

One of the best ways to tell if a species is bivoltine is whether there is a gap between records. Thus *Idaea dimidiata* found in Donderry by A.E.C. Aston on 26th August 1989 was probably a late specimen of a single brood, as this moth regularly occurs from June onwards and I have caught this species as late as 11th September before (in 1984). Similarly, a very fresh *Philudoria potatoria* caught on 29th August was certainly a late specimen in a period of extended emergence, as was a fresh *Scopula imitaria* caught on 5th September.

*Agrotis exclamationis* was still flying in large numbers in early September, including some very fresh moths. I have found this moth in Cornwall from early May through to late October without a noticeable gap in the flight period. In some years it may well have two overlapping broods. It is likely that *Perizoma affinitata* was partially double-brooded in 1989. This species usually flies from early May to late July but I saw it near Truro on 24th and 28th August after a gap of exactly one month since the previous sighting. A single fresh *Spilosoma luteum* caught on 28th August was flying some five weeks later than I have previously found it in Cornwall. With a gap of eight weeks between sightings in 1989, this was almost certainly a second brood specimen. One species that was almost certainly double-brooded in Cornwall in 1989 was *Scopula immutata*. This species, which can be bivoltine in captivity, is usually to be found in June and July. I found fresh specimens at mv light near Rame Head on 27th August and near Truro on 28th August. These sightings were not unexpected considering the very hot summer of 1989. — ADRIAN SPALDING, Tregarne, Cusgarne, Truro, Cornwall.

### **A wasp and a praying mantis**

In September 1985, on the Greek island of Poros in the western Aegean, I witnessed a titanic battle between a large wasp (*Scolia* sp.?) and the praying mantis *Iris oratoria*. My attention was drawn to the wasp buzzing around a low bush in an erratic manner, as it soon transpired, trying to avoid the clutches of the mantis.

The sparring continued for several minutes until the mantis caught the wasp between its front legs. Both insects tried for about a minute to immobilise the other, until the wasp was able to sting the mantis between its eyes and thus pull free. The wasp then proceeded to bite through the elongated thorax of the mantis and carry off the head, presumably to the nest.

The mantis continued to move actively, especially raising and lowering its wings, revealing the distinctive under-pattern. After several minutes a wasp, presumably the same individual, returned and eventually managed to bite through the abdomen, carrying away the front portion and returning after a few minutes for the rear section of the abdomen.

In total, the encounter I observed lasted some twelve minutes:



presumably the rewards were sufficient to justify the considerable energy expenditure and risk to life. — C. GIBSON, Nature Conservancy Council, All Saints House, Colchester, Essex CO1 1UG.

### **Hazards of butterfly collecting — Ecuador, 1987**

In 1987 I decided to take a personal look at the butterflies of the Neotropical Region for the first time. I had a month available so the choice had to be a single country that was relatively accessible, not too complicated or dangerous, and representative of the main tropical fauna as well as containing elements of the montane zone with its clear Holarctic affinities. Ecuador was the choice, and a very good one it turned out to be. Two or three words of Spanish went a long way — two or three dollars went even further. Kindness and helpfulness were everywhere, and in most places near good butterfly spots in the Amazon catchment area you could not live more expensively than for three dollars a day even if you wanted to.

Before descending from Quito, the charming colonial centre of which is on the list of World Heritage Sites, I wanted to see the montane fauna of the Cotopaxi volcano (5,900 m with eternal snow and breathtakingly beautiful). It should be possible for me to get the car as high as 4,600 m. The butterfly fauna at levels above 3,500 m is far from rich, but it is very interesting. Black Satyrids fly about looking for all the world like Alpine *Erebia*, and like their cousins species have individual niches in the varied grassland types. The *Colias* are just like those of the high Himalaya in both habitus and habits. Trying to collect a good series in the rarified air of 4,000 m is no joke. What was that Pierid? Ah, yes, a *Tatochila*, very close in all respects to the Alpine *Ponchia callidice*, and just as difficult to catch.

I decided to see how high up the mountain I could see a butterfly and spurred on my brand new Chevrolet pick-up as far as it would. It finally stalled, even in first gear. I let it roll back till it stood still across the mountain road. The altitude was 4,500 m. To collect any butterflies on a steep mountain side at this height proved impossible. I decided to try lower down in more clement terrain.

The car restarted willingly enough. I put it in first, and suddenly had a wholly detached gearstick in my hand. This was no joke — the nearest ranger post was 20 km away, there were no other people, and the clouds would doubtless close in soon, bringing temperatures down below freezing. I stuck the stick back in its hole and fiddled about, but there was no support. Somehow I managed to get the car into reverse. This was no great help, but if I could get it in reverse, finding second gear should almost certainly be possible. This proved to be the case, once some lateral thinking had determined that you had physically to push the thing in the gearbox the opposite way of the normal stick movement.

Gingerly I reached the rangers: Ought there to be oil in the part of the gearbox that was visible? Probably not? Eventually the several hundred



Gibson, C. 1990. "A wasp and a praying mantis." *The entomologist's record and journal of variation* 102, 85–86.

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