



Flies, Bees and Butterflies on  
La Palma, Canary Islands in 1976

By PETER J. CHANDLER\*

In late May and early June 1976, I stayed ten nights on La Palma, the most westerly of the Canary Islands when my intention was to compare the dipterous fauna with that on Tenerife, which I had visited in early April 1973. As the total diversity of the Canarian Diptera is relatively low, however, some attention was also given to other insects especially aculeate Hymenoptera and butterflies.

La Palma is a small island of 730 square kilometres, but is extremely rugged, rapidly rising from coastal cliffs to inland mountain ranges and in the broader north there is a large central crater—9 kilometres in diameter, La Caldera de Taburiente, which is a national park. The highest point of the island (2,413 metres) is on the northern rim of the Caldera. The broad leaved evergreen forest type ("laurisilva"), which formerly dominated the more humid northern slopes of the western Canary Islands, was best developed on La Palma but now only a few pockets of high laurel forest remain, dominated by the trees *Ocotea foetens* (Aiton) Benth., and *Laurus azorica* (Scub.) Franco with about 15 other species of evergreen trees and shrubs. Much of it has been replaced with a secondary growth ("fayal-breza") dominated by the evergreen shrub *Myrica faya* Aiton and tree heather *Erica arborea* L. The more common woodland type is dominated by *Pinus canariensis* Chr. Sm., which forms open woods clothing much of the Caldera and the higher slopes of the mountain ranges even quite close to the southern extremity of the island, which lacks the semi-desert south of the other western islands although xerophytic scrub is present on large areas especially on the western slopes. The lower slopes are more or less intensively cultivated and the laurisilva particularly has suffered by clearance for agriculture. The landscape is cut by many deep ravines (barrancos), which radiate from the Caldera and the ranges of Cumbre Nueva and Cumbre Vieja further south: many of these were once torrents but the water from them has been canalised and all are now dry. The microclimate of the surviving remnants of laurel forest has, however, preserved many of the moisture loving insects. The faunal diversity of the generally more open pine forest is usually lower.

Machado (1977) carried out extensive field work on La Palma in 1975 and was unable to refute the apparent poverty of the carabid beetle fauna compared with the other western islands: he deduced that this was due to the geological youth of most of La Palma, which has several recently active volcanos. This factor appears to have had less effect on other more mobile insects where there are in any case fewer endemic species confined to single islands. The total dipterous fauna of the Canary Islands (Frey, 1936, 1958) is upwards of 800 species; probably at least half occur on La Palma but it is

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difficult to be precise because much revision is necessary of the work of Dr. Elias Santos Abreu, who published considerable descriptive works on several groups of Diptera from 1918 to 1930 (his work on Muscidae, Fanniidae and Anthomyiidae was published posthumously as recently as 1976). Dr. Santos lived at Santa Cruz de la Palma and much of the material he studied originated in this island. Baez (1977) has revised the Syrphidae and reduced the Canarian list to 26 species, to which few additions now seem likely; 23 occur on La Palma and I found 16 during my visit. Theowald (1977) thoroughly revised the Tipulidae of the Canaries, Madeira and the Azores; he recognised 28 Canarian species, of which 17 occurred on La Palma and I found seven of these there. Another recent contribution on Canarian Diptera was by Papp (1977) on the Sphaeroceridae, bringing the Canarian list to 34.

At least 260 of the Canarian Diptera are currently considered endemic to these islands or to the Canaries, Madeira and the Azores (Macaronesia), although this figure is continually undergoing revision. Better knowledge of faunas of adjacent areas is essential before endemism can be certain in the less worked groups. Half of the 28 Tipulidae are endemic, a higher proportion than in most families. In the Syrphidae, eight of the 26 species are endemic (five of them closely related *Eumerus* species) and there are distinct local forms of two other species. François (1970) has shown the endemism of two bombyliids previously thought conspecific with widespread forms. The only well attested case of speciation having occurred within the Canary Islands is in *Promachus*, a genus of large (24-34 mm.) robust asilids where there are five species each inhabiting a different island; they fly in late June to August and I have not met with them.

I collected about 190 species of Diptera on my visit to La Palma, of which Muscidae and Mycetophilidae with 18 species each were the richest families; the latter group were confined to very circumscribed refuges and were hard to find in most localities, although being particularly sought because of my projected revision of the Canarian fungus gnats. The Muscidae are the best represented dipterous family in the Canaries with about 70 species (at least 60 in La Palma, but more than a third are the riparian Limnophorinae which have evidently now declined).

The aculeate Hymenoptera are poorly represented on La Palma compared with the drier parts of the other islands. Ten species of bees and seven of wasps were observed during my visit. Lieftinck (1958) listed 70 species (55 precisely determined) of Canarian bees, of which 14 were recorded from La Palma. Peters (1975) added two species to the Canarian list and one to La Palma. Warncke (1968) increased the Canarian *Andrena* from five to 19, recording four from La Palma, but this genus did not occur during my visit. De Beaumont (1968) increased the Canarian list of Sphecidae to a probable 52 (44 precisely determined), based largely on Guichard's material but only four were recorded from La Palma.

recorded 16 species of Eumenidae, three of which he considered recent introductions, but only one (*A. fortunatus*) from La Palma. Other groups of wasps have been neglected but records of six species in other families are given by Bischoff (1936), who records *Vespa germanica* (L.), a scoliid and a chrysid from La Palma.

Guichard (1976) tabulated the butterflies known from the Canaries, recognising 26 species and two subspecies of which 20 were listed from La Palma; of these 15 were observed during my visit. The five not recorded were the two *Danaus* spp., *Vanessa atalanta* (L.), *V. cardui* (L.) and *Zizeeria knysna* (Trimen). Since Guichard's summary, the large white and brimstone have been recognised to be endemic Canarian species; according to Kudrna (1975) the *Gonepteryx* on La Palma is a distinct species (*G. palmae* Stamm) from that on Tenerife and Gomera (*G. cleobule* (Hübner)). Kudrna (1973) also followed other recent authors in accepting *Pieris cheiranthi* (Hübner) as a distinct species, supported by larval coloration and biology differing from *P. brassicae* (L.). Manley & Allcard (1970) also recognised the skipper *Thymelicus christi* Rebel & Rogenhofer as an endemic species although Schmidt-Koehl (1971) considered it conspecific with *T. acteon* (Rott.) in his comprehensive account of the butterflies of Tenerife. There are thus 27 species of butterflies on the Canary Islands of which seven are endemic as are the Canarian subspecies of three others.

I stayed in the main town, Santa Cruz de la Palma, situated centrally in a wedge of low ground on the east coast with hills rising steeply behind and with the aid of a hired car it was possible to reach most parts of the island. On my arrival it was cloudy as it was to be for most of my stay, but there was little rain and the clouds often cleared to provide sunny spells, the weather on higher ground being especially changeable.

On the first morning, I followed the tortuous road to the north of the capital, initially investigating a dry ravine at the foot of a scrub covered hillside south of the La Galga tunnel. The butterflies *Pieris rapae* (L.), *Maniola jurtina hispulla* (Esper) and *Pararge xiphioides* Staud. were frequent and a few *Thymelicus christi* and *Cyrtius webbionus* (Brullé) were seen. The bees *Lasioglossum viride unicolor* (Brullé) and *L. laetum* (Brullé) were here at flowers and *Bombus terrestris canariensis* Pérez were common; these three species were found in most relatively open localities visited. *B. t. canariensis* is a very distinct race—mainly black with a white tail and is the only *Bombus* known in the Canary Islands. Among the Diptera, *Thereva occulta* Beck. was alighting on rocks when the sun broke through; the Orthoptera parasite *Stomorhina lunata* (F.) was numerous here and in similar localities. Flowers attracted the common European hoverflies *Episyrphus balteatus* (Deg.), *Sphaerophoria scripta* (L.), *Meliscaeva auricollis* (Mg.) and *Eristalis tenax* (L.) and the endemic *Melanostoma incompletum* Beck. The small dolichopodid *Chrysotimus varicoloris* Beck. was numerous running over

the laurisilva occurred, e.g. *Euleia separata* (Beck.), *Hebecnema rufitibia* Stein, *H. fumosa* (Mg.) and *Sapromyza insularis* Beck. (the three latter were frequent in such places throughout La Palma).

In the afternoon I proceeded to the laurel woods at Los Tilos but the weather deteriorated and rain began at 4.0 p.m. Insects were sparse, although some typical species were collected including a few Tipulidae and Mycetophilidae, *Asteia amoena* Mg., *Drosophila pallida* Zett., *Hylemya latevittata* Stein, *Helina obscurisquama* (Stein) and *Fannia pubescens* Stein. A female *Sylvicola* (Anisopodidae—family first recorded from the Canaries on *S. fenestralis* (Scop.) by Baez (1977)) was found.

On the following day, 26th May, I went south and made a foray on the south-west slopes of the Montaña del Fuego Las Indias. Overgrown fields containing much *Opuntia* graded into pine scrub and a large variety of flowers were present. *Pieris rapae* was seen and the lycaenids *Lampides boeticus* (L.) and *Aricia cramera* (Eschscholtz) were numerous. The small bombyliids *Cyrtosia canariensis* Engel and *Geron hesperidum* Frey and the syrphids *M. auricollis*, *Scaeva pyrastris* (L.) and *Syritta pipiens* (L.) occurred at flowers; *Sphaerophoria scripta* was abundant. The silver haired *Thereva frontata* Beck. was settling on volcanic ash and several of a slender brown *Thereva* like a small *occulta* were taken. The many small acalyptrates included several tephritids (among them an *Ensina*, probably *decisa* Woll. only hitherto known from Madeira) and *Pherbellia argyrotarsis* (Beck.). *Musca vitripennis* Mg. and *Helina duplicata* (Mg.) were common and a few *H. clara* (Mg.) were caught; *Dilophus minor* Beck. was abundant here and in many other scrubby places in and near pine forest—it was the only bionid seen in La Palma while my visit to Tenerife, being earlier, also produced the other two Canarian bionids.

Then returning via Fuencaliente, I stopped briefly on open windswept ground near the Volcán de San Antonio. *M. j. hispulla* and *Eristalis tenax* were flying and seven species of Tephritidae (including *Sphenella marginata* (Fall.) not seen elsewhere) were swept but little else was about.

The east slopes of the Montaña del Fuego north of Fuencaliente support open pine woods interspersed with cultivation, where a short stop produced little of note. *Metasyrphus corollae* (F.) and the tephritid *Oedosphegella canariensis* (Macq.) were first found. Where low pine foliage touched the ground, it provided a moist spot harbouring a few of the mycetophilid *Macrocrea incompleta* Beck.

On 27th May, I took the northern route again, continuing past Barlovento until the Garafia road became a dirt track, where rather degraded mixed forest was sampled in slight rain. Sweeping heather produced several species of mycetophilids and two females of *Callomyia dives* Zett. (Platypezidae) previously known from Tenerife under the name *fortunata* Lw. The syrphids *M. incompletum*, *M. auricollis* and *M. corollae*

were seen; most other Diptera were in common with Los Tilos but a single example of the beautiful tephritid *Orotava caudata* (Beck.) was swept up. As no woods worth investigating remained in the entire stretch from Barlovento through Los Sauces, I returned to Los Tilos where I concentrated on the Barranco del Agua, a narrow deep gorge adjacent to the laurel forest, which contained some stagnant pools. Several *Tipula rufina* Mg. were flying, chironomids and psychodids were numerous, a few dolichopodids (*Sympycnus*, *Hercostomus* spp.) and mycetophilids occurred as did *Thaumalea subafricana* Beck. and *Dicranomyia* spp. but in general the catch was disappointing.

In late afternoon, I stopped at the village of La Galga and took the route prescribed by Bramwell & Bramwell (1974), i.e. the steep track alongside the water conduit, following the base of a cliff and eventually reaching the mature laurel forest of Cubo de la Galga which fills the floor of a narrow valley hemmed in by hills on three sides. It was too late in the day to produce much of interest but *Suillia oceana* (Beck.) and *Euleia separata* (of the shining black form— all others seen were brown variety "flavicollis") were taken. *Aulacigaster leucopeza* (Mg.), which Baez (1977) added to the Canarian list, was frequent and it was decided to return to this locality on a more propitious day.

On the fourth day I travelled on the southern route through Fuencaliente and took the road north on the west side of the Cumbre Vieja, where it traversed rugged country lightly wooded with pine. The first stop was made near El Charco, where a dry flowery gulley crossed the road adjacent to pine forest. The flowers here attracted the orange bodied syrphid *Chrysotoxum triarcuratum* Macq. and the robust *Tachina canariensis* Macq., which resembles our *T. fera* (L.) in coloration (except for a narrower median stripe on the abdomen) but is of the build of *Nowickia ferox* (Panzer.). *S. pyrastris*, *E. balteatus*, *M. auricollis* and *E. tenax* occurred and the butterflies *C. webbianus* and *Vanessa indica vulcania* (Latreille & Godart) were seen. The black larvae of a *Cionus* weevil were conspicuous on foliage of *Scrophularia glabrata* Aiton.

Proceeding northwards via Los Llanos de Aridane, I followed the tortuous route through the banana plantations of the Barranco de las Angustias where many *Anax* dragonflies were on the wing and made another stop in an arid partly cultivated area 2 km. north of the viewpoint of El Time. Butterflies were numerous here along a dry ravine with shrubby vegetation, especially *P. rapae*, *A. cramera* and *M. j. hispulla*; several *Colias crocea* (Geoff. in Fourcr.) and a single *Pontia daplidice* (L.) were seen. Only ten species of Diptera were collected but these included seven Syrphidae, *E. balteatus*, *S. scripta*, *S. pipiens*, *Myathropa florea* (L.) var. *nigrolemorata* Santos, *Ischiodon aegyptium* (Wied.) and two of the endemic *Eumerus* species (*latitarsis* Macq. and *purpureus* Macq.) which settled on stems of the native *Quercus*

## Notes and Observations

**CATERPILLARS FEEDING ON BUDDLEJA DAVIDIIL.** — I refer to the latter part of B. J. Lempke's note (1978, *Ent. Rec.*, 90: 255) under the above heading. In this he records the laying by *Charaxes argiolus* L. on the flower buds of this plant, but only one pupa resulted from the six ova laid. Usually, in these misplaced layings, no larva reaches the second instar. I am quite certain that this is a phenomenon that occurs far more frequently than is generally realised. After all, when searching for ova, it is the recognised foodplants that are examined, so that the chances of finding misplaced ova are minimal. In Kenya I know of two *Charaxes* species which frequently lay on plants on which the hatchling larvae feed but fail to thrive, dying without moulting — *C. lasti* Gr. Sm. on *Azelia quansensis* (Aesalpiniaceae) and *C. brutus* Cr. on *Melia azedarach* (Meliaceae) — both plants closely allied to the normal foodplants of the species. Strangely enough, half grown larvae of *brutus* transferred to *azedarach* complete their development successfully. Is some trace element, vital to the hatchling larvae, absent from the substitute foodplant, or is something lethal present? — D. G. SEVASTOPOLO, F.R.E.S.

**EUCHIPTERA UNISETA COLL. (DIPT.: CHLOROPIDAE): A CORRECTION, AND FURTHER RECORDS.** — In my note on this until recently very little-known fly (*antea*: 210), I unfortunately overlooked a paper by Dr. J. W. Ismay (1975, *Ent. mon. Mag.*, III: 102-103) wherein he redefines the characters of the species (which prove in part different from those originally given), and cites records from Germany and Hungary, and in Britain from Orford, Suffolk (3 exx. in coll. B.M.N.H.). He also discovered colonies in two Surrey localities, Virginia Water and Frensham Little Pond, the latter one being very populous; and confirms its association with waterside vegetation — usually *Phragmites*. My sole excuse for passing over this work is the fact that the annual index to the journal in question has not been issued since 1961, making the search for possible references highly laborious and time-consuming. To set the record straight, and despite the reservations expressed in my note (all too necessary as it turns out) I feel obliged in fairness to Dr. Ismay — who is doing excellent and much-needed work on the Chloropidae — to call attention to his valuable paper. As for the present species, its status in our fauna has been completely transformed in the space of a few years by his researches.

Dr. Ismay has four records of *E. uniseta* that have accrued meanwhile (all of single specimens) which he kindly invites me to publish, as follows: Old Slade Reserve, Bucks., ♀, 19.vii.70, open ground by gravel pits, and Leckford Reserve, Hants., ♂, 18.iii.73, in sedge tufts, both by P. J. Chandler; Cringleford, Norfolk, ♂, 9.xi.75, J. W. Ismay; Walberswick N.N.R., Suffolk, ♂, 15.iv.76, in grass tussock, A. G. Irwin. — A. A. ALLEN.

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Returning via Los Llanos I diverged onto the El Paso road and crossed the plateau towards the Cumbre Nueva range above Santa Cruz; the road from El Paso to Breña Alta, which passes by a long tunnel through the Cumbre Nueva is the best on the island, having been recently constructed to shorten the journey between Santa Cruz and Los Llanos. While crossing the plateau, the slopes of the Cumbre Nueva appear well forested but this is deceptive because most trees had been felled leaving the fayal-brejal community of the type which covers much formerly forested ground in Tenerife. I stopped below this hillside shortly before reaching the tunnel and investigated some dry ravines in an area of partly cultivated lower slopes grading into steep pine forest. Bees were numerous on flowers here and included *Anthophora a. alluaudi* Pérez and *Lasioglossum chalcodes* (Brullé) in addition to the commoner *Lasioglossum* spp. *Tachina canariensis* and *Scaeva albomaculata* (Macq.) were also visiting them. The few butterflies, the large fritillary *Pandoriana pandora* (Denis & Schiffermüller) and a bright orange form of *Lycaena phlaeas* (L.), were new sightings.

On the next day, I returned by the same route and sampled two sites on the eastern slopes of the Cumbre Nueva above Breña Alta, where there are extensive plantations of chestnut (*Castanea sativa* L.). These sheltered many of the shade loving species also found in the laurisilva, including several tipulids, mycetophilids, *Hylemya latevitata* and the rather local syrphid *Heringia adproinquans* (Beck.) which I had previously found at Las Mercedes and Agua Garcia in Tenerife. In open places, *Oedosphenella canariensis* and *Thereva occulta* occurred and the same selection of bees were found at flowers as on the west side of this range.

Upon regaining the plateau, I took the side road which winds up the slopes of La Caldera de Taburiente to the viewpoint of La Cumbrecita. The road soon entered mature pine forest, which is relatively open with plenty of the shrub *Cistus symphytifolius* Lam. with large pink flowers, which attracted *E. tenax* and the bees *A. a. alluaudi* and *Eucera algira* Lep. *V. i. vulcania*, *P. rapae* and *C. croceus* were flying. Several of the large bombyliid *Villa nigriceps* (Macq.) were settling on bare stony ground, while an *Epitriptus* species (Asilidae) was frequent on boulders. Other insects included *Scaeva albomaculata*, *Cyrtosia canariensis* and the pompilid wasp *Arachnospila carbonaria* Scop. *Saillia setitarsis* Cz., very similar to *S. oceana* but with bare mesopleura, was taken here; it appeared to be more associated with pine forest than *oceana*, which is

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good view was initially obtained of the extensively pine clad slopes of the crater but mist soon descended and slight precipitation began; the only insect seen at this altitude (1,833 metres) was *B. t. canariensis* at the *Cistus* flowers. A short stop was made on the descent where sweeping heather produced a few mycetophilids and *Cyrtosia*; *Scathophaga stercoraria* (L.) occurred in an open grassy area.

On 30th May I once again ascended to the plateau, quickly passing Los Llanos and El Time to the road north to Puntagorda, reaching the end of the surfaced road by 11.45 a.m. Most of this route was through cultivated areas but partly pine clad hills were usually in view. In fields near the junction of the Las Tricias and Garafia roads, few insects were about other than the syrphids *M. auricollis* and *M. corollae* and various small acalypterates. I soon returned via Puntagorda and stopped near the beginning of the mountain track to Montaña del Arco. A dry ravine with a wide variety of flowers produced *L. v. unicolor*, *B. t. canariensis*, *Tachina canariensis* and *Chrysotoxum triarquatam*. *M. j. hispulla* was abundant; *C. croceus*, *P. rapae* and *C. webbianus* were also on the wing. Scattered pines were present nearby but here they had upright branches rather than the spreading crowns at higher altitudes and a dense ground cover of *Cistus* proliferated beneath them. Shaded spots produced *Suillia setitarsis* and *Euthycera guanchica* Frey (the less frequent of the two Canarian Sciomyzidae) among other smaller Diptera.

A few brief stops were made on the plateau while returning towards the Cumbre Nueva: here the landscape was open, with grassy fields and some bare areas covered with volcanic ash. Along one gully, *Oedosphearella* and *Pherbellia* were swept; *Lycaena phlaeas* was noted at the purple flowered *Senecio papyraceus* DC. The Western slopes of the Cumbre Nueva were again sampled as the sun was now shining and on this occasion the cleared forest area dominated by "fava" and tree heather with occasional pines was investigated. Clearings with much *Senecio papyraceus* produced *L. phlaeas* and *P. pandora* again; *Metasyrphus corollae*, *Melecta curvispina* Lieftinck, and a red-tailed *Sphex* bee were also visiting the flowers. Further along the forest road *C. croceus* was flying and the only example of *Issoria lathonia* (L.) seen during the visit was observed. *Villa nigriceps* was again settling on the ground. *Suillia oceana*, *Pherbellia argyrotarsis* and *Oedosphearella* occurred and the shade of a large *Myrica* produced several mycetophilids.

On 31st May I returned to the area south of Santa Cruz as collecting was confined to the very overcast afternoon. Four localities were briefly sampled but none were very productive. *Cyrtosia* and *Geron* were swept in numbers from rough grassland near Tiguerorte. *Geron* was also abundant in sparse scrub on volcanic ash below Hoyo de Mazo and the few other insects included the syrphids *Eumerus latitarsis* and *Paragus tibialis* (Fall.) form *meridionalis* Beck.; the tephritid *Oxyaciura tibialis* (R.-D.) was also caught. On the rocky shore at Punta

de Iris Palomas only the tephritid *Myopites nigrescens* Beck. could be found when rain was beginning; this had already been taken at several scrubby localities inland.

The weather improved for the last two days and although a single area was visited on each day, a large variety of species was obtained. On 1st June, the course of the Barranco de las Nieves, which reaches the coast at Santa Cruz, was followed from the Las Nieves road until it becomes a narrow gorge. The upper reaches are flanked by forested cliffs but there is no closed canopy woodland. Sweeping rock overhangs on the more open lower reaches, where the valley is cultivated, produced a female *Sylvicola* and very many of the aberrant psychodid *Nemopalpus flavus* Macq. (resembling a tipulid of the genus *Molophilus*), while the damper rock faces at a higher level produced instead a small *Psychoda* and mycetophilids were found sparsely. The acalypterates included *Euleia separata*, *Suillia oceana* and *Drosophila pallida*. *Melanostoma incompletum* was numerous and *Helina obscurisquama* was frequent.

The sky was at first overcast but bright spells followed: the cloud cleared by 3.30 p.m. and the hot sunshine brought out the butterflies, bees and wasps. *M. j. hispulla*, *P. rapae* and *C. croceus* were abundant; *C. webbianus*, *V. i. vulcania*, *T. christi*, *P. xiphioides* and *Pieris cheiranthi* were also noted. A *Chrysis* of the *ignita* group was running rapidly over a wall and the active sand wasp *Podalonia tydei* (Le Guillou) was settling on bare ground; *Prosopis pictipes atra* Saunders and an *Osmia* (probably *submicans* Morawitz) were at flowers. A small yellow umbel attracted the wasp *Ancistrocerus fortunatus* Bl. and a black evaniid: *Euthycera guanchica* was also at rest on this plant. A white flowered plant produced a smaller eumenid (*Leptocheilus* sp.) and the conopid fly *Physocephala biguttata* v. Röd., which I had collected at Guimar in Tenerife. This fly is superficially like our *P. rufipes* (F.) but its legs are darker and the waisted part of the abdomen bears a black band; it also lacks the clear spot near the tip of the brown wing band. The tachinid *Alophora (Hyalomya) pusilla* (Mg.), not previously recorded from the Canaries, was swept from coarse vegetation. Under a hedge in the cultivated area, the striking xylomyiid *Solva nigrifibialis* (Macq.) was swept; I had collected a pair near a rotten log at Las Mercedes in Tenerife. Enderlein (1929) recorded rearing *S. cabreræ* (Beck.) (probably a synonym of *nigrifibialis*) from a rot hole in the large succulent shrub *Euphorbia canariensis* L. but Frey (1973) mentioned *nigrifibialis* flying around a tree stump. Both habitats may be utilised by this species and Machado's (1977) suggestion that it is more typical of the lower xerophytic zone but may invade the laurisilva, may not be entirely correct.

The final excursion on 2nd June was the planned return visit to Cubo de la Galga, the most accessible laurel forest, the approach this time being made by the forest road from near the La Galga tunnel. It was a hot sunny afternoon and many butterflies were flying along the open track and in the clear-



ings. *P. pandora*, *V. i. vulcania*, *L. phlaeas*, *P. rapae*, *M. j. hispulla*, *P. xiphioides*, *C. croceus* and *P. cheiranthi* were flying, the last only in small forest glades where several examples of *Gonepteryx palmae* were also conspicuous.

Much of the ground in the close canopy forest was covered with large boulders with clumps of *Crambe* and *Geranium canariense* Reut. growing between. Sweeping here produced few species although *Aulacigaster* was again abundant; *Drosophila pallida*, *Hylemya latevittata*, *Fannia pubescens* and *F. monilis* Hal., *Hebecnema vespertina* (Fall.), *H. rufitibia*, *Suillia oceana*, *Coenosia bivittata* Stein and *Oedosphegnella* were also collected. *Myathropa florea* var. *nigrofemorata* was sunning itself in glades; there is another variety in the Canary Islands, *varifemorata* Santos, with paler legs, which I did not find. The Canarian race of *M. florea* differs from the typical form in the pilosity being denser and more golden; also the pile on the frons is golden while in European examples the frons is black with black hairs. *Melanostoma incompletum* was common. A sunlit puddle on the track was attracting the muscids *Lispe tentaculata* (Deg.), *L. thoracica* Santos and *Limnophora obsignata* Rond., the dolichopodid *Argyra canariensis* Beck., *Eristalis tenax* and the wasp *Trypoxylon attenuatum* Sm. A muddy patch elsewhere produced *Scatella* and *Parydra* (Ephydriidae) and *Gonomyia copulata* Beck. (Tipulidae). A good catch of mycetophilids was made from overhangs on damp rock faces, which also sheltered countless *Psychoda*.

Shortly before my departure, I located Señor Santos Pinto, the grandson of Santos Abreu, who lives at Santa Cruz; I found that much of his grandfather's collection is now at the museum in Tenerife but he was able to show me a good range of local Diptera including many specimens collected by his father (Santos Rodriguez). These included the asilid *Pro-machus palmensis* Frey and a good series of the platypezid *Callomyia dives*, also a wider range of moisture loving flies such as tipulids and dolichopodids than I had been able to find.

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SOME UNUSUAL DATES IN THE SUMMER AND AUTUMN OF 1978.— The latter half of 1978 was indeed anomalous in its production of species at most unusual and unexpected dates, some of which as enumerated below are distinctly precocious, while others are very much on the late site and probably designate of prolonged emergence or second broods. The dates refer to records in my m.v. trap i-un continuously in the garden here.

August 17th, *Deuteronomos fuscantaria* Steph.: August 18th, *Hyoicus pinastri* L.; August 20th, *Parascotia fuliginaria* L.; September 9th, *Cosymbia albipunctata* Hufn.; September 10th, *Euphyia bilineata* L.; September 16th, *Cosmia trapezina* L.; September 19th, *Cosymbia punctaria* L.; September 21st, *Cleora rkomhoidarin* D. & S.; September 23rd, *Amathes xanthographa* D. & S.; September 21st, *Mamestra brassicae* L., *Hypena proboscidalis* L., *Sterrrha aversata* L.; October 11th, *Xanthorhoe fluctuata* L.; October 28th, *Cirrhia icteritia* Hufn. — C. G. M. DE WORMS, Three Oaks, Horsell, Woking.