Bright Wave *Idaea ochrata* (Scop.) (Lep.: Geometridae) captive-reared for five generations solely on Hare's-foot Clover *Trifolium arvense* L. and Common Chickweed *Stellaria media*, with minimal intervention

My first experiments rearing the Bright Wave moth *Idaea ochrata* from the egg took place during 1997 and the results were published in *British Wildlife* **9**: 54-55. My main aims were to determine which of the plants growing where I had seen adult moths would be eaten by the larvae and to familiarise myself with the habits and appearance of the larvae to increase my chances of finding them in the wild. I discovered that they chose to feed on Lesser Stitchwort *Stellaria graminea* and legumes, particularly Hare's-foot Clover *Trifolium arvense* and Tufted Vetch *Vicia cracca* eating both flowers, seed pods and leaves of all three, even when these were wilting or mouldy. Larvae were successfully over-wintered and reared to adult.

In the spring of 1998, I searched for wild larvae of the Bright Wave, and some were found near Sandwich, Kent, on 19 May 1998. This work was reported in *British Wildlife* **9**: 326 and **9**: 393. I found one larva by day, within 1 centimetre of the ground in a short sward of fine grasses, of which the tallest stems were 5 cm in length. The larva was 12 mm in length and was resting among the leaves of a tare, which I identified as Smooth Tare *Vicia tetrasperma*, on which the larva was reared indoors to adult. This larva ate the flowers, leaves and pods until 29 May, pupating shortly thereafter and the adult emerged on 19 June, thereby confirming its identity. Three more Bright Wave larvae were found in further searches between 19.30hrs and midnight on 19 May 1998, all resting on grass stems near tare plants. Some of these plants were wilting in the sand.

In 1998, I established a small breeding population in captivity in a flower pot in which Hare's-foot Clover and Common Chickweed *Stellaria media* were the only plants growing. The main purpose of this note is to report that this population has persisted to the time of writing (summer 2003) in this one flower-pot, without intervention, and the pot probably contains larvae at this moment. These results are of interest in demonstrating how a small geometrid moth has survived for five years in a tiny habitat. They are also relevant should any captive-rearing programme be required for this Red Data Book species which has been lost from Suffolk and Essex and is currently known to be resident only in Kent, in a 6 km strip of sandy coastal grassland and shore between Sandwich and Deal, with small out-lying populations at Pegwell Bay and Kingsdown. For the record, the flower pot is 25 cm in diameter, 23 cm tall and made of brown-coloured plastic. The pot is covered with black netting of a mesh fine enough to exclude parasitoids but small predators could gain access by climbing up inside the pot from drainage holes in the base. The netting is supported on a wire frame 30 cm tall. The Hare's-foot Clover was planted into a potting mix of light soil, from which germinated the Common Chickweed. In the first year a plant of Couch Grass *Elytrigia repens* also appeared, but this was removed before it could crowd out the other plants. In some years the two plant species fill all the space within the net. The Hare's-foot Clover is dry and brown by late summer but some of the Chickweed remains green to the end of the year and by autumn fresh young plants are often coming up. Sometimes the vegetation has been largely brown for part of the

winter. The pot stands at the base of the south-facing brick wall of my house, on a paved patio, under the overhang of the house roof. In summer the pot stands in a plastic washing bowl which retains some of the rain-water which falls on it, but in the winter the bowl has often been removed to prevent the pot standing for long periods in accumulated rain-water and becoming water-logged. The pot is in full sun all day except the early morning. Most of the summer the soil in the pot looks dry. Occasionally I water it, just frequently enough to keep the plants alive. In the first years I removed some of the dead plant material in the winter, and found larvae at their base, but in the last two years I have left the plant material *in situ*. Apart from withdrawing a few corpses of the adults, this Bright Wave population has been left alone. Each year in late June or early July I see a few adults at rest on the netting or on the plants, but I have not had the time to count them throughout the season. I doubt the adult population numbers much more than a dozen adults and in 2003 I saw no more than three on any one occasion when I was around to look. In 2001, I noted eight adults on one occasion. In 2002, I noticed the first two of the year on 28 June and four were seen on 4 July. If the population persists into 2004, I intend to keep a closer watch to assess numbers. The culture was not set up with the deliberate intention of maintaining it all these years, but its fortuitous persistence has become something of a fascination and it will be left in place until two years pass with no adults seen.

This note was prepared in my post as part-time Reader at Writtle College, University of Essex, to whom I am most grateful for this opportunity and for financial support. My research work on the Bright Wave between 1997 and 2002 was conducted and financed as part of the English Nature Species Recovery Programme.— PAUL WARING, 1366 Lincoln Road, Werrington, Peterborough, PE4 6LS (E-mail: paul_waring@btinternet.com).

Rivulet *Perizoma affinitata* (Stephens) (Lep.: Geometridae) flying by day

Red Campion *Silene dioica* flourishes in patches of deep fertile soil on the sloping coastal cliffs of Banffshire. The Rivulet *Perizoma affinitata*, a species normally associated with woodland edge and scrub, accompanies its foodplant despite the treeless habitat. Elsewhere in Britain I have only seen this moth sparingly, but here it can be plentiful. Also, as the following observations show, it is partly diurnal. I have not noticed this behaviour elsewhere, nor is it mentioned in the literature, so it may be a purely local habit. Alternatively, it might be more evident here because the moths are so numerous and easily visible. Diurnal flight is well-known in other members of this genus such as Pretty Pinion *P. blandiata* and Heath Rivulet *P. minorata*.

On 12 May 2000 (a very early date so far north), at Tarlair, O.S. Grid Ref. NJ 7264, near Macduff, about a dozen Rivulets were seen flying actively in the mid-morning sunshine in a gully on the coastal cliffs. The largely white hindwings made the moths very conspicuous. All those netted were males.

On 4 June 2003, again at Tarlair, over a dozen moths were seen flying naturally and vigorously in hot and sunny weather at about 11.00 hours BST. They were mostly worn and faded, and again looked conspicuously pale. Apart from one female nectaring at Red Campion, all appeared to be males.