Heath, J. *et al.* 1976. *The Moths and Butterflies of Great Britain and Ireland*, Vol. I. London.
Hering, E. M. 1937. *Die Blattminen Mittel Nord Europas*, 561 (footnote).
————1951. *Biology of the leaf-miners*. s'-Gravenhage.
———— 1957. *Bestimmungstabellen der Blattminen von Europa*. 's-Gravenhage.
Jäckh, E. 1951. Die fruchtminierenden Arten der Gattung *Nepticula* Heyd. (*Etainia* Beirne) an den vier deutschen Ahornaten. *Zeitschrift der Weiner Entomologischen Gesellschaft*, 36: 170-178.
Meyrick, E. 1928. *A revised handbook of British Lepidoptera*. London.
Morris, F. O. 1872. *A natural history of British Moths*, IV. London.
Stainton, H. T. 1854 *Insecta Britannica, Tineina*. London.
————1859. *A Manual of British Butterflies and Moths*, II. London.
————1867. A few Observations on the Sycamore-feeding *Nepticula decentella*. *Ent. mon. Mag.*, 4: 28-29.
Trägårdh, I. 1913. Om *Nepticula sericopeza* Zell., ett skadedjur på lönnens frukter. *Skogsvårdsföreningens Tidskrift, Fackafdelningen*. H.4 291-303.
(There is a translation of this paper in German in *Entomologische Zeitschrift*, Jg. 30, Nr. 3.)
Tutt, J. W. 1899. *A natural history of British Lepidoptera*, Vol. I. London.

A SECOND RECORD OF EURRHYPARA PERLUCIDALIS (HBN.) FROM KENT. — Mr. H. C. Huggins in his "Notes on the Microlepidoptera" (*Ent. Rec.*, 72: 185-186) describes *Eurrhypara* (*Pyrausta*) *perlucidalis* (Hbn.) as looking "like a tiny *Notarcha ruralis* (Scop.) except for the spot on the forewings". This description agreed with a hitherto unidentified Pyraustid moth that I had captured in a m.v. light trap at Aylesford, Kent on 28.vi.1976. I made this tentative identification in March this year when labelling the specimen. The wingspan of my specimen was 20 mm. (against 30-34 mm. for *ruralis*) and had the same mauve sheen on translucent ochreous wings as the commoner moth. The v-shaped discal spot on the forewing was the most distinctive feature of the wing pattern. This identification was subsequently confirmed by Mr. J. M. Chalmers-Hunt who captured the only other recorded specimen from Kent at Ham Fen, near Deal, on 3.vii.1960 (*Ent. Rec.*, 72: 173 and *Ent. Rec.*, 86: 57). — P. J. JEWESS, 378 London Road, Aylesford, Kent.

EARLY EMERGENCE AND ABUNDANCE OF CARADRINA AMBIGUA D. & S. IN THE EASTBOURNE AREA. — My first example of this species came to light on the 26th of May, 1977, an unusually early date for a species which normally flies in August and September. Since that date until the present (29.viii.77), a total of 202 specimens have been recorded, with as many as 42 individuals in one evening. The staggered emergence of this species may perhaps be a result of the unusual weather conditions of the previous year. It will be interesting to see whether a second generation is produced in November, as happens some years. — M. HADLEY, 7 Beverington Close, Eastbourne.

Butterflies in Northern Greece: June-July 1976

By JOHN and MARGARET DACIE[1]
and PHILIP GRAMMATICOS[2]

In early May 1969 and in mid-July 1971 we collected in several areas in Northern Greece (Dacie, J. V. and M. K. V. and Grammaticos, 1970, 1972); in late June and early July 1976 we revisited the area, the fauna of which seems to be less well known than that of Central and Southern Greece. Based on Thessaloniki, we collected on the 26th and 27th June in the vicinity of the town and, further afield, on Mt. Cholomon in the Chalcidiki Peninsula on the 23rd and 24th June and on the 9th and 10th July. We visited the hills towards the border with Bulgaria which are north of Kilkis, Serre and Drama on the 25th, 28th, 29th and 30th June, and between the 3rd and 7th July the mountainous country near Florina, Lake Prespa and Kastoria in the North-West corner of Greece, close to the borders of Albania and Yugoslavia. 117 species were identified, making a total of about 130 species for the area if species caught on the two previous occasions, but not seen in 1976, are included.

In this account we shall comment on selected species, i.e. species not previously caught by us in the area and some of special interest.

Papilionidae

Allancastria cerisyi ferdinandi Stichel. We revisited the locality near Drama where we had seen a few specimens of this species in mid-July in 1971 and found it to be (19 days earlier) abundant. Almost all were males, mostly in fine condition. We did not see the species elsewhere.

Parnassius mnemosyne L. This species was taken on two mountains near Florina and Kastoria, at approximately 1,500 m. and 1,900 m., respectively. They lacked completely, or showed only the slightest trace of, the white spots on the grey marginal border of the uppersides of the forewings which occur in *P. mnemosyne athene* Stichel, as found on Mt. Chelmos in S. Greece.

Nymphalidae

Neptis sappho Pallas. Two rather worn specimens were taken on the 30th June about 10 km. north of Drama. This is well below the southern limit for this species according to Higgins and Riley (1970), who mention Hungary, N. Yugoslavia and Rumania, but not Bulgaria or Greece, as countries in E. Europe in which it may be found.

Nymphalis polychloros L. We found this species in small numbers in almost all the areas we visited; it is clearly widespread and not rare in N. Greece.

Fabriciana adippe cleodoxa Ochs. This species was caught in one area only, near Florina: it appeared to be the most local of the large fritillaries.

Brenthis hecate D. & S. This species is relatively uncommon but was caught on Mt. Cholomon, near Drama and in

[1] 10 Alan Road, Wimbledon, London, S.W.19.
[2] 51 Hermou Street, Thessaloniki, Greece.

the Florina-Kastoria area and is presumably widely distributed.

Boloria graeca graeca Staud. This species was taken, flying with *P. mnemosyne,* near Florina and Kastoria. It appears to be indistinguishable from the race flying in the classic locality of Mt. Tymphrystos.

Melitaea arduinna rhodopensis Freyer. This species was taken near Florina and also approximately 30 km. south of Florina on the road connecting Kastoria and Amynteon. *M. arduinna,* hitherto unknown apparently in Greece, was reported by Koutsaftikis (1974) as occurring near Ioannina; it presumably is local but widespread in N.W. Greece.

Euphydryas aurinia Rott. Koutsaftikis (1974) reported that this species had been taken at Florina, Drama, Evros and Ioannina. We encountered a single large colony at about 1,900 m., near Kastoria. It, too, thus seems likely to be widely distributed, although local, in N. Greece.

Satyridae

Hipparchia alcyone syriaca D. & S. This species was seen in only one locality, between Edessa and Florina, at exactly the same place where we found it in 1971. It thus seems to be local in N. Greece.

Hipparchia delattini Kudrna. This species, identified by its genitalia (Kudrna, 1975), was found to be abundant on an arid and stony upland area between Florina and Edessa. We had visited the area in 1971 and had caught several specimens on the same terrain. They had been reported erroneously as *H. semele* L. Other Hipparchia, caught near Kilkis, Serre and Drama were identified by examination of male genitalia, as *H. algirica senthes* Fruhst.

Pseudochazara anthelea amalthea Frivaldsky. Worn specimens of this species were caught flying in the same area as *H. delattini,* and other specimens were seen near Lake Prespa in the extreme N.W. corner of Greece.

Erebia medusa D. & S. This species seems to be widely distributed on the mountains near Florina and Kastoria. We did not see *E. ligea* L., which we had caught in 1971 near Florina a few days earlier in the year.

Aphantopus hyperantus L. We took this species near Florina and also near Drama, in a locality different from that at which we had taken it in 1971. Colonies are presumably widespread, but localised in N. Greece.

Lycaenidae

Quercusia quercus L. A single specimen was taken north of Serre. We had found the species near Volos in 1971, but not then in N. Greece.

Nordmannia acaciae F. This species was common on Mt. Cholomon, although mostly worn, and we took a single specimen near Drama.

Thersamonia thersamon Esper. This species seems to be very local in N. Greece. We saw a few specimens only at two localities near Thessaloniki.

Palaeochrysophanus hippothoe leonhardi Fruhst. This species was found sparingly in two localities near Florina and Kastoria, respectively.

Everes decoloratus Staud. Worn specimens of this species were found in exactly the same locality, near Drama, at which we had taken it in 1971. We did not find it elsewhere.

Cupido osiris Meigen. We took this species quite commonly near Serre, and a few specimens were caught near Drama and also near Florina; it is presumably widespread.

Maculinea arion L. As in 1971, this species is common on Mt. Cholomon. We did not see it near Florina where we had found it in 1971, but we found a few specimens in a mountainous locality near Kastoria. From both localities the majority of the specimens are large, have wide dark borders and are heavily marked.

Philotes baton schiffermuelleri Hemming. A few specimens of this species were caught near Drama and near Lake Prespa. It was common on the stony upland area between Florina and Edessa where *H. delattini* was flying.

Freyeria trochylus Freyer. Two fresh specimens were caught between Florina and Edessa, near Lake Vegoritis.

Plebejus argus L. This species (identified by the presence of a spine on the tibia of its fore-legs and by the bluish tint to the ground-colour of the underside) seems to be common and widespread in N. Greece. It is often unusually large and approaches *L. idas* in size. We found it on Mt. Cholomon and near Kilkis, Serre and Florina.

Lycaeides idas L. This species (identified by the absence of a spine on the tibia of its fore-iegs and no bluish tint to the underside ground-colour) was found commonly near Drama, and we took a single large specimen near Kastoria.

Eumedonia eumedon Esper. A few rather worn specimens of this species were caught at about 1,900 m. near Kastoria. We did not see it elsewhere.

Aricia anteros Freyer. A single specimen was caught near Florina, near where we had seen the species in 1971, and a few were taken, along with the *E. eumedon,* near Kastoria.

Agrodiaetus admetus Esper. A single specimen was taken near Drama, where we had found the species to be abundant in 1971; several specimens were also caught near Lake Prespa, near Florina.

Agrodiaetus ripartii Freyer. In our 1972 account we reported the capture of this species. Re-examination shows that the specimens caught near Florina are *A. ripartii,* but those caught near Drama are *A. alcestis aroaniensis* (see Brown, 1976). Neither species was seen in 1976, although we revisited the exact locality near Drama where *A. a. aroaniensis* had been flying abundantly in 1971. However, in 1976 we visited the locality 19 days earlier in the year.

Plebicula dorylas D. & S. A few specimens of this species were seen near Drama and also near Lake Prespa.

Polyommatus eroides Frivaldsky. In 1971 we took three males of this species near Florina. In 1976 we did not find it at Florina but came across it flying in abundance on the mountain site near Kastoria at approximately 1,900 m. The majority of specimens were males in almost perfect condition;

a few females were, however, seen. Koutsaftikis (1974) reported finding this species at 950 m. near Drama; we did not find it where we collected.

Hesperiidae

Pyrgus malvae L. This species seems to be widespread and we noted it on Mt. Cholomon, near Kilkis, near Florina and near Kastoria.

Pyrgus serratulae major Staud. A few specimens of this large subspecies were taken near Florina and near Kastoria.

Pyrgus cinarae Rambur. Two fine fresh males were taken, near Drama and near Lake Prespa. The species may thus be widely distributed in N. Greece but it seems to be rare.

Pyrgus sidae Esper. This species is clearly widely distributed and we came across it in small numbers in five widely separated localities, on Mt. Cholomon, near Kilkis, near Serre, near Drama and near Florina.

Spialia phlomidis Herrich-Schaeffer. We found a few fresh specimens of this species in two localities in N.W. Greece, between Edessa and Florina and near Lake Prespa.

Syrichtus tessellum Hübner. This large and distinctive species appeared to be quite widely distributed on Mt. Cholomon but uncommon. We did not see it elsewhere.

Carcharodus lavatherae Esper. We reported previously finding three females of this species near Florina and near Drama in 1971. In 1976 we again found a few specimens of both sexes, in two localities near Drama. We did not see it further west.

Carcharodus flocciferus Zeller. We caught two specimens only of this species, near Kilkis and near Florina. It thus appears to be quite widely distributed in N. Greece but it is clearly uncommon.

Thymelicus lineola Ochs. In 1971 we found this species near Florina. In 1976 we found a further colony between Lake Prespa and Kastoria. We did not notice it elsewhere; it is clearly much less common and far less widely distributed than is *T. sylvestris* Poda which we noted practically everywhere we collected.

Acknowledgements

We are indebted to Mr. John Coutsis and Dr. Lionel Higgins for making preparations of the genitalia of the species of *Hipparchia*.

References

Brown, J. 1976. Previously undescribed taxa of *Agrodiaetus* Hübner and *Polyommatus* Kluk (Lep., Lycaenidae). *Ent. Gaz.*, 27: 77-84.

Dacie, J. V., Dacie, Margaret K. V. and Grammaticos, Philip. 1970. Butterflies in Greece, May 1969. *Ent. Rec.*, 82: 54-58.

Dacie, J. V., Dacie, Margaret K. V. and Grammaticos, Philip. 1972. Butterflies in Northern and Central Greece, July 1971. *Ent. Rec.*, 84: 257-266.

Higgins, Lionel G. and Riley, Norman, D. 1970. *A Field Guide to the Butterflies of Britain and Europe*, Collins, London.

Koutsaftikis, A. 1974. Recent Butterfly Records from Greece. *Ent. Rec.*, 86: 15-17.

Kudrna, O. 1975. A hitherto unknown European species of *Hipparchia* Fabricius (Lep., Satyridae). *Ent. Gaz.*, 26: 197-207.

Rearing the Convolvulus Hawkmoth (*Agrius convolvuli* L.), Autumn-Winter 1976-77

By Robert A. Cramp*

On 16th October, 1976, a friend who lives in Reigate, Surrey rang to say that his daughter had found "a large moth —fully four inches across" in the garden. The specimen turned out to be a female *A. convolvuli* (Linn.) which was in fine condition.

An attempt at obtaining ova was made, and for the purpose a cylinder cage as marketed by Worldwide Butterflies was used. *Calystegia sepium* (Linn.), the common bindweed, was used as a foodplant as *Convolvulus arvensis* (Linn.), the lesser bindweed, was well past its best. Flowers of the tobacco plant, *Nicotiana,* were freshly picked and included in the cage.

At dusk the moth became active. It was observed to hover in such a controlled manner that for several seconds, although in flight, it did not touch the sides of the cage. At no time, however, was it observed to feed. On the morning of the 17th, six ova were noted on the foodplant on the floor of the cage. Spurred on by this piece of good fortune, it was decided to leave the moth for another night to see if it would lay more eggs. At dusk that evening the same flight pattern was noted lasting about half an hour. After this the moth began ovipositing. On the morning of the 18th a further 132 ova were counted. Predicting that the appetites of this number of full-grown larvae would be gargantuan, there seemed to be little point in keeping the moth for further eggs, and, as it was still in quite fine condition it was sacrificed. When set the specimen had a swingspan of 115 m.m.s.

Many of the ova were given away to entomological friends. 40 were retained and these basically divided into two groups. 27 were kept for forcing through as quickly as possible, and 13 were placed in the refrigerator at 4-5°C. in the hope that they might over-winter and be reared at leisure the following season. In the event these ova, while still appearing healthy in mid-January, had completely collapsed by mid-March.

As the ova matured, the developing larvae showed up as white in contrast to the turquoise-green coloration of the egg. Just prior to hatching, the ova were a dull whitish colour all over with one black dot. The ova showed signs of partial collapse at this stage.

On the morning of 28th October, some of the larvae had hatched and by that evening 17 young larvae were counted. They were 6-7 m.m.s long. When first hatched they were very pale green with a slightly darker green head. After a few hours (having eaten) they turned a slightly darker green. The horn, which was black, was about 2 m.m.s long. The larvae were divided into three lots and offered *C. sepium*. This was

* "Lea Hurst", 11 Wray Park Road, Reigate, Surrey RH2 0DG.