A HOME FOR OLD LADIES IN WIMBLEDON

By Sir John Dacie*

On the 18th July 1983 in the day-time, 12 specimens of *Mormo maura* L. (Old Lady), were found at rest in a World War II air-raid shelter in our garden. The shelter is partly underground and is approached by a flight of seven steps. Then, passing through an open door on the left a short passage leads to two separate rooms, one on the right and one on the left, into which no light penetrates. Their walls are of concrete and they remain cool and a little damp and at a relatively constant temperature. The 12 moths were arranged as singletons and in twos and threes on the side walls of the shelter just below the walls' junction with the ceiling. They were not disturbed but their position on the walls was outlined with red pencil, and the shelter was visited daily subsequently each morning. It soon became obvious that the moths were resting, for most of them remained on subsequent days in exactly the same position as they were when first seen. However, the number of moths in the shelter increased as the days passed. On the 22nd July there were 14, the original 12 being in the same positions as they were when first discovered, and later that day four others were found in a ventilator shaft. On the 23rd July, 19 in all were counted. My son visited the shelter at 3 a.m. on the 24th July and found most of them in their original positions; four, however, formed an overlapping group (Figure 1). On the 25th July, 20 were counted; on the 26th July, 19, including a group of six. On the 27th July, 18 were counted, including a group of eight. Some of the moths were still in their original positions; others had moved a few inches. The group of eight remained together until the 30th July. On the 31st July the total was the same, but there appeared to have been some movement and the group of eight was now one of six.

On the 1st August a total of 24 was counted, and three were examined for their sex – all were males. The remainder were not disturbed. On the 3rd August the total was 21; there had been some rearrangement and a new group of six had formed, the original group being reduced to four. On the 5th August this latter group had again increased to eight. The total remained at about 17 until the 11th August, some moths seemingly not having moved at all since their discovery on the 18th July. On the 12th August, 14 were present, including one pair. Subsequently, the numbers diminished: on the 15th August, 10 were present and on the 18th only eight; on the 22nd August there were five and on the 23rd only one. On the 28th August two were seen and on the 29th none. None was seen subsequently.

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In summary, specimens of *M. maura* used a pitch-black air-raid shelter as a 'rest-home' for a period of up to perhaps 40 days in July-August 1983, a peak total of 24 being present together on the 1st August. Some of the moths remained in the shelter without moving for several weeks; groups of up to six and eight were formed. Throughout this period a m.v. moth trap was run in the garden about 20 yards from the shelter. It was not until the 14th August that any *maura* were trapped, two then being taken; one more was taken on the 23rd August, two more on the 1st September and one on the 7th September. These late captures are consistent with the observation that the moths in the shelter in July and early August remained for many days in the shelter generally without moving and that they did not venture out into the garden.

M. maura has been known to seek shelter in a dark environment for many years. Edward Newman (1874), wrote "The moth is fond of resorting to summer-houses, boat houses, sheds, etc., in the interior of which it may frequently be observed in the day time, sitting on the inner surface of the roof. I once counted twenty-eight in a boat-house at Godalming. Mr. Reading says a marked specimen has returned to the same house after being repeatedly ejected". The observation of a "Home for Old Ladies" is therefore not new, even if the venue is different from that described by Newman. (In 1874, air-raid shelters had fortunately not been invented). The clustering together of the moths into groups was not, however, recorded by Newman or by Kirby (1903) or South (1920), both of whom refer to the moths' habit of flying into dwelling-houses or other buildings. The present observations suggest that the moths are not simply seeking a dark and safe resting-place in the day-time prior to flying at night, but that they are seeking a resting-place, presumably soon after emergence, where they may stay for an extended period of up to several weeks. This phenomenon, occurring in the summer time, can be referred to as a type of aestivation.

Aestivation by univoltine adult noctuid moths has been the subject of considerable research and is of special interest as it is often associated with long-distance migration (see Oku (1983) for literature). With or without accompanying migration, aestivation appears generally to be a means by which the insects can shield themselves from changes in habitat conditions. In the case of *maura*, the dark and cool air-raid shelter in Wimbledon appears to have provided the moths with a safe environment in which they were able perhaps to complete their development and the males to await the availability of sexually mature females. July-August 1983 was an exceptionally warm period for London with temperatures often as high as 20-22°C at dusk and 18-20°C at dawn. The temperature in the shelter was more constant at about 17°C. Outside the shelter, the temperature was, however, still relatively

high when the moths were leaving the shelter. It was 22°C at dusk and 18°C at 6.15 a.m. on the night (14th August) when the first *maura* were caught in the moth trap, so it appears unlikely that the moths were simply waiting in the shelter for cooler weather.

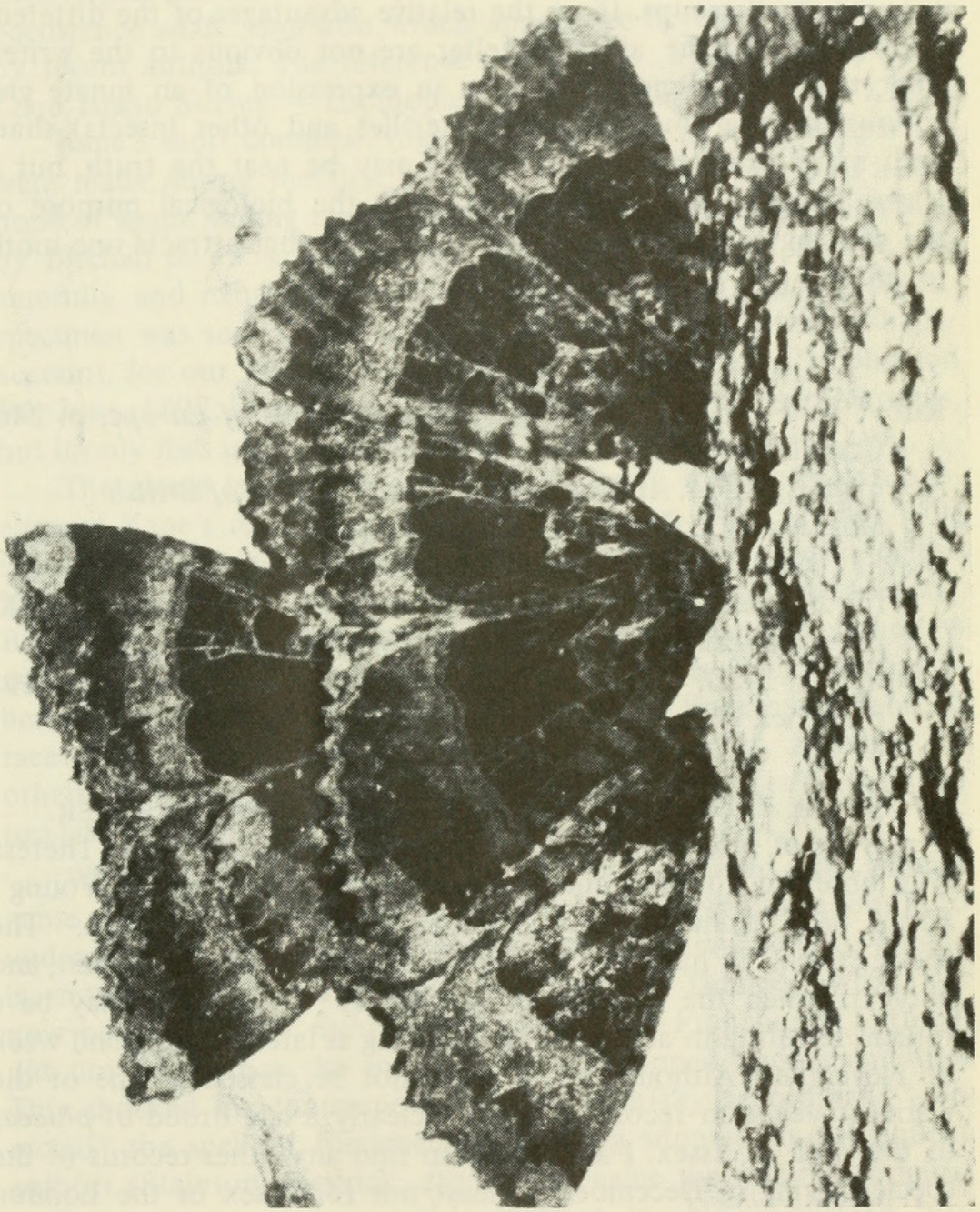

Fig. 1 *Mormo maura* L. at rest in Wimbledon in 1983

The massing of moths together in groups is interesting. This has been well described for some noctuid species, and Williams (1958) illustrated hundreds of *Agrotis infusa* Boisd. (the Bogong Moth) aestivating in large masses on the walls of caves in Mount Gingera, in Australia, at a height of 5000-6000 ft. (see also Oku, 1983). With this species aestivation is associated with migration.

The biological explanation for, and purpose if any of, massing seems obscure. It could have survival value: a mass of moths presents a large target to a predator, but by massing the number of targets would be reduced. In the case of the "Home for Old Ladies in Wimbledon", it is possible that the moths viewed particular sites with especial favour and that this was the reason for their forming small groups. If so, the relative advantages of the different sites chosen in the air-raid shelter are not obvious to the writer. That the phenomenon is simply an expression of an innate gregariousness that moths (and butterflies and other insects) share with many other groups of animals may be near the truth, but it leaves unanswered the questions as to the biological purpose of the massing together and what it is exactly that attracts one moth to another.

References

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SMALL COPPER: LYCAENA PHLAEAS L., IN DECEMBER. – It may be of interest to record here that my colleague Miss Theresa Wild observed a freshly emerged example of this species at Young's Farm, near Hainault Forest, Essex on 7th December 1984. The species normally has three broods each year in southern Britain, and in years when the summer is particularly warm, there may be a fourth, resulting in adults taking the wing as late as the second week of November. Although 1984 could not be classed as one of the warmest years on record, there was clearly a late brood of *phlaeas* in this area of Essex. I am unable to find any other records of the species flying in December, at least not for Essex or the London area. – C. W. PLANT, Assistant Curator, Natural Sciences (Biology), Passmore Edwards Museum, Romford Road, Stratford, London, E15 4LZ.

AGRIUS CONVOLVULI L. IN S. WESTMORLAND IN 1984. – A male Convolvulus Hawk-moth appeared at my m.v. light here at Beetham, the night of 12th/13th September 1984, the sixth in three successive years, and prior to one in 1979, not recorded before in my list. – J. BRIGGS, 5 Deepdale Close, Slackhead, Beetham, Nr. Milnthorpe, Cumbria LA7 7AY.