

keel, in *C. olivaceella*, goes very distinctly from just behind the mouth, right up to the suture of the two side valves of the anal opening. There is no back keel, but two very slightly developed ridges rise in a point just at the commencement of the straight portion behind the head-bend, and diverge gradually till they join in the sutures of the side valves, with the third valve of the anal opening. There seemed a tendency for the brown coloration to become streaky longitudinally, but this was obscure, and may have been only an individual characteristic. The mouth was very oblique, which made the case almost prone on the grass leaf. In *C. solitariella*, the case is almost upright to the surface of the grass. On May 16th, I noticed the larva with its head in a hole bitten completely through a blade of grass, and feeding away on the edge without mining, just as if it were an ordinary macro larvæ. By the middle of June it had finished feeding. But later on I found a round hole bitten through the case, a sure sign that a parasite had emerged, instead of the much wished for lepidopteron.

COLEOPHORA LINEOLEA.—A walk down the dusty Bromley Road, below Catford, and a search among the *Ballota nigra* growing alongside under the shelter of the elm bushes and trees, produced plenty of the larva and cases of *C. lineolea*. This species, I may note, is particularly fond of the neighbourhood of very dusty roads, and I met with it in such a situation at Crofton Park, Chatham, and Sanderstead, last year. The following notes were made on the larva:—

The prothoracic segment with a black shield covering the whole of the upper surface. This plate has an irregular margin of brownish all round, showing more prominently along the front edge. A thin pale sutural line down the middle of the back, widening somewhat towards the rear, divides the shield into two plates. The mesothoracic segment has two black plates on the back, separated down the middle of the back by a sutural light line, perceptibly wider than the widest portion of the sutural line on the 1st abdominal segment. These plates are roughly triangular, with the apex outwards, and reaching about half way across the segment. The metathoracic segment has two small circular black plates on each side of the back, somewhat nearer to the centre line than to the outer side of the back. All three segments have a similar equal-sized black plate on the projecting portions of the sides. Those on the mesothorax, which projects somewhat more than the other two, are slightly the larger. Of several larvæ examined, one or two had a small black plate on the outer sides of one or more pairs of the prolegs. The head is light brown, blackish to black towards the sides and back.

On May 21st, I had no *Ballota nigra*, and offered the larvæ *Stachys sylvatica*. This they fed on quite as well, and after that, the larvæ I had, were given both plants. On May 29th, this species was found in the larval state in plenty at Chatham, and Mr. Bacot took some at Broxbourne, on May 30th. Mr. South also reported finding the larva on *Stachys sylvatica*, and, on June, 11th, at Sanderstead, I met with them on the same plant. On June 15th, many of my larvæ were still feeding, but by June 20th, all had spun up for pupation. The emergences occurred in mid-July.

Butterflies in Switzerland in 1905.

By J. N. KEYNES, M.A., D.Sc., F.E.S.

I spent August, 1905, in Switzerland, with my wife and family, the entomological members of the party being my younger son and myself. Our stopping-places were selected to a large extent with reference to their entomological potentialities, and until nearly the end

of our stay the weather was fairly favourable. The season appeared to be rather a late one.

Our first stopping-place was Sierre, and we spent a good part of August 3rd and 4th in the Pfynwald. Here we succeeded in finding *Polyommatus meleager*, but it appeared to be getting over, and we secured only seven specimens. The ♂s were all worn, but the ♀s (which were, of course, ab. *steeveni*) were in rather better condition. *Everes argiades* var. *coretas*, of which we took five specimens, was also worn. Other captures in the Pfynwald, besides the commoner things, were *Carcharodus lavaterae*, *Polyommatus corydon* ab. *obsoleta* (including a specimen which had the discoidal spot on the upperside of the front wing conspicuously ringed with white, with a conspicuous white spot on the upperside of the hindwing also), *Rusticus argyrognomon* ♀ (both type and ab. *brunnea*), *Pontia daplidice* (fairly plentiful), *Leptosia sinapis* var. *diniensis*, and ab. ♀ *erysimi*, *Brenthis dia*, *Satyrus alcyone*, *Enodia dryas* (plentiful, and in good condition), and *Epinephele lycaon*. At Sierre, on these two days, my daughter took *Polyommatus baton* (a single specimen), *Papilio podalirius* (which was plentiful), and *Colias edusa*; and we also took *Carcharodus alceae* (which was new to us).

On August 5th, it rained most of the day, but we took *Erebia stygne* on the road from Brigue to Bérissal. August 6th was again dull, but a number of insects (including *Polyommatus eumedon*, *P. donzelii*, and *Coenonympha arcania* var. *darwiniana*) were taken asleep on flower-heads along the road above Bérissal. On August 7th the weather cleared up, and we walked from Bérissal to the Rosswald. The whole route was swarming with butterflies, and amongst our captures were *Chrysophanus alciphron* var. *gordius*, *Polyommatus donzelii*, *P. escheri*, *P. eros*, *P. orbitulus*, *P. optilete*, *Parnassius apollo* var. *pseudonomion*, *Colias palaeno*, *Melitaea phoebe*, *M. dictynna*, *Erebia pronoe* var. *pitho*, and *Melanargia galatea* ab. ♀ *flava*. We also took an interesting aberration of *Polyommatus damon* ♀, in which the white streak on the hindwing appears conspicuously on the upperside.

On August 8th (another fine day), we walked from Bérissal to Simplon Kulm, getting, however, nothing fresh, except an aberration of *Polyommatus donzelii* ♂, which I have not anywhere seen described, but which seems worthy of note. In this specimen, the usual broad suffused dark border is replaced by a narrow and well-defined black border. I have a good series of *P. donzelii*, and the specimen in question is markedly different from all the rest.

The next day we walked from Simplon Kulm to the moraine of the Kaltwasser Glacier. On the way up we found *Polyommatus optilete* (fairly plentiful, but scattered), *Pontia callidice* (scarce), *Colias phicomone* (abundant), *C. palaeno* (fairly plentiful, but not very easy to capture), *Erebia gorge*, and *E. lappona*. It was noteworthy that the ♂s of *P. optilete* were in perfectly fresh condition, while the ♀s (which were met with quite as frequently as the ♂s) were usually somewhat worn. Our experience of most species has been that the ♂s get over before the ♀s; I do not know whether it is possible that in this case there may have been two overlapping broods. On the moraine itself we managed to secure a good series of *Erebia alecto* var. *glacialis*; this insect was fairly plentiful, but, so far as we could discover, confined to one particular part of the moraine. Some agility and sureness of aim were necessary in effecting the captures, and the

roughness of the moraine made a prolonged chase out of the question.

A visit to Simplon Dorf and the Laquinthal, on August 10th, was a little disappointing, nothing of much interest being taken, except *Chrysophanus virgaureae* ♀ (type); having worked mainly on the north side of the Simplon Pass, we were much more familiar with var. *zermattensis*. We spent August 11th to 14th in making short excursions from Simplon Kulm. Near the Kaltwasser Gallery we found *Polyommatus eros* ♂ s plentiful; amongst our captures was one ab. *obsoleta*, and we took five ♀ s. An aberration of *Nomiades semiargus* was also taken, in which there were two extra spots on the underside of the hindwing, between the discoidal spot and the usual row of spots. In the same neighbourhood, *Parnassius delius* was fairly common, but often worn. Amongst the specimens of this insect that we took, were ab. *inornata*, ab. *aurantiaca*, ab. *alboprivata*, and one or two approaching ab. ♀ *hardwickii*. Other captures were *Erebia mnestra* (three specimens only), *E. pronoe* var. *pitho* (a good series, shewing considerable variation), and a remarkably fine form of *Argynnis niobe* (type) ♀, very dark and beautifully shot with purple. We paid two more visits to the moraine of the Kaltwasser Glacier, but it had turned colder, and *E. alecto* var. *glacialis* was scarcely to be seen. We captured, however, some more *Erebia gorge* and *E. lappona*, and a very pretty aberration of *Polyommatus orbitulus*, having an antemarginal row of white spots on the upperside of the front wing, and corresponding in some other (but not all) respects with ab. *aquilonia*, as described in Mr. Wheeler's book. It is worth noting that, in this district, we met with both the white and yellow forms of *Colias palaeno* ♀. We took one or two specimens with the discoidal spot on the upperside of the front wing hardly perceptible.

The next two days were occupied in moving from Simplon Kulm to Fiesch, where we took a very fine and dark *Parnassius apollo* ♀, and from Fiesch to Binn, the centre of a district famed for its mineralogical treasures, but, so far as I am aware, not very much visited by entomologists. Here we were so fortunate as to meet Mr. A. J. Fison (of Charpigny), the well-known entomologist, who generously placed his knowledge of the locality at our disposal. August 17th was very wet, but on the next day we walked, with Mr. Fison, to the Geisspfad Lakes, and, on the way, took *Parnassius delius*, *Brenthis pales* ab. ♀ *napaea*, *Erebia tyndarus* ab. *caecodromus*, and many commoner species. August 19th to 21st were spent in the Binnenthal, always above Binn. There was a great abundance of insect life in this valley, *Brenthis pales* ab. *napaea* was exceptionally fine as well as abundant. The Lycænids, chiefly *Polyommatus corydon*, with some *damon*, *donzelii*, *orbitulus*, and *hylas*, sat in hundreds on damp patches in the footpaths. If one approached them quietly they did not disturb themselves, and by carefully examining them as they sat many aberrations could be noticed. In this way we took five *P. corydon* ab. *obsoleta*, and two ab. *arcuata*. It was, however, difficult to capture the particular specimens one wanted without capturing some twenty or thirty others at the same time, and, when they were all in the net together, it was no easy matter to single out the right one from amongst the rest. *Chrysophanus virgaureae* ♀ var. *zermattensis* showed great variety in size, ground colour, and markings. Amongst other captures were *Chrysophanus*

alciphron var. *gordius*, *Parnassius apollo* ab. *nevadensis*, *Pieris napi* var. ♀ *bryoniae*, *Melitaea athalia*, *M. dictynna*, *Erebia pronoe* var. *pitho*, and *E. gorge*. *Colias palaeno* was fairly plentiful, but getting over.

Mr. Fison had been staying at Binn since July 14th, and he has very kindly furnished me with some notes on his general observations of Binn as an entomological centre, with permission to publish them. He says that the clusters of butterflies on the paths all through the summer were very remarkable and interesting. Usually, nearly all were Blues of three or four kinds, but often a yellow patch of Skippers would join the company, or a family of *Melitaea athalia*, or *Erebia melampus*. Amongst the Blues taken at Binn were *Polgommatus eros*, *P. donzelii* (abundant), *P. pheretes* (scarce), and *Lycaena alcon*; the specimens of *L. alcon*, which were very fresh, and some of them rather dark, were found above the forest line on July 20th and 22nd; *Parnassius apollo* was not very abundant, but rather well-marked; *P. delius* was quite scarce; four specimens of *Anthocharis simplonia* were taken in July. Early in August, very fresh specimens of *Colias palaeno* were plentiful on the west and north sides of the Stockhorn; the yellow and white forms of the ♀ both occurred. Mr. Fison noted that these ♀s were to be found early in the mornings (say from 9 a.m. or 9.30 a.m.) laying their eggs on *Vaccinium uliginosum* fully an hour before any ♂s appeared; they seemed to continue their egg-laying till 1 p.m. *B. pales* ab. ♀ *napaea* was not abundant until August. About the middle of July, *Melitaea aurinia* var. *merope* was abundant on the higher open pastures east of Imfeld. The specimens were very striking in their unusually black markings, which often covered most of the wings; very dark forms of *M. cynthia* ♂ were also taken. In these the strengthening of the dark colour seemed to correspond with the same feature in var. *merope*, and, perhaps, in the dark ♀s of *B. pales*, and of *A. niobe* (both type and var. *eris*), taken on the north slopes of the Stockhorn. *Melitaea parthenie* var. *varia* was very common in July, and *M. phoebe* (fine and varied in colour) was abundant all through the summer. On the whole, the Binn mountains seemed lacking in Erebias; not many species were met with, and most of those that occurred were scarce. Mr. Fison specially examined the districts where white dolomite rock showed itself, hoping to find *E. flavofasciata*, but in this search he did not meet with success.

On August 22nd, we left Binn for Martigny; on the way down to Fiesch, chiefly in the neighbourhood of Ausser Binn, we took *Chrysophanus dorilis* (plentiful), *C. phlaeas*, *Lycaena arion*, *Thecla spini* (badly worn), and *Dryas paphia* ab. ♀ *valesina*. Soon after we left Brigue there was an extraordinary storm of wind in the Rhone Valley. We saw many trees blown down, and the hay was blown long distances. The wind was followed by a violent and long-continued thunderstorm, and during the two days we were at Martigny it rained almost without intermission. Our next stay was at Vevey, and we spent the morning of August 25th on Mount Pélérin. Here we took *Satyrus circe*, but in too worn a condition to be worth keeping. We found *Brenthis dia* (including some aberrations with many of the spots on the upperside of the front wings run together), *Melitaea didyma* (the ♀s showing considerable variation in tint), and *M. parthenie* very plentiful; and we met with occasional specimens of *Polyommatus hylas*, *Colias edusa*, *Epinephele jurtina* ab. ♀ *pallens* (fine), and *Erebia stygne*. In the after-

noon of August 25th there was more rain, and as the weather seemed temporarily to have broken up, we brought our holiday to an end, so far as entomology was concerned, and moved on to Paris. While at Vevey, we paid a visit to Mr. Wheeler at Territet, and greatly enjoyed seeing his collection of Swiss butterflies. Amongst many beautiful series, the collection of Apaturids (including a number of very fine varieties and aberrations) was, perhaps, the most striking. Our only regret was that the time at our disposal did not allow of our studying, as we should have wished, the varieties of many species which Mr. Wheeler was able to show us, and of which we had previously been able to read descriptions only.

Marasmarcha agrorum var. tuttodactyla, new var. (n. sp.?)

By DR. T. A. CHAPMAN.

In looking over the material of the genus *Marasmarcha*, accumulated by Mr. Tutt and myself, chiefly from English and French localities, the first impression arrived at by a perfunctory survey, was that there was only one European species, viz., *M. lunaedactyla*, of which the other forms were merely varieties. Two or three circumstances, however, point strongly to another conclusion. First, of course, due weight must be given to the consensus of opinion that *M. fauna* and *M. agrorum* are good species; secondly, we find amongst the plumes several cases, as, for instance, in *Amblyptilia cosmodactyla* and *A. punctidactyla*, in which, apparently, trivial differences are adequate to mark specific distinction. The third ground was found on examining the appendages. In *M. lunaedactyla* the clasps each carry two long bristles, curled round in a special circular area, giving a remarkable appearance to the clasp as having a disc or medal let into it.

In *M. fauna* there are the same two bristles, but they are comparatively quite short and straight, and give the clasp a much less special appearance. In *M. agrorum* a third and more remarkable condition is found, viz., the bristles on the right (?) side are much longer than those on the other, and though not restrained in a circle, as in *M. lunaedactyla*, are, nevertheless, curved as compared with the straighter ones of the opposite clasp. This condition is remarkable from this point of view, that the Platyptiline division of the plumes have symmetrical clasps, and are without spines or bristles (except, perhaps, in *Eucnemidophorus rhododactyla*), the other, the Alucitine section, have clasps with spines or bristles, and the two clasps are always asymmetrical. *Marasmarcha* has, on the whole, Platyptiline affinities, and the possession of spines on the clasps is therefore notable, but it is especially to be remarked that, within the genus, there should be two species, and species as to which it is possible to raise the question as to whether they are truly distinct, one with symmetrical (Platyptiline) and the other with asymmetrical (Alucitine) clasps. Having bred *M. fauna* from larva found at Ste. Maxime, I may say that the larva and pupa are extremely close to those of *M. lunaedactyla*. They are paler and more delicate-looking, both usually of a light green, and the pupæ agree structurally in many minute details. I have yet to make a more detailed examination of them, but am not hopeful of discovering any structural distinctions, so that I should, apart from the evidence of



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