INSECTS IN HAMPSHIRE, 1942.

By F. H. HAINES.

A VERY cold, foggy, sunless January, with snow and a thunderstorm (rainfall 3.88in.) led to an equally cold, sunless February. The few sunny days were chilled by a N.E. wind, usually not high. The rainfall was light (.96in.). March was also very cold, dull and inclement, with much N.E. wind and a moderate rainfall of 2.56in. April was similar, but with a good deal of sun, and at first with a few typical April days. Later there was drought and at the end N.E. gales. (Rainfall 1.99in.) May was initially very sunny and dry, yet with many night frosts, the end being unsettled with S.W. gales and much rain. The nights were warmer and some days genial. (Rainfall, 3.91in.) The cold winds of early June were succeeded by very hot, dry and sunny weather. Frosts occurred on the nights of the 1st and 13th to 15th. (Rainfall, .36in.) There was rather a lack of sunshine in the dry, windy July. Good day temperatures alternated with a few cold nights. (Rainfall, 1.67in.) The wet, dull opening of August culminated finally in a spell of the best weather of the summer, very good for entomological work. (Rainfall, 4.11in.) September was too sunless, fairly calm, after a gale at the start, but with cold airs and chilly nights. (Rainfall, 2.87in.) The sunny days of early October led to a gloomy, cool month. (Rainfall, 4.03in.) Rainy at first, November became drier but it was typically cold, dark and foggy. Sixteen degrees of frost were registered on the night of 22nd. (Rainfall, 2.20in.) The early part of December was mild and wet, and occasionally sunny and spring-like. The month later was sombre and colder. Two or three gales occurred. (Rainfall, 4.91in.) The year's total rainfall at Appleslade was 33.59in.

N.B.—In Vol. XV, Part 2, p. 198, 7 lines from top, " 20 degrees " should read " 12 degrees " of frost.

Orthoptera (Earwigs, Cockroaches, Crickets and Grasshoppers). On 19th June, *Ectobia lapponica* L. was still extraordinarily abundant here, as for weeks past, but *E. panzeri* St. and *E. livida* F. were not noted. It is very strange that *E. lapponica*, occurring both in Hants and Devon, should never have been seen by me during twenty-five years in Dorset, when the other two species were as abundant as in the Forest. (CA) records *E. panzeri* on Hyde Common on 10th September. In Vol. XV, Pt. 1, p. 97, attention was drawn to Dr. Uvarov's paper showing that two species of *Tettix* (*Acrydium*) had been confused, and that the late W. J. Lucas' New Forest specimens belonged to a species new to Britain, *T. ceperoi* Bol. As some of these specimens were, I believe, those from which Lucas' description of *T. subulatus* was drawn up for his " British Orthoptera," the announcement was surprising. (CA) went to the locality on 8th Sept. and other dates, taking specimens to solve the

problem. The specimens were all *subulatus*: no *ceperoi* were found. Dr. Uvarov agreed, but suggested that the seasons of appearance may be different, or that *T. ceperoi* had disappeared, or that there is a seasonal change of the species. Further search will be made in the spring to elucidate. (CA) found *T. bipunctatus* L. plentiful on 8th Sept. at Marlborough Deeps. On 6th Aug. *Metrioptera brachyptera* L. and *Mecostethus grossus* L. were in abundance in Matley Bog, and on 23rd Aug. and 7th and 10th Sept. in Linwood Bog. He found *M. brachyptera* became fairly tame in captivity. The males would sit for hours making their monotonous rustling sound. They ate their old skins a few hours after a moult. He found *Pholidoptera cinerea* L. too wild to tame. *Chorthippus bicolor* was found by him at Sandleheath on 28th Oct., but they disappeared. He thinks all the true grasshoppers promptly eat their shed skins, and notes how seldom these are seen on grass stems. He says *Leptophyes punctatissima* Bosc. is an easily tamed species, allowing its change of food to be effected without alarm; his last specimen, a female, died on 29th Oct. The species has a habit of moistening the soles of the feet, perhaps to get a better foothold on smooth surfaces. On 9th June, at Appleslade, *Tettix* spp. had gone over, and practically all grasshoppers were immature. On 27th Sept. they were very active and numerous in the sunshine, especially *Chorthippus bicolor*, a late, and an early, species, *Omocestus viridulus* L., which had been mature very early, and *M. brachyptera*, many extending through October. (CA) found a female *Meconema thalassinum* F. on 9th Nov., on a pine trunk at Fordingbridge.

Plecoptera (Stone-flies). Many of the usual species of *Nemoura* and *Leuctra* were noted on Dockens Water: a *Nemoura* was on an outer door on 22nd Nov.

Psocoptera (Leaf-lice and Book-lice). *Amphigerontia bifasciata* Latr. was taken on 18th July. It is not so common here as *Graphopsocus cruciatus* L., *Mesopsocus unipunctatus* Mull. and *Caecilius flavidus* St.

Ephemeroptera (Mayflies). *Ephemera danica* Mull., noted at Fordingbridge on 30th May, was in normal season. Some of the smaller species were in great abundance on Dockens Water.

Odonata (Dragonflies). On 4th May, *Pyrrhosoma nymphula* Sulz. was in numbers here. (CA) writes on 1st June that, on Sweatford Water, Fordingbridge, *Agrion virgo* L. and *A. splendens* Harr. were flying in company. On 4th June, on Ober Water, New Forest, *A. virgo*, *Libellula depressa* L., *Gomphus vulgatissimus* L., *P. nymphula*, *Ischnura elegans* V.d.L., *Coenagrion puella* L. and *Platycnemis pennipes* Pall. (teneral) were seen. On 16th June, *Coenagrion mercuriale* Ch. and *Enallagma cyathigerum* Ch. were also seen, and on 23rd June, *Cordulegaster boltonii* Don., *Anax imperator* Leach and *Palaeobasis tenella* Vill. were added. On 3rd July, at Blissford, *Orthetrum coerulescens* F. was abundant. On 6th, (CA) took, near Somerley, a female *L. depressa* with 5th, 6th and 7th abdominal segments coloured blue, as in the male. (FCF) tells me that on the 31st May, at Hern, he saw *G. vulgatissimus*, *L. fulva* Mull, *L. quadrimaculata* L., *A. splendens*, *C. puella* and *P. nymphula* all in one spot. Practically all had gone by 14th June. On 3rd Oct., over Coy Pond, Bournemouth, he watched a male *Aeschna mixta* Latr. toying with a female *A. cyanea* Mull. On another occasion he saw a male *A. mixta* toying with a female *C. boltonii*. There were many males of *A. mixta* present, but no females were observed. *L. depressa* was over the pond, here, on 19th May, both sexes of *C. virgo* were swarming, over Dockens Water and our ground, on 31st, and on 27th *C. puella* and *E. cyathigerum* were about the pond. On 14th June, here, a female *C. puella* was held by a male *P. nymphula*, the male *P. nymphula* being itself held by another male of the same species. *C. boltonii* was seen here on 17th June. A vast number of wings of *C. virgo* were noted in a runnel on Handycross Plain, apparently from a heavy raid by some bird or, perhaps,

L. depressa. On 28th June (FCF) saw one male *Oxygaster curtisii* Dale at Hern. On the 24th, a dull day, none were in evidence, as they had been earlier in June. *O. coerulescans* was noted here on 11th July. *Sympetrum striolatum* Ch. was in evidence on 24th Aug. and *A. cyanea* was hawking on the lower ground on 1st Sept. *C. boltonii* was flying here on 4th Sept. and *A. juncea* L. on 9th, 10th, 14th, 18th (one settled on my chest, allowing close examination), 19th, hawking in garden, and on 3rd October. On the same day *S. scoticum* Don. was widespread in some numbers. (CA) says that those he saw were practically all males.

Hemiptera : Heteroptera (Bugs). The voracious *Picromerus bidens* L. was common as usual. *Nysius ericae* Schill., *Gastrodes ferrugineus* L., *Phytocoris ulmi* L. and *Capsus laniarius* L. were met with, amongst a great number of others.

Homoptera (Frog-hoppers, Cuckoo-spits, Plant-lice and Scale Insects). Towards the end of June, at Appleslade, a copse of *Salix*, largely *caprea* L. var. *cinerea* L., and hybrids of this species with *S. viminalis* L. was so phenomenally invested with *Aphrophora salicis* De G. that the resulting " cuckoo-spit " drenched the walker through it. About 29th June a great invasion of Long-tailed Tits with a smaller number of Marsh and Coal Tits occurred. The birds were at work on 29th and 30th of June and 1st of July, and were helped, I fancy, by a pair of Reed Buntings. On 2nd July hardly a drop of the spume was to be found. The weather had been very dry and warm throughout. Species of Braconid, Fossorial and other *Hymenoptera* have been quoted as preying on *Cercopidae.* I have even noticed a spider (Theridion) appearing to prospect the froth, and perhaps a Lycosid, but birds seem to be, at least at times, the arch-enemies. The quantity of froth of *Philaenus* spp., lower down amongst the herbage, was not exceptionally conspicuous and was not notably reduced by the birds. Presumably the " spit " very soon dries into a reticulated remnant after the insects are removed. A few weeks later, however, imagines of *A. salicis* showed up in abundance : so invincible proves insect life even when apparently annihilated (*vide* E.M.M., Vol. LXXVIII, p. 205).

Certain measures have been suggested for the control of the Black Aphis, *Aphis rumicis* L., the pest of Bean and Sugar Beet crops, and have been much discussed lately. Among the methods advocated by some economic entomologists is the total destruction of a principal host tree, the Spindle-tree, *Euonymous europaeus* L. Failing this leading to a reduction of the plague, the extirpation of the Guelder Rose, *Viburnum opulus*, is suggested. Both are rather common and very interesting trees. The scheme seems futile. It is true that the *Euonymous* is often chosen, and the *Viburnum* occasionally by the sexual females in autumn, on which to lay the winter eggs from which develop the stem females that restart the parthenogenetic cycles in the next season. But are there no other plants selected too ? *Rumex* is chosen by a race so akin to *A. rumicis* that the chance of its adoption by typical *rumicis, faute de mieux*, is surely a possibility. And the extirpation of *Rumex* would give us some restless nights ! Nor is it at all certain that among the hosts of herbaceous plants to which the winged generations migrate as summer progresses there are not many which would possibly be adopted by the sexual females were other hosts denied them, as well as *Rumex*. The parthenogenetic aphids flourish well on many of these, and surely the sexual generations also might. Dr. J. Davidson quotes about 80 of such plants in his " List of British Aphides."

The great number of synonyms of *Aphis rumicis* L. is an index of the great complexity of the subject. Some may hold that other true species are represented among them, and therefore that the plants quoted as preyed on by the aphis may be discounted. We are ignorant of much necessary specific biology. Light on many points is required before undesirable and expensive " cures " are allowable. It is certain that the biologic races evolved among individuals, owing to their occurrence on different plants, give a wide range of variation

in colour, structure and habit to so-called *Aphis rumicis* L. but far less certain that, deprived of their special habitats and preferences, they would not soon find substitutes which defeat plans of extirpation based on the lines advocated by some economists. Wonderful possibilities of this kind are exhibited by certain species of ichneumon, which parasitise insects belonging to quite distinct Orders. Objections to this theoretic suggestion are multitudinous. Such principles, adopted by various conservators, each for his own special protégé, could devastate the countryside. Some trees, some birds, some insects would go to save others at the bidding of one School, while those that survived would go at the instigation of an opposing School. The migratory nature of the aphis has been indicated by the term " blight " applied to certain meteorological states by country people. This tendency, which would doom any local remedy for the aphis to failure, is further evidenced by the vast swarms of *Coccinellidae* (Ladybirds) and *Syrphidae* (Hawk-flies) that at times pursue their aphid prey from the Continent.

The right cure for the Bean Aphis is certainly the encouragement of the appropriate birds, tits and others, too often slaughtered by horticulturists. More could certainly be done by breeding the multitudinous parasites of the aphis, and introducing them into stricken localities. A few species of *Ichneumonidae*, several *Braconidae*, all *Aphidiidae*, many *Chalcidiidae* and *Proctotrypidae* would prove fertile fields for investigation and trial. Fungoid diseases might be exploited as well as the well-known and often efficient remedies of the past.

Triecphora vulnerata Ill (now called *Cercopis sanguinea*) Geof., the Scarlet Cuckoo-spit, was quite common by the end of May and continued for long in remarkable profusion, its nymphs feeding throughout the winter on the roots of various grasses and low plants (China, *E.M.M.*, 61, pp. 133-134, 1925). Some species of *Cixius* were noted. The vast number of *Macrosiphum sonchi* L. feeding on *Centaurea nigra* L. were watched. The curious to and fro movement of their bodies as they probed the stems afresh with their probosces was very striking in its frequency in such hordes. Syrphid larvae were taking heavy toll of the great colonies.

Mecoptera (Scorpion-flies). The two species of *Panorpa: germanica* L. and *communis* L., appeared early and were common by early June. They continued late into autumn in quite remarkable numbers, but the third, the rare *cognata*, again could not be found. (FCF) planted out two colonies of the very curious *Boreus hiemalis* L. which he had bred from a Kentish stock, one in the Bournemouth neighbourhood and one near here.

Neuroptera (Alder-flies, Snake-flies, Brown and Green Lacewings). *Chrysopa carnea* St. came to light on 19th Jan., and was on the move on 16th Feb. On 8th March one with normal colouring was found dead. It was active indoors (f. *brum.*) on the very mild evening of 15th Dec. (FCF) on 17th, 18th and 19th May took seven specimens of the rare and local *Kimminsia rava* (With.) at Bournemouth, a 5th locality, after discovering it in a fresh, 4th, locality in Kent. It is unknown abroad and appears restricted to Scots Fir; there are two broods, in early and late summer. He also took *Westmaelius concinnus* St., larva, at the same time and place. Few *Eumicromus angulatus* St. were seen here this year. On 18th April, *Sialis lutaria* L. was out on stream and pond, and by 15th and 19th May and 5th June both *S. lutaria* and *S. fuliginosa* Pict. were out by Dockens. On 19th May *C. perla* was frequent, and on 26th July both *C. flava* Scop. and *C. vittata* Wsm. were commonly noted. On 1st March (FCF) gave me a pupa of *Raphidia maculicollis* St. found at the roots of pine at Bournemouth.

Trichoptera (Caddis-flies). A common *Limnophilus*, probably *lunatus* Curt., was seen on the pond on 15th May, and several other species of *Limnophilus* were observed by Dockens. *Brachycentrus submubilus* Curt. and *Sericostoma personatum* Spence, of which there was a great hatch on 25th June,

were noted, as well as *Stenophylax* spp. and *Halesus radiatus* Curt. in the autumn. *Mystacides azurea* L. and *Rhyacophila dorsalis* Curt. were plentiful as usual. *L. auricula* Curt. and *L. sparsus* Curt. are always exceedingly common; the former came to light on 22nd May.

Lepidoptera (Butterflies and Moths). A *Vanessa c-album*, reported as hibernating in a disused room, was noticed to have moved from the glass to the woodwork of the window, suggesting a sensitiveness to environment in the hibernating condition. It occasionally raised a leg, as though for exercise. The indoor choice of resort is rather unusual. The insect was found dead on 8th Feb. Many *Operophtera brumata* L. were coming to light at the end of January. On 8th March the common hibernating *Depressaria* spp. were moving. On 9th a male *G. rhamni* L. was flying in the sun, and on 14th several, with both sexes on 20th. *V. c-album* appeared on 25th March, here and at Linwood (HL), and *V. urticae* L. were rousing in the house for a flight in the sunshine. On 1st April *B. parthenias* L. was flying on the sunny day. On 11th April a *V. io* L. appeared, and on 12th many *G. rhamni*, *V. urticae* and *V. io* were about. On 15th a *Pieris rapae* L. was seen, many on 17th, and a *V. c-album*. *Lycaena argiolus* L. was out by 30th April in plenty, as was *P. napi* L. at Linwood. *L. argiolus* was out at Branksome on 3rd May (BP). On 1st May *H. malvae* L. was seen, and on 2nd *P. brasicae*. A male *E. cardamines* L. was flying at Blashford, *A. euphrosyne* in the Forest, and *C. pamphilus* L., here, on the 6th. *C. phlaeas* L. appeared on the 7th, and *H. tages* on 8th. *P. macularia* L. was appearing in all woodlands on the 14th. The male *E. rubi* was flying in the afternoon glow on the 15th. A male *P. megaera* L. was in the garden on 29th and the males especially were very common. *H. fuciformis* L. was well out by the 31st. A fair sprinkling of *M. aurinia* Rott., chiefly males, was noted on our lower ground. On 1st June *T. jacobaeae* L. was seen here. *A. viridella* Sc. was common by the 2nd. A much worn *T. rubi* L. was noted on 3rd when *L. icarus* Rott. were numerous. *A. selene* Schiff. was appearing on 4th. *Zygaena trifolia* Esp. was flying numerously on 5th. *H. bombyliformis* Esp. was basking on a leaf of rhododendron on 9th and a fresh *T. rubi* L. was on the flowers on 11th. *D. russula* L. appeared on 14th and was very common. On 17th there seemed to have been a slight immigration of *V. urticae*, judging from their aspect and synchronous appearance. *Aegeria formiciformis* Esp. was caught on a blossom of *Rubus* on 20th, and later proved common among the decayed copsewood of *Salix* in which its larvae feed. South says July and Aug., Meyrick June, as the date of appearance. A fresh male of *S. pinastri* was caught on our weathercock on 21st June. It is spreading fast over the Forest neighbourhood, and it is possible that it may become of economic importance from the ravages of its larvae among pines, as on the Continent. They were in some plenty in Bournemouth (FCF) and at Highcliffe (SGCR) in June. *L. aegon* Schiff. were over the heaths by this date. *E. janira* L. were common on 23rd and *A. paphia* L. and *A. adippe* L. were appearing. *B. piniarius* L. was getting common on the 26th and *L. sibilla* L. appeared on 27th. A fresh *V. urticae* was noted on 29th. A male *H. humuli* L. was seen in the late evening of the 30th. Until lately, not a single specimen of the destructive *B. pseudospretella* Staint. had been noticed in the house; during the last few hot evenings they have recurred in disappointing numbers. May to Sept. is their usual season.

Several hundreds of the larvae of *Saturnia pavonia* L. were hatched by (FCF). A large number of these were, while in their earlier instars, planted out by me on various patches of bramble or heather, over a fairly wide area on 1st July. They were carefully watched. By 5th July but two batches remained. The rest had, apparently, been eaten by birds: from observation, probably Blackbirds and Chaffinches. On 8th July only one larva could be traced in one, and none in the other batch. The former was gone by the next day. On the 12th one other larva was found elsewhere. This, too, was soon lost

sight of. The camouflage of *S. pavonia*, notwithstanding its very marked larval adaptive changes, is perhaps more successful at last than at first. Why are larvae gregarious? It would seem to make them more vulnerable. Nor is the dark colour of young *S. pavonia* larvae very secretive (E.M.M., Vol. LXXVIII, p. 245).

On 6th July *P. sylvanus* Esp. were very abundant. *T. viridana* L. was plentiful enough in this part of the Forest, but not as abundant as in some years. On July 8th *E. hyperanthus* L. was out. On emergence *A. aglaia* L. soon appeared to be the commonest Fritillary here, but the specimens were noticeably smaller than those which abound on the Dorset Downs by the sea. On 15th July, although the day was hot and bright, a fresh *V. urticae* was investigating windows and verandah to find entry for hibernation. 20th July showed *E. tithonus* L. appearing, and the summer brood of *L. argiolus* on the wing. A fine, fresh female *V. c-album* was seen on *Rubus* and fresh *G. rhamni* were flying. Next day the July brood of *C. phlaeas* L. was out and a small dark specimen was in the garden. On a short walk in the Forest on the 25th, twenty-three species of butterfly were counted, including var. *nigrina* of *L. sibilla* and an abnormally light specimen. A sudden increase in numbers of *P. brassicae* suggested an immigration. *P. bucephala* L. larvae, approaching full-growth, were noted at the end of July, and a good nest of *M. aurinia* larvae preparing for hibernation was found 1st Aug. A worn specimen of *A. formiciformis* was seen on a post. The third, August, brood of *P. aegeria* was coming out punctually. There are four broods in a year in the Forest. A Marsh Tit was seen flying after *V. io*. Many butterflies were seen this season with chips out of their wings, due to bird assaults. Fresh *V. atalanta* L. were seen on 9th Aug. The August brood of *P. megaera* at first seemed poor but was in great plenty later, and males continued thus beyond the end of the month, with many *E. tithonus*. A large pale female "Wall" was seen on 13th, on which day a *V. io* began hibernation indoors on a curtain. No *Colias edusa* F. were seen though (HHH) reported them in some numbers in Montgomeryshire. On 5th Sept. a *C. nupta* L. was disturbed early from a wall. A *V. c-album* was in the garden on 17th Sept., and a newly emerged, very fine *V. atalanta* was seen on 30th. *G. rhamni* and *P. rapae* were numerous and active, as were several *V. c-album* here at the beginning of October, some extending much later. A *V. io* was flying on 9th Nov. in sunshine, perhaps disturbed from hibernation.

(AP), Ringwood, sends the following: *C. edusa*, only one seen, Ibsley, 16th August. *L. sibilla*, good numbers in New Forest, var. *semi-nigrina* taken 1st Aug., a late date. *A. selene*, not as many as usual. *A. euphrosyne*, a good many seen but no vars. *A. adippe*, plentiful, a few vars. taken. *A. paphia*, many seen and several vars. taken, including var. *valezina*. *V. c-album*, not so plentiful as usual. *G. rhamni*, many in spring, not as many as usual in late summer. No *V. cardui* L. were seen.

(AFLB) Burghclere, tells me that *S. pavonia* that last year seemed to have gone was this year abundant on the commons from 20th April to 8th May. *B. rubi* was, as usual, in moderate numbers. *D. porcellus* L. was flying on *Centranthus* at 11 to 11.15 (B.S.T.) from 23rd June to about 5th July. *D. elpenor* L., one, on 24th June. *S. ligustri* L. found on a post on 8th July. *Achyla* (*Polyploca*) *flavicornis* L. was caught flying from a birch on 8th April. *Triphaena janthina* Esp., taken in the house in late summer, is not common at Burghclere. A perfect male *Apatura iris* L. driven out of an oak by heavy rain, resting by the roadside, was taken on 10th July. *Dryas* (*A.*) *paphia*, numerous, females more in evidence than usual. *A. aglaia*, taken on the Downs, the first seen here, on 30th July. No *Celastrina* (L.) *argiolus* were seen and only one or two *Thecla quercus* L., both usually common. Only one *Z.* (*T.*) *betulae* L. was seen, in mid-October. No *C. edusa* were seen. Most of the commoner butterflies were in smaller numbers than usual. The small

colony of L. *aegon* remained faithful to its locality. On the whole, a very interesting year. Of two specimens of *Hemaris* both were caught on 15th May : the first, type *fuciformis*, was over *Aubretia* in my garden at 4 p.m. (B.S.T.), rather late ; the second was over *Scilla nutans* at noon. It had a black medium band and was shorter and stouter than type *fuciformis*, but not *tityus* L. (*bombiliformis* Esp.). (Entom., Vol. LXXV, pp. 150 and 203.)

(SGCRR) says that the weather was unfavourable to butterflies, dull and wet days being frequent. In spite of this a fair number of aberrations rewarded those who could enjoy the occasional sunny days that occurred. Those seen by myself were as follows :—

Col. Burkhardt. Two *melanic paphia* (ab. *melaina*), both being almost entirely black females ; a fine pale straw or lemon-coloured *A. adippe* ; a melanic and rayed *A. selene* and an unusual example of *sibilla* ab. *semi-nigrina*.

Mr. E. E. Johnson. A very fine and heavily clouded female *A. paphia* (ab. *melaina*) ; on 13th July, a fine gynandromorph of *A. paphia*, the wings and body being equally halved on each side, the end of the body being sharply defined as male and female ; a melanic and rayed *A. selene* and six white or lemon-coloured forms of the same species, also a pure silvery-white form of *A. euphrosyne*, seen by the captor while riding his bicycle through the Ornamental Drive in the Forest. He also caught a melanic *V. c-album* with black hind wings and, on 22nd July, an extraordinary melanic aberration of *M. jurtina* L. (*E. janira* L.) in which the upper and underside coloration was deep shiny black, with only a small fulvous area round the spots in the forewings. This extreme example is probably unique. Another melanic example was taken by another collector, but I understand in this case the melanism was only partial.

Mr. P. Nagle captured a form of *A. adippe* with the forewings well clouded with black, and Baron de Worms captured an example of var. *valezina*, ab. confluens (the spots forming stripes). Another and more extreme example of this form was, I heard, captured by another collector. They are very rare.

The Rev. J. N. Marcon caught two fine examples of *A. paphia* clouded with black (ab. *melaina*) and an example of *L. sibilla* ab. *nigrina*. No doubt other aberrations were taken that have not been recorded. It will be interesting to see if the occurrence of aberrations is again in evidence next season, but a third year of aberrations is unusual.

P. aegeria was in evidence everywhere and quite up to its usual good numbers. Theclas were generally uncommon and I saw only odd examples. There was a falling off in numbers of *P. megaera*, and the same applies to *M.* (E.) *tithonus*.

Although aberrations of the Fritillaries were not so numerous as last season it is generally agreed that those caught were mostly more extreme in variation. This may have been due to being the progeny of aberrant parents that were unseen last season. There were no thunderstorms in the district during the time of emergence as occurred last year. It is a curious fact that when aberrations of *A. paphia* and other Fritillaries occur in numbers in the Forest they are also reported in small numbers from districts far removed, in the Midlands and in the South. This would seem to imply that climatic influences existed all over the localities and had a share in the production of aberrations. However, it seems impossible to ascertain the cause or causes of variation, and one can only surmise.

(CA) found a male *S. pinastri* on 15th June on a fir-trunk at Wilverley, New Forest, and another male, 4th July, on a telegraph post about 5ft. from the ground at Fordingbridge. On 5th July *A. paphia* and *L. sibilla* were in profusion at Sandleheath, and *L. aegon* on the heaths. *V. c-album* was freshly emerged. On July 26th *T. w-album* Kn. was found sparingly on the blossom of *Rubus*, at Damerham.

(FCF) Bournemouth, 27th May, tells me that he has bred eighty *S. pavonia*, all remarkably dark and very large, five *S. tiliae* (four males, one female), several *D. mendica* Clk. and *N. dromedarius* L. A number of larvae of *T. cossus* L. have spun up and one pupated. On 7th Oct. he reports that sphingid larvae have been very common. He found six larvae of *C. elpenor* in the Bourne Valley which pupated. Ten pupae of *S. ligustri* and nearly forty *S. tiliae* were also raised. A *D. pudibunda* L. taken 14th June oviposited and 100 pupae were raised without losing a single larva.

(EFC) Leckford writes : *Zeuzera pyrina* L. (*aesculi* L.) larvae were reared from plum branches. A fresh *L. sibilla* was seen again in the garden. *V. c-album* and numerous *V. io* came freely to flowers. A few *A. paphia* and one *M. aurinia* were observed. *C. dominula* L., moths and larvae, were fairly abundant.

The following were all common or abundant at Appleslade in their seasons : *Eriogaster populi* L., *C. mesomella* L., *S. liturata* Clk., *N. strigata* Mull., *T. rupicapraria* Hb., *G. stigmatica* Hb., *E. cruciana* L., *P. contaminana* Hb. and *T. loeflingiana* L.

It is recognized that melanism occurs in cold climates : in high latitudes or altitudes. Walsingham thought this due to the advantages arising from a dark coloration allowing more rapid heat absorption. Melanism is produced in damp (which darkens) and sooty surroundings for obvious mimetic reasons.

But *is* the New Forest wet enough to explain its melanistic forms, for example, in the Peppered Moth ?

Coleoptera (Beetles). It is still noticed here that the destructive weevil *C. lapathi* L. confines its attacks to trees that are not vigorous. *S. viminalis* and *alba*, which do not thrive well, are attacked, while *S. cinerea* is comparatively immune. *Populus* and *Alnus*, often quoted as vulnerable, grow well and quite escape. The pest was emerging on 18th July. (FCF) found a very large number of *T. aenea* Sch. hibernating in a rotten fungoid holly in which they had doubtless been bred, in Amie's Wood, New Forest, on 1st March, and on 8th March a further large number. With them were an imago and several larvae of *M. rufipes* Hb. *C. campestris* L. was not much in evidence here before 2nd May, numerous by 5th. *M. vulgaris* F. were flying in the evening of 11th. *T. 22-punctata* L. was seen on 22nd, here, and the local *G. pyrenaeus* Ch. was found in Appleslade Enclosure. Many *Sternoxi* (*Melanotus, Athous, Agriotes*) were abroad on 3rd June. The handsome dark var. of *A. moschata* L. was seen by me here on 28th. The species became very common, frequenting *Angelica* blossom into September, and many dark ones were present, including a magnificent pair on 28th Aug., the female of which was far the largest specimen I have ever seen. The larvae feed in the decaying willows, making characteristic burrows. (CA) noted it on the wing in sunshine in Linwood Bog. A female *L. cervus* L. was picked up, here, on 30th June and another on 5th Aug. On 12th July, here, the very rare *A. viridis* L. was taken on a *Rubus* flower near much decaying *Salix* in which the larvae feed. The many specimens afterwards seen were of a bright green, or with a more or less coppery thorax. It continued to emerge for some weeks. A remarkable number of our finest ladybird *A. ocellata* L. persisted on *Angelica* flowers into Sept. On 12th Oct. Mr. W. Hugh Curtis sent me the remarkable little convex beetle *N. hololeucus* Fald. which infests old houses : a few had been found in a store cupboard. Amongst many beetles seen here I may quote *A. niger* L. as very common, *C. helxines* L., *O. lurida* Mm., *N. mortuorum* F., *E. sanguinolentus* Schr. and *L. ochroleucus* Mm.

Diptera (Flies). On March 8th in a rotten branch in the wood were found the cells of a *Crabro* sp. each containing the tough, brown cocoon of the fossor. The remains of the muscid prey were in the burrows and some tachinid pupae from which I bred the scarce *Macronychia ungulans* Pz. on 12th May.

E. pertinax Sc. was very numerous by the 17th April, and was hovering everywhere. The small form of *B. major* L., associated with Webb's Copse, Linwood, was plentiful on 20th. *B. marci* L. was numerous by 14th May, and the rather rare *X. citrofasciatum* Deg. was appearing in our fields. On 22nd, *C. vesicularis* showed up and remained common for most of the season. On 24th, one *M. frauenfeldi* Sch. emerged from galls of *I. crithmoides*, found at Shalfleet, I.W., on 19th Aug., 1941, by (JS). *S. borealis* Fln. appeared early, in May, and was as usual excessively abundant. On the 29th, *L. scolopacea* L. was noted. A *Simulium* was becoming extremely irritating of an evening by 30th. *X. segnis* L. was plentiful. *T. bisignatus* Jaen. settled on me in Berry Wood, New Forest, on 1st June. *O. avicularia* L. was, perhaps, more than usually common, both indoors and settling on one outdoors, at Linwood. No *C. speciosa* Ross., nor many *Criorrhina* spp., were seen at Berry. *M. equestris* F. appeared over bulb beds on 2nd. *M. mutabilis* L. was taken in a damp pasture on 5th, and *Physocephala nigra* Deg. was in limited numbers on Rhododendron through June. *E. fera* was early, and common in early June. In mid-June *T. distinguendus* Verr. were in good evidence when the three common spp. of *Chrysops* were to be observed. *T. sudeticus* was about on the 28th. The 29th and 30th (a very hot, fine morning, temp. early 82 in shade and 109 degrees in sun) showed several *T. distinguendus* hovering over our gravel path, some feet up, early. *P. rivosa* L. was common. *A. fenestratus* Fall. was basking on the path as in the past. *A. fulvus* Mg. was active on 2nd July. *E. grossa* L. was early, and abundant on *Heracleum giganteum* on 6th July. (CA) tells me that of fifty *Bombyx rubi* larvae taken before pupation in spring, 16 per cent. produced *E. grossa*, the newly emerged fly having a beautiful yellow head, the scaly covering soon getting worn off, 50 per cent. produced moths, the rest failing to emerge as moths, but a good number of another parasitic fly, probably *Exorista vulgaris* Fall., were produced. *Myopa* spp. were very common. On 28th July, *Volucella inanis* L. was on *Centaurea nigra* here, and became very common on flowers and basking on leaves of *Rubus*, extending through Aug. into Sept. After the *Centaurea* was over, it sought *Tanacetum vulgare*. Probably great mortality occurred among the larvae of hornets in the preceding unfavourable season, and the larvae of these flies, being scavengers (inquilines) in hornets' nests, had an abnormal amount of pabulum. On 29th July, *Acrocera globulus* Pz., a parasite of spiders, was caught. Various species of *Conopinae* and *Myopinae* continued common through August, as did *X. ornatum* Mg. and spp. of *Chrysotoxum* (*festivum* L., *bicinctum* L.). *Pipiza lugubris* F., or allied species, were rather conspicuous on *Angelica*, which was peculiarly attractive this season to *Diptera* and *Hymenoptera*. In Sept., *M. arvensis* L. was seen repeatedly on its flower tables with prey, usually *S. corollae* F. or allied syrphid, often *S. vitripennis* Mg. Writing on 3rd Feb., 1943 (EFC), says House-flies are still very numerous, owing to the mild winter. Other interesting flies taken were *C. scutellata* Fall., *O. nobilis* Fall., *S. venustus* Mg., *C. cuprea* Scop., *S. lappona* L., *Ptychomvia selecta* Mg., *Minella chalybeata* Mg., *Homalomyia* spp., *S. palposa* Fln., *T. miliaria* Schrk., *S. villosa* Mg., *O. nana* Ztt., *P. flavipalpis* Mg. and *S. equinum* L. (FCF) saw about twelve of the fine tachinid, *Cynomyia mortuorum* L. in Sept. at Wither Moor, Bournemouth, and took two females and a male. It is largely a northern, but in the south rather a coast species.

Hymenoptera (Sawflies, Gallflies, Ichneumon-flies, Ruby-tailed Flies, Ants, Wasps and Bees). On 11th Jan. (FCF) found *I. extensorias* L. hibernating under the bark of an oak in Amie's Wood. On later dates he found further great numbers closely packed together. Hive Bees were not noticed working much until 24th March, when several *B. lucorum* L. were also about. On 14th April a queen wasp, probably *V. vulgaris* L. was prospecting for a nest, on 26th they were getting plentiful. On 19th an *Odynerus*, probably *parietinus* L., was seen in the garden ; species were common by 1st May. *B. agrorum* F. was noted on 6th May, and at its nest in Webb's Copse on 14th. (CA) reported

M. armata Pz. and *A. retusa* L. at Fordingbridge on 9th. *P. perturbator* Harr. was out on 22nd, when a large nest of *A. niger* L. was found in the greenhouse. The main part was evidently under the flooring, but there was a covered way, constructed largely of earth and wood débris with much webbing of the spider *A. similis* Bl. running between the jamb of the doorway and a prop supporting a shelf, right up to the shelf, on which was a thickly folded sack. The sack had been freely used, and was full of nesting material, numerous ants and pupae, evidently brought up there to get more sun. On 27th May, *B. helferanus* Seidl. was seen and *A. retusa* on 31st, *B. agrorum* being common and *B. muscorum* L. not rare. Many sawflies were about (*Athalia, Selandria* and others). On 5th June, *B. lapidarius* L. was observed in some numbers and *M. circumcincta* Lep. was out on the heath and sunning itself on wood. On 6th, *B. sylvarum* L. was sucking *Rhododendrom*. On 8th, *M. centuncularis* L. was basking commonly on leaves or on the woodwork of a greenhouse, in the chinks of which it makes its cells. On 9th, *P. mediator* F. was seen by the pond and *A. campestris* Latr. on *Rhododendron*. *M. annulata* Geof., which so well mimics *P. perturbator* Harr. (*S. fuscus*), was, like the latter, very common now, with such abundant saw-flies as *T. mesomela* L., *viridis* L., and others. The rather rare species of *Pamphilius*, probably *inanitus* Vill. or *hortorum* Kl. or both, were seen in mid-June. On 16th, both *M. willughbiella* K. and *ligniseca* K. were basking on posts and other timber, the latter commonly. On 23rd June it was observed that an *O. parietinus* had a nest of several cells behind a picture in the house. She would withdraw to the window-sill to adjust the prey (small green caterpillars) in her mandibles if this did not easily go into the entrance hole, or if the window were closed, until such time as she could again enter. But the window was, purposely, nearly always open. Soon afterwards a second female made use of a chink in a door for nesting purposes. They both made a number of journeys, to and fro, first with mud to form their cells, then with the larvae, paralysed by stinging, yet alive, that they might keep fresh for the grubs when hatched : each cell made containing an egg laid by the wasp and the pabulum. The common ruby-tailed fly, *C. ignita* L., which is parasitic on the cell contents, was found to follow the mother-wasps, entering the room and being trapped on the window. About the end of July, its work done, one of the solitary Wasps disappeared, the second working until later. Two of the smaller species of *Odynerus, O. gracilis* Br. and *O. sinuatus* F. were, like the larger, in good evidence until late in the season, about the crevices of out-door woodwork. *B. sylvarum* was commoner than usual. On 2nd July, what appeared to be a large female *M. labiata* was seen on an outside door : a bee not noted here before. A cluster of braconid cocoons, found here on 28th June, disclosed many imagines of *A. ordinarius* Ratz. on 5th July. The chrysid *Elampus coeruleus* Dhb. was beaten out of decaying *Salix* on 7th. The four common species of *Vespa* (*vulgaris, germanica, rufa* and *sylvestris*), although not very noticeable elsewhere, were common on blossoms of *Angelica* in July and later. A male *M. europaea* L. was on *Angelica* on 18th Aug. Many *Chrysididae* were encountered, but nearly all were *C. ignita* with a few *C. cyanea* L. The very small, quick and brilliant *Hedychridium coriaceum* Dhb. was seen on *Angelica* : its host, *C. albilabris* F., is common here. Both in Aug. and Sept. and until the *Angelica* blossom went over, it attracted a quite phenomenal number of insects, even in very dull weather, both as regards individuals and species. On 4th Sept. *B. sylvarum* was still about rather commonly, and a freshly dead male was found in the greenhouse on 11th Oct. *B. pratorum* L. had been noticed and *P. campestris* Pz., female, was seen here on 10th Sept. Hornets appeared rare, although a very fine queen was feeding on meat juice on the verandah on 15th Oct., but common species of *Bombus* (*terrestris, lucorum*) also went far into the month. (CA) found females of *B. terrestris* on 9th Nov., flying after frost, at Fordingbridge. Among many Aculeates seen the following rarer may be quoted : *C. maculata* F., *M. melanocephala* F., *A. boops*. Schr., *M. shuckardi* Wesm. and *M. equestris* F.

Ichneumonidae were in great numbers in late summer. Those not on the Hampshire list, or only recorded from I.W., are indicated here : *Coelichneumon sinister* Wesm., *C leucocerus* Gr., *C. consimilis* Wesm., *C. comitator* L., *C. bilineatus* Gr., *Barichneumon tergenus* Gr., *I. cessator* Mull., *I. insidiosus* Wesm., *I. albiger* Wesm. (?), *I. minutorius* Desv. (?), *I. macrocerus* Th., *I. analis* Gr., *Amblyteles quadripunctorus* Mull., *Microcryptus improbus* Gr., *Phygadeuon rusticellae* Bdg., *Goniocryptus plebejus* Tschek., *Lissonota vicina* Hlgr., *L. obsoleta* Bdg., *L. variipes* Desv., *Exochus lativentris* Thms., *Bassus albosignatus* Gr. (?), *Homocidus pictus* Gr., *Trematopygus lativentris* Hlgr., *Angitia interrupta* Hlgr., *Astiphrommus dorsalis* Hlgr.

Braconidae : Bracon pectoralis Wesm., *B. minutator* F., *Chelonus inanitus* L., *C. submuticus* Wesm., *Microdus tumidulus* Nees., *Apanteles obscurus* Nees. and *A. bicolor* Nees.

Proctotrypidae : Proctotrypes hyalinipennis Morl.

Cynipidae : Kleditoma tetratoma Thoms.

Chalcididae : Eurytoma aterrima Schr., *E. appendigaster* Swed., *Torymus palliditarsis* Forst., *T. nigricornis* F., *Colas dispar* Curt., *Habritus* (*Pteromalus*) *brevicornis* Walk., Ratz.

The Hampshire List of *Ichneumonidae*, referred to, was published by me in " The Transactions of the Entom. Soc. of the South of England " (Vol. VII, Pt. 1, 1931), now " The Society for British Entomology." No list of *Ichneumonidae* appeared in " The Victoria County History." Probably the Family has well over 1600 British representatives. The small Family of the *Chrysididae* (Ruby-tailed Flies), with about 25 Species, of which 22 occur in New Forest, was also omitted. (CM) sends me his Hampshire list. It contains all but three of the reported British species : *Cleptes nitidulus* F., New Forest, parasitic on sawflies ; *C. pallipes* Lep., New Forest, on sawflies ; *Notozus panzeri* F., New Forest, Isle of Wight, Hengistbury Head, on Fossors ; *Ellampus aeneus* F., New Forest, Isle of Wight, Basingstoke ; *E. violaceus* Scop., New Forest ; *E. auratus* L., New Forest, Basingstoke ; *Hedychrum nobile* Scop., New Forest ; *H. intermedium* Dhl. (*rutilans* Dh.l), taken by (EFC) in July and Aug., 1898, and Aug. 1901, in Lyndhurst ; *Hedychridium roseum* Rossi, New Forest, Isle of Wight, on *Astata boops* ; *H. integrum* Dhl., New Forest, on *A. stigma* ; *H. coriaceum* Dhl., New Forest, on *C. albilabris* F. ; *H. ardens* Latr., New Forest, Isle of Wight, and Milford, on *Tachysphex pompiliformis* Pz. and *T. nitidus* Spin. ; *Chrysis cyanea* L., New Forest, Isle of Wight, Southampton, Basingstoke, on *Trypoxylon attenuatum* Sm. and *Colletes daviesana* Sm. ; *C. succincta* L., New Forest and Bisley, on *T. pompiliformis* Pz. ; *C. viridula* L., New Forest, S. Hants, Isle of Wight, on *O. spinipes* L. ; *C. fulgida* L., New Forest and Bisley, on *Osmia fulviventris* E.S. ; *C. analis*, one female captured in Rhinefield Sandys, New Forest, on 24th June, 1930 (CM). *C. ignita* L., New Forest, Isle of Wight, and many localities, many hosts ; *C. ruddi* Shuck., Isle of Wight, on *O. pictus* Curt. and *H. villosulus* K. ; *C. neglecta* Shuck. (*radians*), New Forest, Isle of Wight ; *C. hirsuta* Gerst., New Forest ; *C. pustulosa* Ab., New Forest, on *O. fulviventris* E.S. Thus, as (CM) points out, Hampshire has all the British species save *E. truncatus* Dhlb., *Holopyga gloriosa* F. (still doubtfully British) and *C. osmiae* Th. He points out too, that " pustulosa " may be an error for " fulgida " repeated.

Among the numerous saw-flies specially noticed were *Dolerus aericeps* Th., *Abia fasciata* L. and *Allantus marginalis* Kl.

General Notes.

(CA) investigated a hornet's nest that had been taken. He roughly estimated that the colony consisted of 10 queens, 46 males and 106 workers. (HW) states that a magnificent queen came into a room at Ampfield in Oct., the first he had seen for years. They used to be common there. Writing on 27th May, (FCF) says I have five of the large Birch Saw-fly out and two not yet emerged.

He bred two specimens (not quite identical) of the tachinid *Compsilura concinnata* Mg. on 15th April from Bournemouth *Sphinx pinastri*. *S. pinastri* is recorded at St. Cross, Winchester, on 7th July, in the "Entom." (Vol. LXXV, p. 174). A male *S. convolvuli* L. at Chandler's Ford is recorded ("Entom.," Vol. XXV, p. 248). A new species of Micro-Lepidoptera, *Psamathocrita argentella*, from Southampton, is noticed in "Entom." (Vol. LXXV, p. 255). A Hampshire specimen of *Apatura iris*, var. *iola*, is noted in "Entom." (Vol. XXVI, p. 16).

Many thanks are due to my helpers. The following abbreviations have been used :—

C. W. Andrews	(CA).	H. Lea, Mr. and Mrs.	(HL).
Capt. A. F. L. Bacon, M.A.	(AFLB).	C. Morley, F.R.E.S., F.Z.S., F.G.S.	(CM).
T. E. Belcher	(TB).	A. J. Ponchaud	(AP).
C. J. Bellamy	(CB).	S. G. Castle Russell, M.I.E.E.	(SGCR).
Miss E. F. Chawner, F.R.E.S.	(EFC).	J. W. Saunt	(JS).
Miss H. Christy	(HC).	H. T. White	(HW).
Col. F. C. Fraser, M.D., F.R.E.S.	(FCF).		

In the nomenclature of the Lepidoptera I have followed Meyrick's "Revised Handbook" (1927).