

## OBSERVATIONS ON LEPIDOPTERA IN THE CEVENNES, EASTER 1981

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Our study trip to the Cévennes in France (Gard, 30, & Hérault, 34) for the week 11 - 20 April 1981 revealed some interesting observations on larval foodplants, dwarfs, predation and parasitism, and some general notes on butterfly abundance and behaviour.

### Foodplants

#### 1. Southern Festoon (*Zerynthia polyxena* D. & S.)

In one riverside mulberry meadow regularly grazed each week by goats, we found about a dozen freshly-emerged Southern Festoons lazily flying about and resting on various plants. The plants in the meadow were very diverse and included: Salad Burnet (*Poterium sanguisorba*), Cowslip (*Primula veris*), Red Clover (*Trifolium pratense*), Spring Cinquefoil (*Potentilla tabernaemontani*), Jack by the Hedge (*Alliaria petiolata*), all of which were in flower, while others like Soapwort (*Saponaria officinalis*) were pushing up. Scattered throughout the meadow were many groups of a very easily overlooked but distinctive member of the Birthworts (*Aristolochia rotunda*) on which the Southern Festoons were ovipositing; ova being laid on both the upper and lower surfaces of the leaves and on the stems. The species was also observed in another riverside meadow, about two miles from the first. It was, again, ovipositing on *A. rotunda*, which was not uncommon in small patches. Almost every leaf had at least one ovum on it and the largest accumulation found was fifteen on one leaf. An effort, on the part of G.B., to rear a limited number of ova proved very difficult and ultimately failed, despite the generous help afforded by Mr. Robert Goodden (Worldwide Butterflies) and Mr. J. S. Keesing (Living Collection Division, Royal Botanic Gardens, Kew). A sufficient supply of *A. rotunda* or *A. clematitis* was unobtainable and other *Aristolochia* spp. were not accepted with any real interest.

#### 2. Morocco Orange Tip (*Anthocharis belia* L.)

Further South, near St. Guilhem-le-Désert, in Hérault, *A. belia* and Cleopatra (*Gonepteryx cleopatra*) were in abundance. Females of *A. belia* were observed ovipositing on the tall but thinly-branched yellow crucifer *Biscutella lyrata*. They seemed to prefer to deposit their eggs on the tightly-closed panicles and fluttered all the time, while depositing their single eggs very quickly. When ova were removed for rearing purposes, it was found that they fed quite happily on one of the normal foodplants of *A. cardamines*, *Sisymbrium officinalis*. We have not found this listed as a foodplant of *A. belia*.

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### 3. Cleopatra (*Gonepteryx cleopatra* L.)

A female of *G. cleopatra* was seen ovipositing on the leaves of an oak species which had already lost its early Spring flowers. We have been unable to identify leaves removed for the purpose and the two ova collected failed to hatch.

### 4. Fritillaries.

Not many fritillaries were on the wing. Only a single specimen of the Queen of Spain (*Issoria lathonia* L.) and a fair number of Violet Fritillaries (*Clossiana dia* L.) were seen, but a large number of Fritillary larvae were found feeding on the leaves of Ivy-leaved Toadflax (*Cymbalaria muralis*) and Rock Speedwell (*Veronica fruticans*). The larvae continued to feed avidly on *C. muralis* in captivity. Fifteen were reared through to the final instar; two died, eight proved to be parasitised and five pupated safely. The latter emerged in May, proving to be *Mellicta deione* Geyer the Provencal Fritillary. The parasite cocoons and resultant hymenoptera were submitted to Dr. Mark Shaw (Royal Scottish Museum) for identification. They were *Apanteles melitearum* Wilkinson (a regular parasite of *Euphydryas aurinia* Rott. and *Melitaea cinxia* L. in Britain and of *Melitaea* and *Mellicta* spp. in France.). *A. melitearum* is double-brooded on a single host generation. The first brood come out soon after the hosts break diapause, quickly emerge from the pupa and then re-parasitise the same host generation a couple of instars later.

## Dwarfs

Small specimens of five species were seen on the trip. Both species of Orange Tip, in which dwarfs are often recorded, were seen; a small female *A. cardamines* L. was seen feeding on Honesty (*Lunaria annua*) but was unmeasured and a male *A. belia* proved to have wingspan of 15mm. (from centre of thorax to tip of forewing), — normal: 20mm. A Green Hairstreak (*Callophrys rubi* L.) had a wingspan of 10mm. (normal: 15mm.) and a Scarce Swallowtail (*Iphiclides podalirius* L.) one of 30mm. (normal: 40mm.). The Baton Blue (*Philotes baton* Bergstrasser) was very variable in size — ranging from 10 - 15mm. The underside colouring was equally variable.

## Abundance

It is worth drawing attention to the abundance of certain butterflies and moths, as the degree of abundance fluctuates from one year to the next. For instance, this Spring the Large White (*Pieris brassicae* L.) and the Orange Tip (*A. cardamines*) were extremely common compared with previous Springs. So too were two Mediterranean species, the Southern Festoon (*Zerynthia polyxena*) and the Nettle-Tree Butterfly (*Libythea celtis* Laicharting) which feeds on the Nettle Tree (*Celtis australis*). The latter has seen a steady increase in numbers over the last few years, such that it can now



be regarded as frequent rather than rare. The Scarce Swallowtail (*Iphiclides podalirius*) is still very common; while the Swallowtail (*Papilio machaon* L.) is always infrequent. A figure of at least 50 : 1 in favour of *I. podalirius* can be put on these two Swallowtails, although there is an abundance of Fennel (*Foeniculum vulgare*) and Wild Carrot (*Daucus carota*) in the valley.

Two species which are rare in England were frequent in the Cévennes : The Camberwell Beauty (*Nymphalis antiopa* L.) found mostly flying in sheltered valleys, where there was an abundance of Willows, and the Large Tortoiseshell (*Nymphalis polychloros* L.), many specimens of which were bedraggled.

### Other items of interest

1. In one of the Southern Festoon meadows we saw a Mallow Skipper (*Carcharodus alceae* Esper) which had been caught by a yellow spider lurking in the head of a Dandelion (*Taraxacum* sp.).

2. We observed a fourth instar larva of *Mellicta deione* being parasitised by a small black hymenopteron (see above). The latter was securely fastened to the larva towards the anal end and the larva was writhing about in its efforts to dislodge the parasite, which remained in position for about thirty seconds, only flying away when the larva wriggled off the stone it was on in a wall and fell to the ground.

3. On one occasion a Camberwell Beauty (*N. antiopa*) flew for some time along the road in front of our car and, with no particular effort, maintained a speed of about 26k.p.h. (17m.p.h.).

### Heterocera

The surprise at the MV lamp was the appearance of the large Saturniid *Saturnia pyri* D. & S. a species that, up to this year, has been rare. It has not always appeared at the MV lamp, being seen in previous years at lighted windows. Two males were attracted to the light on the 12th., two on the 15th., and three on the 17th. Only one female came to the light, on the 12th. Our neighbour, M. Patrick Ducros, who has operated the light in our absence, has only recorded the moth once in six years. One of us (J.F.) has only seen the large green larva once in the area, when it was floating down a swollen river in 1968.

The Emperor moth (*Saturnia pavonia* L.) was out, but not at the light. M. Patrick Ducros recorded a pair *in cop.* at Cambulon on the 11th. April and a fresh female was found flying by day on the 12th. This latter failed to attract males, although she was placed outside for almost a week.

One of the other attractions at the light was the Double Lunar Stripe (*Minucia lunaris* D. & S.) which is always very common and exists in two colour forms, a slate blue and a grey.

Although we ran the MV lamp every night, the cold, clear weather and full moon resulted in very limited catches, only one



other species being of interest. On the 14th. we caught a Noctuid which we were quite unable to identify. It appeared similar to the Middle Eastern tribe *Armadini*. It was finally identified by Mr. M. R. Honey (B.M.N.H.) as *Aleucanitis cailino* Lefebvre, a species whose range extends from the French Mediterranean littoral to the Southern Mediterranean and the Middle East (Syria). The species is not uncommon at Cabane Vieille as M. Patrick Ducros had taken several specimens in this and preceding years.

### Rhopalocera

Overall we recorded 35 species, full details of which are given below.

### HESPERIIDAE

*Pyrgus malvae malvoides* Elwes & Edwards, quite common.

*P. onopordi* Rambur, two or three only.

*Carcharodus alceae* Esper, common.

### PAPILIONIDAE

*Papilio machaon* L., two or three only; rare.

*Iphiclides podalirius feisthamelii* Duponchel, common.

*Zerynthia polyxena cassandra* Hübner-Geyer, common in two meadows only.

### PIERIDAE

*Pieris brassicae* (L.), very common.

*Artogeia napi* (L.), very common.

*Artogeia rapae* (L.), common, but less frequent than the preceding two species.

*Anthocharis cardamines* (L.), very common in Gard and Hérault.

*Anthocharis belia euphenoides* Staudinger, very common in Hérault.

Absent from Gard.

*Colias crocea* Geoffroy in Fourcroy, a few only.

*Gonepteryx rhamni* (L.), very common in Gard & Hérault.

*Gonepteryx cleopatra* (L.), very common in Hérault, less so in Gard.

*Leptidea sinapis* (L.), a few only.

### LYCAENIDAE

*Lycaena phlaeas* (L.), fairly common.

*Heodes tityrus* Poda, not uncommon in Gard; not seen in Hérault.

*Callophrys rubi* (L.), common.

*Cupido minimus* Fuessli, a few only.

*Everes alcetas* Hoffmannsegg, two only in Hérault.

*Celastrina argiolus* (L.), common.



*Pseudophilotes baton* Bergstrasser, common. Size very variable (10-16mm.)

*Polyommatus icarus* Rottemburg, two only in Gard.

### LIBYTHEIDAE

*Libythea celtis* Laicharting, quite common.

### NYMPHALIDAE

*Nymphalis polychloros* (L.), quite common in Gard. Not seen in Hérault.

*N. antiopa* (L.). Not uncommon in Gard. One only seen in Hérault.

*Inachis io* (L.), common.

*Vanessa atalanta* (L.), several seen in both Départements.

*Aglais urticae* (L.), common.

*Issoria lathonia* (L.), one only in Gard.

*Clossiana dia* (L.), common in Gard. Not seen in Hérault.

*Mellicta deione* Geyer, larvae very common in Gard on *Cymbalaria muralis*.

### SATYRIDAE

*Coenonympha pamphilus* (L.), a few in both Départements.

*Pararge aegeria* (L.), a few in both Départements.

*Lasiommata megera* (L.), common.

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