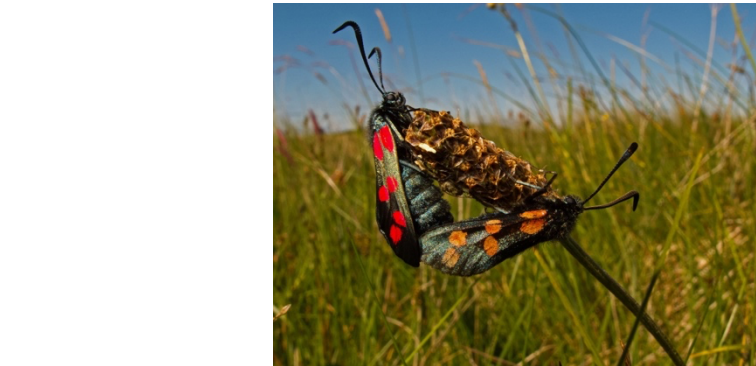
Cinnabar Overwinters as pupa, adults emerge in May/June, eggs are laid late June - August, reaching full size by late summer/early autumn and then pupate

	Mar	Apr					May					Jun				Jul				Aug					Sep				Oct
Week number	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
Pupa/Chrysalis/Cocoon	 pupate, emerging as adults in spring																		Mature larvae descend to ground level ...										
Adult				3		12	33	96	164	249	364	332	297	235	134	118	70	42	18	12	5	6							
Larva (caterpillar)										1	5	7	21	23	65	148	223	183	248	223	97	58	46	29	12	5	1	2	



Six-spot Burnet Overwinters as a larva reaching full size by late May/early June, then pupate in cocoons attached to the stems of grasses etc. adults emerge after a couple of weeks

	Mar	Apr					May					Jun				Jul				Aug					Sep				Oct
Week number	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
Larva (caterpillar)	1	1	2	3	4	6	18	44	29	35	29	36	10	14	3		1		1				1	1		1	2		
Pupa/Chrysalis/Cocoon							1	3		5	3	21	3	6	4	3	2	2	3	4	1	4		3			1		
Adult							1	3	3	6	54	140	382	479	494	588	538	501	322	176	75	36	10	2	4				



Photographs - Cinnabar pupa (top L.) By Quartl - Own work, CC BY-SA 3.0, <https://commons.wikimedia.org/w/index.php?curid=16024245>; Cinnabar caterpillar (top R.) By ©entomart <https://commons.wikimedia.org/w/index.php?curid=15600760>;
All other photographs - Cinnabar adult (top M.), Fully grown Six-spot Burnet - larva (bottom L.) looking for a pupation site, Six-spot Burnet - pupal cocoons (bottom M.) and Six-spot Burnet - mating adults (bottom R.) by Robin Sutton
Data - are total records by week number for the whole of Scotland from NBN Scotland Atlas