

MADEIRA INSECTS (CHIEFLY HYMENOPTERA) INCLUDING ADDITIONS TO THE LIST AND DESCRIPTIONS OF THREE NEW SPECIES OF CHALCIDOIDEA.

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With 9 figures

ABSTRACT. An account is given of visits by the author and his wife to three remote localities in Madeira and the Desertas, followed by some notes on Madeira butterflies. Three new species of Madeira Hymenoptera Chalcidoidea are described: *Hockeria chaoensis*, *Homoporus desertarum*, *Euderomphale cortinae*. Records of other species new to Madeira are given, as follows : 8 Chalcidoidea, 6 Proctotrupoidea, 1 Chrysoidea (Bethyloidea), 2 Cynipoidea. Remarks are added regarding 3 species of Hymenoptera already on the list. A lectotype is designated for *Figites notata* Fonscolombe, 1832, newly recorded from Madeira (Hym., Cynipoidea).

RESUMO. No presente trabalho é feito um relato das visitas efectuadas pelo autor e sua mulher a três remotas localidades na Madeira e Desertas seguido de algumas notas sobre as borboletas da Madeira. São descritas três espécies novas de Hymenoptera Chalcidoidea: *Hockeria chaoensis*, *Homoporus desertarum* e *Euderomphale cortinae*. São assinaladas pela primeira vez para a Madeira outras espécies: 8 Chalcidoidea, 6 Proctotrupoidea, 1 Chrysoidea (Bethyloidea) e 2 Cynipoidea. São fornecidos dados adicionais acerca de 3 espécies de Hymenoptera já anteriormente assinaladas. É designado um lectótipo para *Figites notata* Fonscolombe, 1832, assinalado pela primeira vez para a Madeira (Hym. Cynipoidea).

INTRODUCTION

On our fourth visit to Madeira, my wife and I spent six weeks on the island, from 17th July until 28th August 1985. During this time we investigated some more remote localities not seen previously, as well as a number of others already familiar, hoping to gain further information

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about the insect fauna. The weather, after an unpromising spring, was reasonably good, and our results very interesting.

Again we thank Mr. G. E. Maul, Dr. Manuel Biscoito (Museu Municipal do Funchal) and Mr. Henrique Costa Neves (Serviços Florestais, Funchal) for their generous help in many ways. Our thanks also to Dr. Francis Zino (Funchal) who kindly provided transport to Boaventura and, with Mr. Neves, guided us up the Lombada das Vacas massif. We are also grateful to Dr. Biscoito and the Portuguese Navy, for organizing our trip to the Deserta Islands.

Under the descriptions of new species below, the abbreviation BMNH stands for British Museum (Natural History).

VISITS TO LOCALITIES NOT PREVIOUSLY INVESTIGATED BY US

1. Massif of Lombada das Vacas

I was particularly keen to visit this remote area, where, T. V. Wollaston and the Rev. R. T. Lowe camped in 1850 and 1855, probably the only naturalists to have been there previously. In their day two forest paths were in use, one leading from São Vicente up the western slope, the other from Boaventura up the eastern side. These paths have become overgrown and are on steep slopes, hence access is difficult. Dr. Zino and Mr. Neves took us in a landrover to both places but it was decided eventually to try the Boaventura route. It was a glorious day with brilliant sunshine and little cloud. We climbed to the point named Muranhas (517m) from which there was a magnificent view over Boaventura and Ponta Delgada, then tramped for about 4 kilometres along the western ridge of the massif to near Topo (1468m). After traversing a cultivated strip and crossing a levada, the ascent was through relict forest on the steep slope, but along the ridge path it was more open, occupied by *Laurus - Clethra - Vaccinium* scrub. In the latter area we saw several great stumps of what had been large vinhatico trees (*Persea indica*), remnants of the forest which was already being cut down in Wollaston's day. About the middle of the ridge the path led through shady forest, sometimes crossing small rivulets (then dry) or running through gullies, where the ground was very slippery. Towards the end of our walk the forest gave place to almost impenetrable *Erica arborea - Sarothamnus* maquis and we had to turn back to avoid being benighted on the serra. In August 1919 a great fire on the north side of Madeira destroyed much forest, including some on Lombada das Vacas (see *Elucidario Madeirense* 2 : 142). Probably the scrub which now covers much of the massif encroached after that time. The herb-layer beneath the *Erica - Sarothamnus* scrub near Topo was rather curious : much *Leontodon sexatilis* with flower-stems up to nearly a metre in height, their basal leaf-rosettes forming an almost unbroken carpet, some *Sibthorpia* and ferns, and a few stunted *Argyranthemum pinnatifidum*.

I collected some insects on the outward walk though generally speaking they were scarce (apart from Diptera). On the ascent I took a Chalcidoid, *Necremnus alticola* (Hymenoptera) new to science. Another notable capture was the Ceraphrontid *Conostigmus brunneipes* Dodd, a species described from material taken by Wollaston in the 1850s and apparently not since. It may well have been found by him on Lombada das Vacas. I took several specimens, including the hitherto unknown male, on the ridge leading towards Topo. Both sexes have rudimentary, almost haltere-like wings. In the *Erica* maquis we were much annoyed by the bites of a reddish spider-mite.

The party gathered some bilberries (*Vaccinium*) on the way back, reaching Boaventura towards dusk. After a strenuous but enjoyable day we got back to Funchal about 11 p.m.

2. Ilhéu Chão (Northern Deserta)

Dr. Biscoito had intended to take us to join another party in the Desertas and spend a night on Ilhéu Chão. On 4th August we were taken part of the way in a Portuguese Navy launch but the sea was running so high that the crew decided a landing to be impossible. However, on the 25th we were luckier as the weather had become relatively fine. In the early morning Dr. Biscoito accompanied us in a Turismo boat to Ilhéu Chão, where my wife and I spent 5 hours while the boat went on to pick up another party on Bugió, the southernmost island.

Ilhéu Chão, about a mile long and quite flat on top above its precipitous sides, was exposed to a very strong northeast wind, which made collecting difficult. Our catch was small but included two species of Hymenoptera new to science, which are described below. Much of the surface of the island is covered by clumps of *Suaeda vera* Gmel., upon which I found innumerable small black thrips (Thysanoptera) but little else in the insect line. We moved to the middle of the island, where there is a low ridge covered partly with bushes of *Jasminum odoratissimum*. In places sheltered by these bushes I took the new *Hockeria* species described below. Another unusual insect, which was rather frequent, proved to be *Cyphopterus fauveli* (Noualhier) (Hemiptera, Flatidae). This was first taken in the 1850s on Ilhéu Chão by Wollaston, and later by others (Lindberg, 1961 : 58). Some other Hemiptera were also captured. Hymenoptera were scarce : besides the Chalcidoids, some small bees were present and a few bumble-bees were seen but not captured. Diptera comprised mainly some Muscidae (particularly a species of 'greenbottle'). Several species of small beetles were taken. A few small moths were seen but it was impossible to secure them in the strong wind.

Although it was so late in the season that many plants were dried up, it was a pleasure to recognize some of those recorded over a century ago by Lowe (1868 : vi, 180). Around the low central ridge we noted two

stunted bushes of *Olea europaea* L., *Lotus glaucus* Ait., another *Lotus* possibly *argenteus* Webb, *Melilotus indica* All., *Matthiola maderensis* Lowe, *Artemisia argentea* l'Hérit., *Andryala glandulosa* Lam., *Calendula* (?) *maderensis* Lowe, *Malva parviflora* L., a *Solanum* (possibly *nigrum* L.) and a specimen or two of what might have been *Spergularia fallax* Lowe. *Plantago coronopus* L. was abundant and a few *P. lagopus* L. were seen. There is some grass in places, including *Hordeum murinum* L., *Lolium lowei* Menez., and a species of *Avena*. Several Bethyridae (Hymenoptera) were swept from these grasses. Some small bees (*Halictus* sp.) were visiting the flowers of *Calendula*. On the cliffs *Crithmum* was growing and my wife pointed out a white-woolly plant in the same situation which was apparently *Bassia* (= *Chenolea*) *tomentosa* Lowe. My wife also found a fasciate specimen of an *Orobanche*. She saw a largish quite spherical white egg on the cliff top. This aroused some interest amongst the ornithologists of the party but unfortunately she had not taken the specimen for identification!

The island has never been inhabited though parties used to stay there temporarily when burning barrilha (*Mesembryanthemum*) to extract soda. Near the central ridge are remains of some ovens used for this purpose, also a stone wall and ruins of a cottage.

After a most interesting day we were picked up about 6 p.m. by the party returning from Bugio and taken back to Funchal.

3. Ribeiro Bonito

Thanks to Museu Municipal, who allowed us to have a landcruiser with driver, and to Henrique Neves who acted as guide, we spent the day of 15th August exploring this beautiful ravine. At São Jorge we left the road and continued some distance along a dirt-track to the forestry house overlooking the ravine. After that we plunged into an impossible-looking path in the forest which eventually followed a hair-raising course along the levada, with a precipitous drop on one side. Then a walk of about 2 kilometres farther along the levada, where the cliffs were covered with maiden-hair fern (*Adiantum capillus-veneris*). At one point we had to duck under a small waterfall. There is some of the finest forest here, especially an area at the end of the ravine which is occupied by beautiful Tils (*Ocotea foetens*). This area is very shady, with numerous ferns including *Pteris arguta*; *Sibthorpia*, liverworts and mosses under the trees. In this habitat I found several interesting Hymenoptera including *Trimorus rotundus* (Dodd) (Proctotrupeoidea) and *Conostigmus brunneipes* Dodd (Ceraphro-noidea). Both seem to be essentially inhabitants of shady situations in old forest. Henrique pointed out many interesting plants, including *Semele androgyna*, *Ruscus streptophyllus*, *Sambucus maderensis*, *Cytisus paivae* and others.

NOTES ON SOME MADEIRAN BUTTERFLIES

Pieris brassicae wollastoni Butler. This endemic form of *brassicae* seems to have retreated before the recent advance of the introduced Small White, *Artogeia rapae* (L.). The most recent report (Swash & Askew, 1981) recorded several specimens of *wollastoni* at Fajã da Nogueira, with isolated sightings at Porto da Cruz in April, and at Ribeiro Frio, Funchal and Santa Cruz in August. Some later records may therefore be of interest. During our visits to Madeira we kept a lookout for *wollastoni*. In 1985 it was not seen at Fajã da Nogueira, where *A. rapae* was common. On 7th August, when we visited the small level tract known as Chão da Ribeira, situated at about 450m between Seixal and the Fanal, I picked up a male *wollastoni* as it settled on a flower. Later another was seen. *A. rapae* was also present. The place is not occupied by houses though there are one or two huts ; it is cultivated by workers who come up from Seixal and grow numbers of cabbages and other vegetables there. On 11th August, as we climbed to Lombada das Vacas, Dr. Zino pointed out a male *wollastoni*. On 15th August, in lauraceous forest at Ribeiro Bonito, south of São Jorge, we saw 3 *wollastoni*, one apparently a female. On 23rd August, when walking on the levada da Serra do Faial between Santo da Serra and Camacha, my wife and I watched a female *wollastoni* which seemed to be freshly emerged. It settled and we observed it from a distance of about a foot. These localities are all on or near the north side of the island.

Gonepteryx cleopatra maderensis Felder. It was a delight to see the beautiful males of this species. We observed two on the way from Queimadas to Caldeirao Verde on August 12th, several in Ribeiro Bonito on the 15th and two at Balcões de Ribeiro Frio on the 21st. Females are more difficult to detect and we probably passed some over.

Neohipparchia statilinus Hufnagel. Was originally recorded (as very local) from Madeira by Higgins and Riley (1980 : 265). My wife and I watched the activities of several specimens at Ribeira das Cales in 1985.

DESCRIPTIONS OF NEW SPECIES (HYMENOPTERA : CHALCIDOIDEA)

***Hockeria chaoensis* sp. n.**

(Figs. 1 - 6)

♀ Head (fig. 3) about 1.15 times as broad as mesoscutum, 2.2-2.3 times as broad as long ; temples 0.13 length of eyes, converging strongly and slightly curved. POL 1.9 times OOL, OOL about 0.7 times diameter of a lateral ocellus. Head (front view) subtrapeziform, 1.2 times as broad as high. Antennal scrobes relatively shallow, not reaching median ocellus, with extremely fine transverse striae. Eyes separated on vertex by their own length but by about 1.3 times their length at their ventral end. Malar space 0.73 length of eye, malar sulcus represented by a very fine and slightly raised, nearly straight ridge. Mouth 0.65 malar space. Left mandible with

2 teeth, right with 3. Pilosity of head moderately long, conspicuous, with a slight golden tint. Antenna (fig. 1) with scape 1.3 length of eye, reaching lower edge of median ocellus ; pedicellus plus flagellum 1.3-1.4 times breadth of head ; pedicellus in dorsal view as long as anellus plus F1 (first funicular segment) and 2.8-3.0 times as long as broad ; flagellum very slender, proximally not stouter than pedicellus but thickening slightly distad ; F1 2.0-2.2 times as long as broad, following segments decreasing gradually in length, F7 hardly longer than broad. Thorax about 1.5 times as long as broad. Pronotal collar rather more than 3 times as broad as its length at sides, the latter converging slightly forwards. Mesoscutum moderately convex, slightly more than twice as broad as long, rather dull ; mid lobe (fig. 6) with punctures separated by about half their diameter, interspaces distinctly reticulate-alutaceous ; axillae and scutellum with similar sculpture. Flange of hind margin of scutellum forming two very obtuse teeth (which are slightly less prominent than in *fulvipes* Masi). Propodeum sloping at about 35° ; with two submedian longitudinal carinae, bowed outwards slightly and enclosing a space about twice as long as broad, and between them a weak median carina ; plicae strong, strongly convergent ; callus outside them with a dense brush of pale golden, slightly flattened setae ; space between submedian carinae and plicae divided by irregular longitudinal and transverse carinae into about 6 areoles of which the anterior ones are larger ; surface rather shiny, with vague wrinkles. Length of mesosternal shelf about 0.65 that of mid coxae. Pilosity of dorsum of thorax conspicuous, moderately long, some of the setae, especially along hind edge of pronotum, on posterior part of mesoscutum, axillae and base of scutellum, flattened (fig. 5) and pale golden in colour. Upper hind part of mesopleuron, below hindwing, with slightly flattened pale golden setae ; in front of femoral depression with thin, more silvery setae, like those of mesosternum. Metapleuron rather dull, with punctures of medium size, interspaces very narrow ; upper two-thirds with relatively long silvery setae, lower third densely clothed with slightly shorter setae, some a little flattened. Hind femur (fig. 4) about 1.8 times as long as broad, lower edge with moderately prominent tooth in middle and a long very obtuse distal tooth, with a comb of 18-20 denticles beginning on the middle tooth ; surface only slightly shiny, with very fine engraved reticulation and minute, hardly perceptible punctures ; pubescence dense except in the middle where it is sparser. Hind tibia with one externo-ventral carina which is distinct over about proximal two-thirds. Forewing : postmarginal vein not well defined, only slightly longer than stigmal vein, tapering ; stigma subtriangular, sessile. Petiole very short, strongly transverse. Gaster long-ovate, slightly acuminate, about as long as head plus thorax, 2.15-2.35 times as long as broad ; basal tergite occupying about 0.35 of whole length ; last tergite densely pilose, 1.1-1.3 times as long as broad, length of dorsal carina about 1.5 times distance between cerci ; ovipositor sheaths distinctly though not far exerted ; sides of gaster with extremely fine

alutaceous sculpture, tergites 1 and 2 otherwise smooth, 3 and following with excessively fine and delicate alutaceous sculpture. Length 2.75-3.2 mm.

Body black ; gaster reddish at sides and sometimes ventrally ; one ♀ has a dark reddish mark on each side of basal tergite. Antennal scape, pedicellus, anellus and F1 (except sometimes its tip) red, the rest black. Tegulae red. Legs red ; basal third to half of hind coxae black, fore and mid coxae sometimes dark at base ; hind femora with a large spot in the middle, and the comb, black; inner edge of hind tibia sometimes with a dark streak. Forewing with fuscous pattern similar to that of *unicolor* Walker.

Very close to the Ethiopian species *fulvipes* Masi (1917 : 130), the ♀ of which differs in having lateral ocelli closer to eyes, antennal pedicellus slightly shorter, hardly longer than F1, lobes on hind margin of scutellum rather more prominent, pubescence of head and thorax relatively inconspicuous, silvery, the setae (except on propodeal callus, metapleuron and hind coxae) thin and not flattened, pilosity of gaster less conspicuous, second and following tergites delicately alutaceous.

♂. Differs from ♀ as follows. Pilosity of head and thorax more silvery, only a few setae showing a weak golden tinge. Eyes more thickly clothed with slightly longer pubescence. Antenna (fig. 2) with scape hardly longer than eye, not quite reaching median ocellus ; pedicellus plus flagellum about 1.7 times breadth of head ; pedicellus hardly longer than broad ; flagellum fully 1.5 times as stout as pedicellus, filiform ; anellus discoid ; F1 hardly more than twice, F7 about 1.3 times, as long as broad ; clava much shorter than F6 plus F7 ; sensilla very numerous and very short. Gaster (not counting the slightly projecting last tergite) obtuse, about as long as but narrower than thorax ; middle of basal tergite with an area of obsolescent alutaceous sculpture. Length 2 mm.

Body and antennae black ; gaster reddish ventrally. Tegulae dark red. Legs black with tip of fore and mid femora narrowly, of hind femora rather more broadly, red ; bases and tips of fore and mid tibiae very narrowly, of hind tibiae narrowly, red ; tarsi reddish beneath. Forewing weakly grey-tinged with a slightly darker but poorly-defined cloud beneath marginal vein and another half way between this and tip of wing.

Resembles the ♂ of *fulvipes* Masi in most respects but the latter has the head rather less transverse, flagellum with more elongate segments, gastral petiole less transverse, flagellum reddish- or yellowish-brown.

Holotype ♀ and ♂ paratype in BMNH. Paratype ♀ ♀ in the author's collection. Holotype ♀ : Madeira : Ilhéu Chão (Northern Deserta), 25.viii. 1985 (M. de V. Graham). Paratypes : same data, 1 ♂, 2 ♀ ♀.

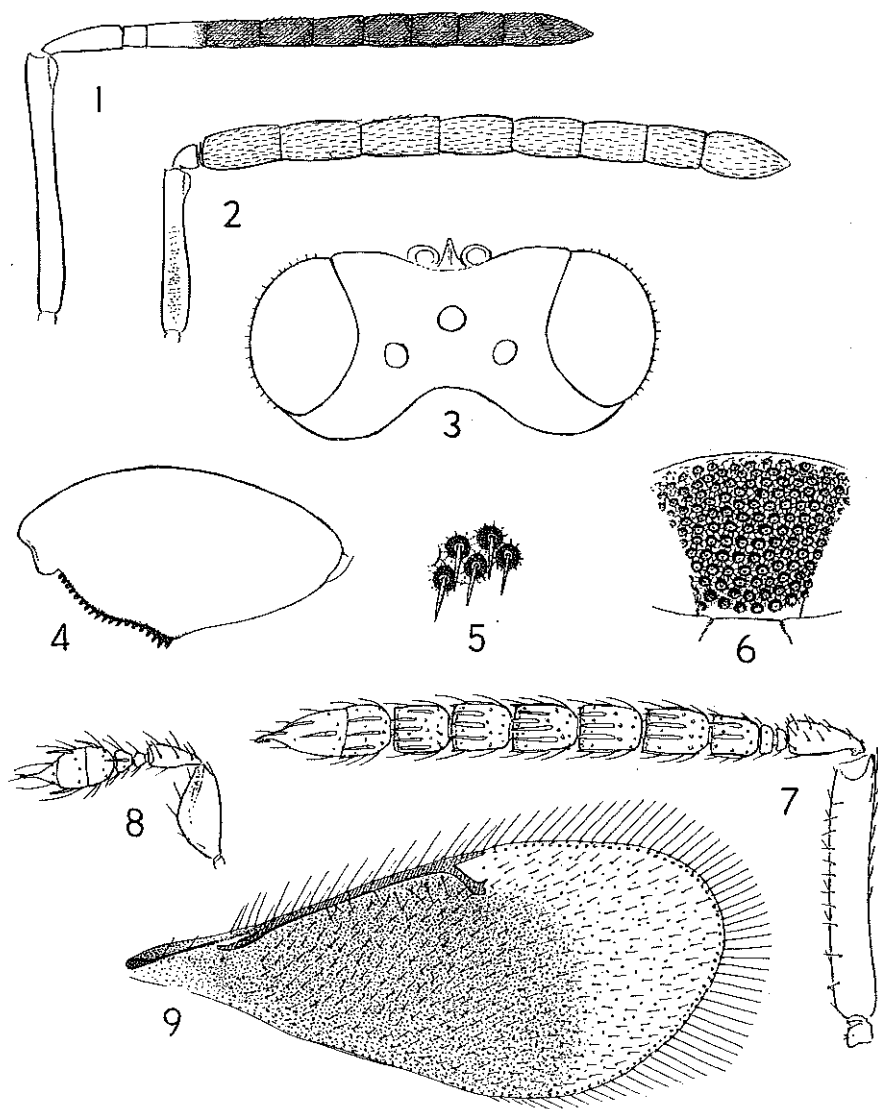


Fig. 1.—*Hockeria chaoensis* sp. n., ♀, right antenna. Fig. 2.—The same, ♂, right antenna. Fig. 3.—The same, ♀, head. Fig. 4.—The same, ♀, right hind femur. Fig. 5.—The same, ♀, some punctures and setae of mesoscutum. Fig. 6.—The same, ♀, sculpture of mesoscutum. Fig. 7.—*Homoporus desertarum* sp. n., ♀, left antenna. Fig. 8.—*Euderomphale cortinae* sp. n., ♂, left antenna. Fig. 9.—The same, ♂, right forewing.

Homoporus desertarum sp. n.

(Fig. 7)

♀. Head broader than thorax, 2.05 times as broad as long ; temples 0.27 length of eyes, moderately convergent. Malar space 0.45 length of eye. Antenna (fig. 7) with scape 0.85 length of eye, not quite reaching median ocellus ; pedicellus plus flagellum 0.88 breadth of head ; pedicellus twice as long as broad, as long as anelli plus first funicular segment ; funicle hardly stouter than pedicellus, nearly filiform ; 2 transverse anelli ; F1 slightly shorter than F2 ; F2, F3 and F4 slightly longer than broad, F5 a little shorter, F6 quadrate ; clava slightly longer than F5 plus F6, 2 - segmented, with a terminal stylus. Head relatively dull, very finely reticulate. Thorax 1.4 times as long as broad. Pronotum less wide than mesoscutum ; collar distinctly though not very sharply margined. Mesoscutum rather strongly convex, rather dull, reticulation very fine at sides but slightly coarser discally. Scutellum as broad as long, moderately convex, dull, extremely finely reticulate. Propodeum with median length 0.4 that of scutellum and only very slightly produced behind hind coxae ; surface slightly shiny, with extremely fine, slightly raised reticulation, the nuchal strip smoother and shiny ; basal foveae circular, median carina vaguely indicated in front, plicae absent. Legs relatively slender. Forewing with basal vein having 5 setae ; marginal vein 1.9 times length of stigmal and about 1.1 times length of postmarginal vein ; speculum open below, wing beyond it moderately thickly pilose. Gaster lanceolate, slightly longer than head plus thorax, as broad as thorax, 2.25 times as long as broad, acute and slightly acuminate ; ovipositor sheaths projecting slightly.

Head and thorax bluish-black ; gaster yellow with projecting part of ovipositor sheaths black. Antennal scape yellow ; pedicellus brown ; flagellum testaceous with dorsal surface and apical rim of each funicular segment fuscous. Legs yellow with fore coxae externally, mid coxae at base, and hind coxae except their tips, blue-black ; fifth segment and pretarsus of all legs fuscous. Tegulae brown. Wings hyaline, venation sordid testaceous. Length 2.3 mm.

♂. Unknown.

Holotype ♀, Madeira: Ilhéu Chão (Northern Deserta), 25.viii.1985 (M. de V. Graham) in BMNH.

I cannot identify this with any described European species (of which I have seen all the types). It falls into a species - group that includes the European *H. laeviusculus* Erdos and *H. gibbiscuta* Thomson. It resembles *laeviusculus* in shape of head, thorax, propodeum and gaster, but differs in having antennal pedicellus slightly longer, flagellum hardly clavate, first funicular segment hardly shorter and not distinctly narrower than the second, and slightly longer than broad, propodeum lightly reticulate all over

; antennal flagellum partly infusate, fore and mid coxae partly dark, tegulae brown. From *gibbiscuta* it differs in its longer malar space, slightly shorter flagellum, forewing speculum open below, scutellum rather less convex, tegulae dark.

***Euderomphale cortinae* sp. n.**

(Figs. 8, 9)

♂. Antenna (fig. 8) with scape about twice as long as broad. Forewing (fig. 9) 2.25 times as long as broad, apex not evenly rounded but slightly elliptical; marginal vein with about 12 setae on front edge; postmarginal vein distinct, nearly as long as stigmal vein. Length 1.4 mm.

Body black; gaster with a poorly-defined subtriangular translucent spot just behind basal tergite. Antennal scape and pedicellus fuscous, flagellum brownish. Legs black with knees narrowly and segments 1 to 3 of mid and hind tarsi pale testaceous. Forewing (fig. 9) with proximal half of costal cell fuscous; proximal two-thirds of wing, to slightly beyond the level of stigmal vein, strongly infusate, with a black spot on basal vein; venation lightly fuscous. Hindwing infusate (slightly less strongly than forewing) with distal third subhyaline.

♀. Unknown.

Holotype ♂, Madeira: Caldeirão Verde, 13.viii.1985 (Mrs. E. M. Graham) in BMNH.

E. cortinae appears to be different from all the described European, African and American species. It resembles the ♂ of the European *chelidonii* Erdős in having a developed postmarginal vein (this is lacking or extremely rudimentary in all the other species), but differs from it in having the antennal scape less expanded and in having more heavily infusate wings and darker legs. It resembles *fuscipennis* Girault (1916) in the infuscation of fore and hindwings; but *fuscipennis* is said to have body metallic purple, and to lack a postmarginal vein. Another species with wings infusate (though less strongly than in *cortinae*) is *flavimedia* (Howard) which also lacks a postmarginal vein.

ADDITIONS TO MADEIRAN LIST (HYMENOPTERA)

Chalcidoidea

Zeteticontus centennialis Erdős. Madeira: Queimadas, 1 ♀, 10.viii.1985: Levada da Serra do Faial, between Santo da Serra and Camacha, 1 ♀, 23.viii.1985 (M. de V. G.).

Rhaphitelus maculatus Walker. Fajã da Nogueira, ca 800m, under the great Til, 1 ♀, 24.vii.1985 (M. de V. G.).

Elachertus lateralis (Spinola) (= *artaeus* Walker). 3 km E. of João do Prado, in forest, 1 ♀, 5.viii.1985 (M. de V. G.).

- E. pulcher* (Erdős). São Martinho, Pico das Arrudas, 2 ♀ ♀, 9.viii.1985 (M. de V. G.).
- Sympiesis gordius* (Walker). Curral dos Romeiros, 1 ♀, 22.vii.1985 (M. de V. G.).
- S. gregori* Bouček. Boca do Risco, 1 ♀, 27.vii.1985 (M. de V.G.).
- Melittobia* sp. Funchal, Quinta do Sol, on roof-terrace, 1 ♀, 21.vii.1985 (Mrs. E. M. Graham). This settled on my wife's leg and was promptly taken into custody. There was a nest of *Sceliphron caementarium* on the terrace wall and the *Melittobia* may have emerged from it. Females of *Melittobia* are difficult to identify and it is not possible to say whether the above specimen represents a European or an American species.
- Alaptus* sp. Paul da Serra, near Pico Bonito, south of Fonte da Pedra, 1 ♂, 29.vii.1985 (M. de V. G.).

Proctotrupoidea

- Pantoclis sulcata* (Thomson). Forest, 3 km E. of João do Prado, 1 ♂, 1.viii.1982, 1 ♂, 7.viii.1982 ; levada da Serra do Faial, between Santo da Serra and Camacha, 1 ♂, 23.viii.1985.
- P. trisulcata* Kieffer. Curral dos Romeiros, 1 ♀, 15.v.1980 ; 3 km E. of Poiso, 1 ♂, 1.viii.1982.
- Cinetus angustatus* Kieffer. Queimadas, 1 ♂, 14.v.1980 ; just E. of João do Prado, 2 ♂ ♂, 26.vii.1985 ; Ribeira das Cales, 1 ♂, 26.vii.1985 ; Balcões de Ribeiro Frio, 1 ♀, 21.viii.1985.
- Aclista* sp. near *lineare* Nixon. Queimadas, 1 ♂, 4 ♀ ♀, 10.viii.1985 ; Balcões de Ribeiro Frio, 3 ♀ ♀, 21.viii.1985. I am not able to find a name for this at present. It is very near *lineare* Nixon (1957) but has the gastral petiole shorter, 2.2 - 2.4 times as long as broad, with coarser striae mixed with some rugulosity.
- Trichopria* sp. near *vulgaris* (Kieffer). Funchal, in window of Quinta do Sol, 1 ♀, 6.viii.1985 ; São Lourenço, between Caniçal and Prainha, 1 ♀, 23.vii.1985. This species belongs to the subgenus *Ashmeadopria*, which includes a number of Ethiopian species. It is very close to the lectotype of *vulgaris* which is known from the Seychelles Islands and South Africa.
- Calliscelio* sp. São Martinho, 1 ♀, 20.vii.1985 ; Curral dos Romeiros, 1 ♀, 22.vii.1985 (Mrs. E. M. Graham), 1 ♀, 26.vii.1985 (M. de V. G.). Body red with head and base of metasomal horn black ; posterior half of dorsal surface of thorax, rest of metasomal horn, and metasoma apically, infuscate. Antennae black with scape mainly and pedicellus partly red. Legs mainly red. Forewing lightly infumate. I cannot find a name for this species.

Chrysoidea (Bethyloidea)

? *Pseudisobrachium* sp. Ilhéu Chão (Northern Deserta), several ♂♂, swept from sparse grass near the north end of the island, 25.viii.1985. [Note. My tentative record of *Anoxus boops* Thomson from Madeira (Graham, 1984 : 104) can now be confirmed. Thanks to Dr. R. Danielsson (Lund) I have recently been able to examine the lectotype of *boops*, which agrees with the two females taken in Madeira by Wollaston].

Cephoidea

Trachelus tabidus (F.). Near Pousada dos Vinháticos, 1 ♂, 19.v.1980. Widely distributed in Europe and parts of Asia ; found also in north Africa and the Azores.

Sawflies (Tenthredinoidea) are scarce in Madeira. The species we have most often found is *Pristiphora denudata* Konow, already recorded by Benson (1958 : 152).

Cynipoidea

Callaspidia notata (Fonscolombe) (= *Figites notata* Fonscolombe, 1832 : 187). Levada da Serra do Faial, between Santo da Serra and Camacha, 1 ♀, 23.viii.1985.

There has been some confusion regarding the identity of this species. Kieffer transferred it in 1901 to his genus *Tavaresia*, in which it was retained by Dalla Torre & Kieffer (1910 : 69). A large part of the Fonscolombe collection was destroyed but some still exists in Paris and Oxford. The larger part, now in University Museum, Oxford, was sent to Westwood about 1836. In it there is a ♂ specimen labelled in Fonscolombe's handwriting 'Callaspidia defonscolombei sec [undum] Dahlbom Lund 1842. Pl. 1. fig. 8 - 11. Figites notata nob. annal. sciences naturelles tom. 25. 1832'. This specimen agrees very well with the original description of *Figites notata* Fonscolombe and is here designated LECTOTYPE. It belongs to *Callaspidia* and is conspecific with the ♀ specimen recorded above from Madeira.

Dahlbom (1842 : 13) actually cited *Figites notata* as a synonym of his own *Callaspidia De Fonscolombei* but he evidently had not seen Fonscolombe's material. Whether or not the two are identical, the name *notata* is the earlier and must be used for the Madeiran species. Mr. N. D. M. Fergusson, of the British Museum (Natural History) employs the name *defonscolombei* Dahlbom for a more northern species which differs from *notata* in some features noted below. The pronotum in *Callaspidia* has two oblique ridges which separate its median third from the lateral parts. In *notata* the lateral parts are granulate with a few longitudinal ridges in their ventral half but at most a few very

fine and vague partial ridges in their upper half. In *defonscolombei* the upper half has 6-8 fairly coarse longitudinal ridges as well as coriaceous sculpture. The triangular area defined by carinae on the posterior part of the mesoscutum is 2.7-3.6 times as long as broad in *notata*, 1.8-2.3 times in *defonscolombei*. The gastral petiole is variable in proportions but tends to be relatively longer in *notata*. (1.5-2.2 times as long as broad in *notata*, 1.0-1.5 times in *defonscolombei*). I have collected many specimens, of both sexes, of *notata* in the south of France, including the type locality. Probably the species has a Mediterranean distribution.

Anacharis eucharoides (Dalman). Curral dos Romeiros, 1 ♂, 26.vii.1985 ; Achada do Teixeira, 1 ♂, 10.viii.1985 ; levada da Serra do Faial between Santo da Serra and Camacha, 1 ♂, 23.viii.1985.

OTHER SPECIES OF SPECIAL INTEREST

Ceraphronoidea

Conostigmus brunneipes Dodd (1920 : 367). I previously reported (Graham, 1984 : 101) that no material had been seen apart from the syntypes in BMNH which were taken by Wollaston. I can now add the following new records :

Queimadas, 1 ♀, 10.viii.1985 ; massif of Lombada das Vacas, 1 ♂, several ♀♀, 11.viii.1985 ; Ribeiro Bonito, 1 ♀, 15.viii.1985. These have been compared with the syntypes of *brunneipes*. Both sexes have rudimentary wings, the forewings narrow and strap-like, reaching only a little beyond the base of the metasoma. The species is clearly associated with native lauraceous forest. Possibly the name *brunneipes* may prove to be a synonym of an earlier one but this cannot be ascertained at present.

Proctotrupoidea

Probaryconus minor (Wollaston) (= *Scelio minor* Wollaston, 1858 : 25). Fajã da Ovelha, 1 ♂, 7.viii.1985, in mixed forest with *Eucalyptus*. The ♀ taken by my wife at Curral dos Romeiros, 13.v.1980 (see Graham, 1984 : 99) is confirmed as *minor*. Wollaston's collection in BMNH contains 13 males and 5 females ; two are numbered 1202 on the underside of their cards, one 1164, the rest 1203. Those with numbers 1202 and 1203 were evidently taken at Santana. There are also 2 males and two females in the Wollaston Madeira collection, UM, Oxford.

P. minor is very close to the European *quadridens* Kieffer but the latter seems to have a more 'cubic' head.

Tenthredinoidea

Calirhoa cerasi (L.). Fajã da Nogueira, 1 ♀, 25.vii.1982. Previously recorded (as *C. limacina* Retzius) from Monte (Conde, 1949 : 2).

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