

NOTES
ON
CHALCIDIÆ.

PART VII.

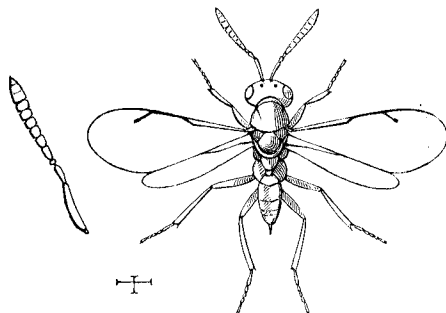
BY
FRANCIS WALKER, F.L.S.

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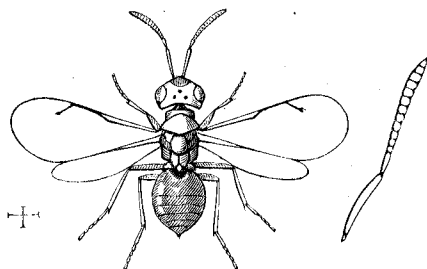
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NOTES ON CHALCIDÆ.

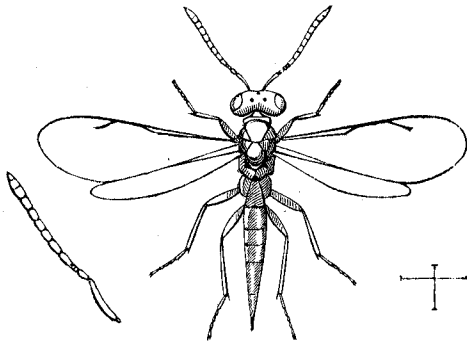
PART VII.



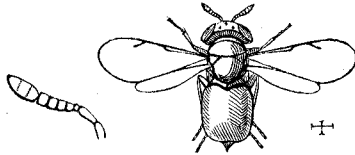
Eutelus immaculatus.



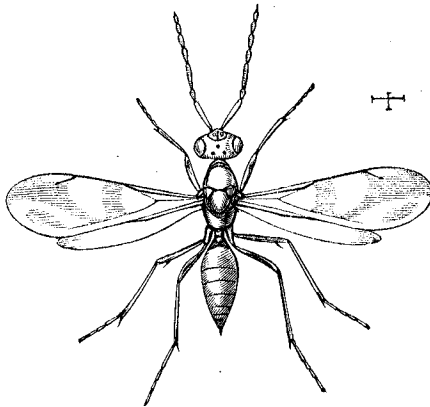
Pteromalus latus.



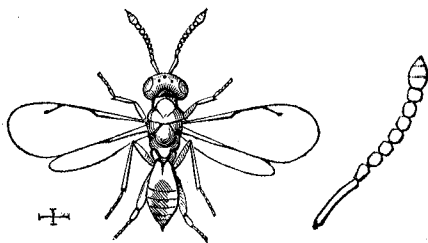
Aetroxys scenicus.



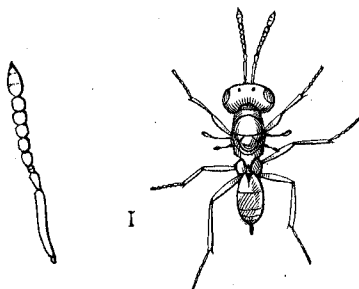
Eunotus cretaceus.



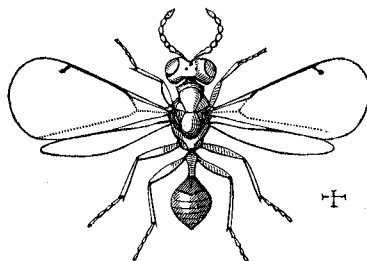
Hemiptarsenus fulvicollis.



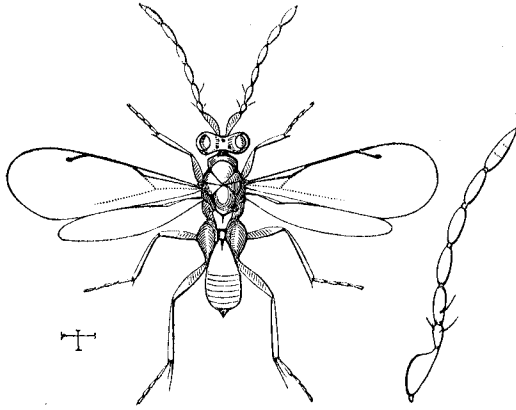
Prosopon montanum.



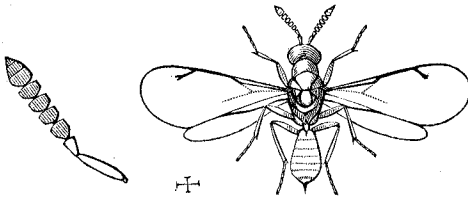
Micromelus pyrrhogaster.



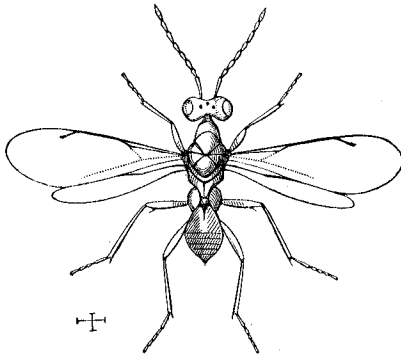
Entedon Amyelas.



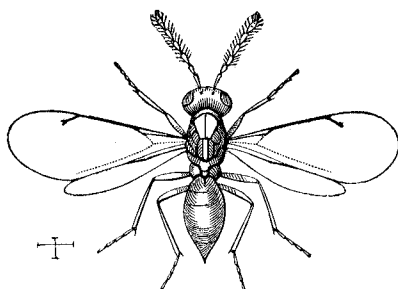
Euplectrus albiventris.



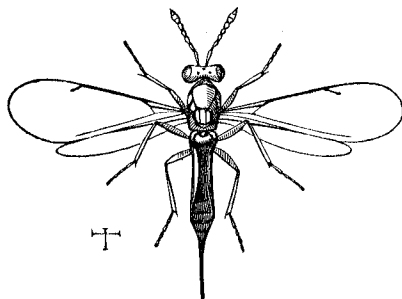
Eulophus Aphaca.



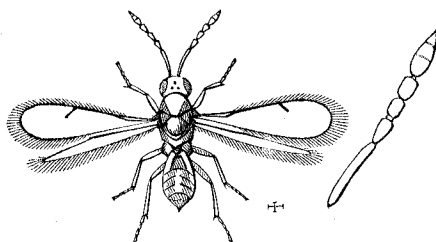
Cirrospilus pulchellus.



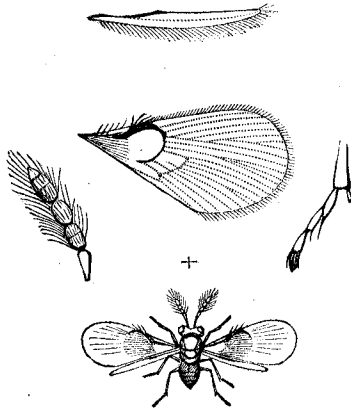
Cirrospilus Attalus.



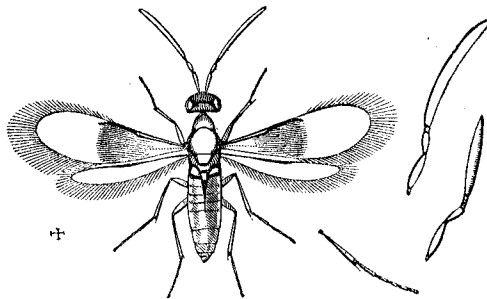
Tetrastichus caudatus.



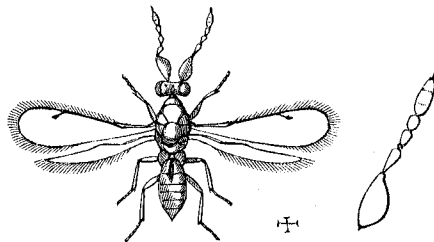
Pteroptrix Menes.



Trichogramma evanescens.



Thusanus ater.



Cirrospilus Pacuvius.

THE conclusion of this Part contains a notice of the species of Chalcidæ in Madeira, omitting those which have been previously enumerated. The latter will be found in the 'Annals and Magazine of Natural History,' 2nd ser. vol. iii., and 3rd ser. vol. i., and in the previous Parts of these Notes. The following species have been already described:—*Spalangia nigra*, *Asaphes ænea*, *Pteromalus flammifer*, *P. æquus*, *P. conspersus*, *P. fulviventris*, *Platynocheilus Derceto*, *Aphelinus basalis*, *A. Asychis*, *Encyrtus Zetterstedti*, *Entedon Epigonus*, *Eulophus Gonippus*, *E. Artynes*, *Cirrospilus Diallus*. The new species here noticed are nearly all closely allied to the British Chalcidæ, and it would not be right as yet to suppose that they are peculiar to Madeira, or do not occur in the same latitudes of Africa. *Cleptimorpha* is a remarkable form, and very different from any other genus previously published.

ENCYRTUS COLLIGATUS. *Fœm.*—Æneus; caput luteum; antennæ fuscæ, subclavatæ, thorace multo breviores, clava pallide flava; abdomen longi-conicum, thorace paullo longius; pedes pallide flavi; alæ anticæ fascia lata maculisque duabus exterioribus fuscis, apice cineræ.

Female.—Æneous. Head luteous. Antennæ brown, subclavate, much shorter than the thorax; club pale yellow. Abdomen elongate-conical, a little longer than the thorax. Legs pale yellow. Wings pellucid. Fore wings with a broad brown band before the middle and with two exterior brown spots, one on the costa, the other on the hind border; tips cinereous; veins pale, except in the brown part. Length of the body $\frac{3}{8}$ line. Allied to *E. tessellatus*; much smaller.

ENCYRTUS CONGRUUS. *Mas et fœm.*—Æneus aut viridis; abdomen longi-conicum, thorace brevius et angustius; pedes flavi, femoribus tibiisque nigris basi apiceque flavis; alæ diaphanæ, pallido venosæ. *Mas.*—Antennæ testacæ, filiformes, thorace multo longiores. *Fœm.*—Antennæ nigræ, clavatæ, thoraci æquilongæ.

Male and female.—Æneous or green. Antennæ testaceous, filiform, and much longer than the thorax in the male, black, clavate, and as long as the thorax in the female. Abdomen elongate-conical, shorter and narrower than the thorax. Legs yellow; femora and tibiæ black, yellow at the base and at the tips. Wings pellucid; veins pale; ulna black. Length of the body $\frac{3}{8}$ line.

METALLON ATRICEPS. *Mas.*—Luteus; caput atrum; antennæ atræ, filiformes, corpore paullo breviores, clava lanceolata; prothorax brevis; scutellum magnum; metathorax niger, subquadratus; abdomen nigrum, sessile, fere rotundum, basi luteum; alæ diaphanæ

fusco venosæ. *Fœm.*—Subapterus. Antennæ subclavatæ, thorace multo breviores, clava conica; abdomen longi-conicum, thorace brevius, dimidio basali luteo.

Male.—Luteous. Head and antennæ deep black. Antennæ filiform, a little shorter than the body; club lanceolate, full twice the length of the preceding joint. Prothorax short. Sutures of the parapsides not traced. Scutellum large, elongate-triangular. Metathorax black, subquadrate. Abdomen black, sessile, nearly round, luteous at the base, about half the length of the thorax, which it equals in breadth. Wings pellucid; veins brown; humerus extending to about half the length; ulna extremely short; cubitus long, shorter than the radius. *Female.*—Antennæ subclavate, much shorter than the body; club conical. Abdomen elongate-conical, shorter than the thorax, luteous for half the length from the base. Wings rudimentary. Length of the body $\frac{3}{4}$ — $\frac{1}{2}$ line.

ECTROMA MADERENSIS. *Fœm.*—Viridi-lutea, aptera; caput latum; antennæ nigræ, subclavatæ, basi luteæ, corpore multo breviores; prothorax transversus, bene determinatus; metathorax quadratus, maximus; abdomen nigrum, sessile, conicum, basi luteum, thorace multo brevius; oviductus albus, apice fuscus; pedes pallide flavi.

Female.—Luteous, apterous, tinged with metallic-green. Head broader than the prothorax and the mesothorax. Antennæ black, subclavate, inserted close to the mouth, much shorter than the body; scape luteous, somewhat shorter than the flagellum. Prothorax transverse, much developed. Paraptera large. Metathorax quadrate, very large, broader than the mesothorax. Abdomen sessile, conical, black, except towards the base, much shorter than the thorax. Oviduct subexserted, white, except at the tip. Legs pale yellow. Length of the body $\frac{1}{2}$ line.

GASTRANCISTRUS PALLICORNIS. *Fœm.*—Viridi-niger; oculi rufi, maximi; antennæ pallidissime flavæ, subclavatæ, thorace paulo longiores; prothorax brevissimus; parapsidum suturæ bene determinatæ; abdomen longi-ovatum, depressum, subpetiolatum, thorace multo angustius; alæ diaphanæ, venis pallidissime flavis.

Female.—Greenish black. Head, with the eyes, nearly as broad as the prothorax. Eyes red, very large, the breadth of each exceeding that of the vertex between them. Antennæ very pale yellow, subclavate, a little longer than the thorax. Prothorax extremely short, depressed; sutures of the parapsides well defined. Abdomen subpetiolated, elongate-oval, much narrower than the thorax. Legs very pale yellow. Wings quite colourless; veins very pale yellow; ulna less than half the length of the humerus. Length of the body $\frac{3}{4}$ line.

DICYCLUS PALLINERVOSUS. *Fœm.*—Æneo-viridis; caput thorace paullo latius; antennæ nigræ, clavatæ, thorace breviores, articulo 1o luteo; prothorax brevissimus: parapsidum suturæ conspicuæ; abdomen subsessile, ovatum, subtus abrupte angulatum, thorace multo brevius; pedes lutei, femoribus subfuscescentibus, tibiis posticis basi subfuscescentibus; alæ diaphanæ, venis pallidissime flavis.

Female.—Æneous-green. Head and thorax finely squamous. Head a little broader than the thorax. Antennæ black, clavate, shorter than the thorax; first joint luteous; the two ring-shaped joints following the second very short; club conical, about twice the length of the preceding joint. Prothorax very short. Sutures of the parapsides distinct. Scutellum short, transversely subelliptical. Paraptera large, triangular. Metathorax large, not furrowed. Abdomen subsessile, oval, smooth, flat above, abruptly angular beneath, much shorter than the thorax, and about equal to it in breadth. Legs luteous; femora partly tinged with brown; hind tibiæ slightly tinged with brown towards the base; tips of tarsi brown. Wings entirely colourless; veins very pale yellow; ulna about one-fifth of the length of the humerus; radius much shorter than the ulna; cubitus much longer than the ulna; stigma very small. Length of the body 1 line.

The very pale veins of the wings distinguish it from other species.

SPHEGIGASTER DEGENER. *Fœm.*—Viridis; caput thorace paullo latius; antennæ nigræ, subclavatæ, graciles, thoraci æquilongæ; prothorax brevis; metathorax bene determinatus; petiolus brevis; abdomen ellipticum, thorace multo brevius; pedes lutei, tarsi quatuor posterioribus pallidioribus; alæ diaphanæ, venis pallidissime flavis.

Female.—Bright green. Head and thorax squamous. Head a little broader than the thorax. Antennæ black, slender, subclavate, as long as the thorax. Prothorax very short. Sutures of the parapsides indistinct. Metathorax well developed. Petiole short. Abdomen elliptical, very much shorter than the thorax. Legs luteous; middle and hind tarsi pale luteous, with brown tips. Wings pellucid; veins very pale yellow; ulna about half the length of the humerus; radius a little shorter than the ulna; cubitus much shorter than the ulna; stigma very small. Length of the body $\frac{3}{4}$ line.

It may be considered as a species of *Sphegigaster*, notwithstanding the shortness of the petiole.

STICTONOTUS INSUETUS. *Fœm.*—Æneo-viridis; caput thorace multo latius; antennæ nigricantes, clavatæ, thorace breviores, articulo 1o luteo, clava longi-conica; parapsidum suturæ bene determinatæ, postice oblitteratæ; paraptera magna; abdomen ovatum,

thorace paullo brevius; pedes lutei; alæ diaphanæ, venis pallidissime luteis, stigmatè minimo.

Female.—Æneous-green. Head much broader than the thorax. Antennæ blackish, clavate, shorter than the thorax; first joint luteous; second elongate-cyathiform; third and fourth very minute; fifth and five following transverse, successively decreasing in length; club elongate-conical, more than twice the length of the tenth joint. Prothorax very short. Sutures of the parapsides well defined, not extending to the hind border of the scutum. Paraptera large. Metathorax short. Abdomen oval, sessile, a little shorter than the thorax. Legs luteous, stout; tips of the tarsi brown. Wings pellucid; veins very pale luteous; ulna less than one-third of the length of the humerus; radius longer than the ulna; cubitus a little longer than the ulna; stigma very small. Length of the body 1 line.

METASTENUS PURUS. *Fem.*—Cupreus; caput et thorax aureo-viridi marginata; caput thorace paullo latius; antennæ fulvæ, clavatæ, 12-articulatæ, thorace vix breviores, articulo 1o luteo; prothorax brevissimus; parapsidum suturæ indeterminatæ; metathorax sat magnus; abdomen sessile, fusiforme, depressum, thoraci æquilongum; pedes flavi; alæ diaphanæ, venis pallide testaceis, stigmatè minimo.

Female.—Cupreous. Head and thorax bordered with gilded green. Head a little broader than the thorax. Antennæ tawny, clavate, 12-jointed, nearly as long as the thorax; first joint luteous; second elongate-cyathiform; third and fourth larger than usual; fifth and five following nearly equal in length; club elliptical, broader than the ninth joint, and more than twice its length. Prothorax very short. Sutures of the parapsides indistinct. Paraptera large. Metathorax well developed. Abdomen sessile, fusiform, depressed, acute at the tip, as long as the thorax and a little broader. Legs bright yellow. Wings quite pellucid; veins pale testaceous; ulna rather shorter than the humerus; radius rather shorter than the ulna; cubitus a little more than half the length of the ulna; stigma very small. Length of body $\frac{3}{4}$ line.

PTEROMALUS TINCTIPENNIS. *Fem.*—Aureo-viridis; caput thorace multo latius; antennæ fusæ, graciles, vix extrorsum crassiores, thorace paullo breviores, articulo 1o luteo, 2o basi luteo, clava subanceolata; paraptera sat magna; metathorax transverse, subimpressus; abdomen cupreo nigro-purpureoque varium, apicem versus lanceolatum, thorace multo longius; pedes lutei; alæ anticæ lutescentes, luteo venosæ, stigmatè nigricante.

Female.—Bright green. Head much broader than the thorax. Antennæ brown, slender, very slightly increasing in thickness towards the tips, a little shorter than the thorax; first joint luteous; second elongate-cyathiform, luteous at the base; third and fourth minute; fifth and five following linear, successively and very slightly decreasing in length; club sublanceolate, a little more than twice the length of the tenth joint. Thorax gilded green. Prothorax very short. Sutures of the parapsides very indistinct. Paraptera rather large. Metathorax sloping, rather large, transversely and slightly impressed in the middle. Abdomen sessile, much longer than the thorax, varied with gilded cupreous and blackish purple hues, concave in the disk, lanceolate towards the tip; apical segment lanceolate, convex, about one-third of the length of the preceding part. Legs luteous, slender; tarsi brownish at the tips. Wings with a luteous tinge, which is most distinct in the fore wings, from the end of the humerus to the stigma; veins luteous; humerus much longer than the ulna; radius as long as the ulna; cubitus much shorter than the radius; stigma blackish, rather large. Length of the body 3 lines.

PTEROMALUS INTEGER. Mas.—Aureo-viridis; caput thorace paullo latius; antennæ nigrae, subclavatae, thorace paullo breviores, articulo 1o luteo, clava subfusiformi; paraptera sat parva; abdomen nigropurpureum, fere lineare, basi aureo-viride, thorace brevius et multo angustius; pedes lutei; alæ subcinereæ, venis pallide lutescentibus, stigmatate fusco. *Fem.*—Cupreus; antennæ fuscæ; abdomen lanceolatum, subtus carinatum et angulatum, thorace multo longius, apice compressum.

Male.—Gilded green, rather stout. Head a little broader than the thorax. Antennæ black, subclavate, a little shorter than the thorax; first joint luteous; second cyathiform; third and fourth very minute; fifth and five following successively and very slightly decreasing in length; club subfusiform, a little more than twice the length of the tenth joint. Prothorax very short. Sutures of the parapsides extremely indistinct. Scutellum broad. Paraptera rather small. Metathorax short, sloping. Abdomen blackish purple, sessile, nearly linear, golden green at the base, shorter and much narrower than the thorax. Legs luteous, rather stout; tips of tarsi pale brown. Wings slightly cinereous; veins pale lutescent; ulna about half the length of the humerus; radius a little longer than the ulna; cubitus a little shorter than the radius; stigma brown. *Female*.—Cupreous. Antennæ brown. Abdomen lanceolate, much longer than the thorax, beneath keeled, and obliquely ascending towards the tip; three last segments longer than the preceding segment; apical segment compressed. Length of the body $1\frac{1}{4}$ — $1\frac{3}{4}$ line.

PTEROMALUS CONTAMINATUS. *Fœm.*—Aurato-viridis; caput thorace paullo latius; antennæ fuscæ, subclavatæ, thorace paullo breviores, articulo 1o luteo, clava lanceolata; paraptera sat parva; abdomen fusiforme, depressum, apice compressum, thorace paullo longius et multo angustius; pedes lutei; alæ subcinereæ, venis fulvis, stigmatate nigro.

Female.—Gilded green. Head a little broader than the thorax. Antennæ brown, subclavate, a little shorter than the thorax; first joint luteous; second elongate-cyathiform; third and fourth very minute; fifth and five following successively and slightly decreasing in length; club lanceolate, a little more than twice the length of the tenth joint. Prothorax very short. Sutures of the parapsides extremely indistinct. Scutellum rather broad. Paraptera rather small. Abdomen sessile, fusiform, depressed in the disk, much narrower and a little longer than the thorax; apical segment compressed. Legs luteous, rather stout; tips of tarsi brown. Wings slightly cinereous; veins tawny; ulna about half the length of the humerus; radius a little longer than the ulna; cubitus a little shorter than the ulna; stigma black. Length of the body $1\frac{1}{2}$ line.

It much resembles *P. integer*; the abdomen is shorter and not keeled beneath, nor elongated and ascending towards the tip; the stigma is a little larger.

PTEROMALUS ALTERNIPES. *Fœm.*—Cupreus; caput thorace paullo latius; antennæ nigre, subclavatæ, thorace multo breviores, clava lanceolata; paraptera sat magna; abdomen cupreo-nigrum, lanceolatum, depressum, basi cupreum, subtus carinatum, apice compressum; pedes nigri, tibiis basi apiceque tarsisque pallide luteis; alæ anticæ vix testaceo suffusæ, venis lutescentibus.

Female.—Cupreous. Head a little broader than the thorax. Antennæ black, subclavate, much shorter than the thorax; second joint elongate-cyathiform; third and fourth very minute; fifth and five following successively decreasing in length; club lanceolate, more than twice the length of the tenth joint. Prothorax very short. Sutures of the parapsides very indistinct. Paraptera rather large. Metathorax short. Abdomen sessile, lanceolate, cupreous-black, cupreous at the base, depressed above, a little longer and much narrower than the thorax, keeled beneath, compressed at the tip. Legs black; knees, tibiæ towards the base and towards the tips and tarsi pale luteous; tips of the latter black. Fore wings slightly tinged with testaceous; veins dingy luteous; humerus nearly twice the length of the ulna; radius a little shorter than the ulna; cubitus much shorter than the ulna; stigma not darker than the veins. Length of the body $1\frac{1}{2}$ line.

PTEROMALUS NIGRICANS. *Fœm.*—Cyaneo-niger; caput thorace multo latius; antennæ fuscæ, extrorsum crassiores, thorace non longiores, articulo 1o luteo, clava lanceolata; abdomen longi-ovatum, basi apice æneum, subtus abrupte angulatum, thorace paullo brevius vix angustius; pedes fusci, tibiis basi apiceque tarsisque flavescente albis; alæ diaphanæ, venis pallidissime testaceis, stigmatè minimo. *Mas?*—Aurato-viridis; antennæ luteæ; pedes flavi.

Female.—Bluish black. Head much broader than the thorax. Antennæ brown, slightly increasing in thickness towards the tips; first joint luteous; second elongate-cyathiform; third and fourth very minute; fifth and five following successively and slightly decreasing in length; club lanceolate, more than twice the length of the tenth joint. Prothorax very short. Sutures of the parapsides very indistinct. Metathorax short. Abdomen sessile, æneous towards the base and towards the tip, elongate-oval, abruptly angular and ascending beneath towards the tip, a little shorter and hardly narrower than the thorax. Legs brown; knees, tibiæ at the base and at the tips and tarsi yellowish white. Wings pellucid; veins very pale testaceous; ulna less than half the length of the humerus; radius a little shorter than the ulna; cubitus as long as the radius; stigma very small. *Male?*—Gilded green. Antennæ luteous. Legs yellow. Length of the body $1\frac{1}{2}$ line.

PTEROMALUS DULCIS. *Mas.*—Aurato-viridis; caput thorace multo latius; antennæ luteæ, thorace breviores, clava fusca lanceolata; paraptera magna; metathorax subcarinatus; abdomen cupreum, fere lineare, busi aureo-viride; pedes flavi, femoribus luteis; alæ anticæ sublutescentes, venis testaceis, stigmatè mediocri.

Male.—Gilded green. Head much broader than the thorax. Antennæ luteous, slightly increasing in thickness towards the tips; second joint elongate-cyathiform; third and fourth very minute; fifth and five following successively decreasing in length; club brown, lanceolate, more than twice the length of the tenth joint. Prothorax very short. Sutures of the parapsides very indistinct. Paraptera large. Metathorax well developed, with a slight longitudinal furrow. Abdomen sessile, nearly linear, cupreous, gilded green at the base. Legs yellow; femora luteous. Wings pellucid. Fore wings with a slight luteous tinge; veins testaceous; ulna about half the length of the humerus; radius longer than the ulna; cubitus much shorter than the ulna; stigma of moderate size. Length of the body $1\frac{3}{4}$ line.

PTEROMALUS CONSUETUS. *Mas.*—Æneus; caput thorace latius; antennæ nigræ, extrorsum cassiores, thorace paullo longiores, clava

lanceolata, paraptera magna; abdomen fere lineare, thorace multo angustius vix brevius; pedes lutei; alæ cinereæ, venis fuscis, stigmatè mediocri.

Male.—Æneous. Head broader than the thorax. Antennæ black, a little longer than the thorax, slightly increasing in thickness towards the tips; second joint elongate-cyathiform; third and fourth very minute; fifth and five following successively decreasing in length; club lanceolate, more than twice the length of the tenth joint. Prothorax very short. Sutures of the parapsides indistinct. Paraptera large. Abdomen sessile, nearly linear, much narrower than the thorax and about equal to it in length. Legs luteous. Wings cinerous; veins brown; humerus more than twice the length of the ulna; radius longer than the ulna; cubitus a little shorter than the ulna; stigma of moderate size. Length of the body $\frac{4}{5}$ line.

PTEROMALUS OBSCURELLUS. *Mas*.—Saturate viridis; caput thorace multo latius; antennæ nigræ, lineares, clava lanceolata; abdomen flavescente unifasciatum; pedes lutei, femoribus fuscescentibus; alæ anticæ fuscescentes, venis nigris, stigmatè parvo.

Male.—Dark green. Head much broader than the thorax. Antennæ black; second joint elongate-cyathiform; third and fourth very minute; fifth and five following elongate, linear, nearly equal; club lanceolate, more than twice the length of the tenth joint. Prothorax very short. Sutures of the parapsides indistinct. Abdomen sessile, with a yellowish band at a little before the middle. Legs luteous; femora mostly brownish. Fore wings brownish; veins black; ulna about half the length of the humerus; radius much longer than the ulna; cubitus longer than the ulna; stigma small. Length of the body $\frac{1}{2}$ line.

PTEROMALUS OBUMBRATUS. *Mas*.—Saturate viridis; caput thorace multo latius; antennæ nigricantes, extrorsum crassiores, articulo 1o fulvo, clava fusiformi; paraptera magna; abdomen cupreo-nigrum, fere lineare, thorace brevius et paullo angustius, plaga magna flavescente ornatum; pedes lutei, femoribus obscurioribus; alæ cinereæ, venis testaceis, stigmatè magno nigricante.

Male.—Dark green. Head much broader than the thorax. Antennæ blackish, slightly increasing in thickness towards the tips; first joint tawny; second cyathiform; third and fourth very minute; fifth and five following successively and slightly decreasing in length; club fusiform, broader than the tenth, and a little more than twice its length. Prothorax very short. Sutures of the parapsides very indistinct. Paraptera large. Metathorax rather small. Abdomen cupreous-black, sessile, nearly linear, shorter and a little narrower

than the thorax; near the base a large yellowish patch, which occupies the whole breadth. Legs luteous; femora darker than the tibiæ. Wings cinereous; veins luteous; ulna more than half the length of the humerus; radius longer than the ulna; cubitus much shorter than the ulna; stigma large, blackish. Length of the body 1—1½ line.

PTEROMALUS STIGMATIZANS. Mas.—Aurato-*viridis*; caput thorace paullo latius; antennæ nigræ, fere filiformes, thorace paullo longiores, articulo 1o basi luteo, clava longi-fusiforimi; paraptera sat magna; metathorax subcarinatus; abdomen æneum, fere lineare, thorace angustius et brevius; pedes lutei; alæ cineræ, venis sordide testaceis, stigmatate nigricante sat magno.

Male.—Gilded green. Head a little broader than the thorax. Antennæ black, nearly filiform, a little longer than the thorax; first joint luteous at the base; second short-elliptical; third and fourth very minute; fifth and five following successively decreasing in length; club elongate-fusiforimi, more than twice the length of the tenth joint. Prothorax very short. Sutures of the parapsides very indistinct. Paraptera rather large. Metathorax with a slight keel. Abdomen dark æneous, sessile, nearly linear, narrower and rather shorter than the thorax. Legs luteous; femora with a brownish tinge in the middle part. Wings cinereous; veins dingy testaceous; ulna about half the length of the humerus; radius as long as the ulna; cubitus shorter than the ulna; stigma blackish, rather large. Length of the body 1 line.

PTEROMALUS BASICYANEUS. Fem.—Aureo-*viridis*; caput thorace paullo latius; antennæ fuscæ, subclavatæ, thoraci æquilongæ, articulo 2o ex parte loque luteis; prothorax brevissimus; paraptera maxima; metathorax bene determinatus; abdomen viridi-nigrum, fusiforme, thorace longius, apicem versus lanceolatum; pedes lutei; alæ anticæ cineræ, testaceo venosæ, stigmatate magno nigricante.

Female.—Gilded green. Head a little broader than the thorax. Antennæ brown, subclavate, as long as the thorax; first joint luteous; second elongate-cyathiform, partly luteous; third and fourth very minute; fifth and five following linear, successively decreasing in length; club fusiform, broader than the tenth joint and more than twice its length. Prothorax very short. Sutures of the parapsides very indistinct. Paraptera very large. Metathorax well developed. Abdomen greenish black, fusiform, longer than the thorax, blue on each side towards the base, which is lurid, lanceolate towards the tip, which is very acute. Legs luteous. Fore wings cinereous; veins testaceous; ulna rather shorter than the humerus; radius as long as

the ulna; cubitus a little more than half the length of the ulna; stigma large, blackish. Length of the body $1\frac{2}{3}$ line.

ELACHISTUS ÆQUALIS. *Mas.*—Viridis; caput thoraci æquilatum; antennæ testaceæ, filiformes, thorace non longiores, clava lanceolata; parapsidum suturæ bene determinatæ; abdomen lineare, thorace angustius et paullo brevius; pedes flavi; alæ fere diaphanæ, venis pallide testaceis, stigmatè minimo.

Male.—Green. Head as broad as the thorax. Eyes red. Antennæ filiform, testaceous, not longer than the thorax; second joint elongate-cyathiform; third and three following linear, nearly equal; club lanceolate, about twice the length of the sixth joint. Prothorax very short. Sutures of the parapsides strongly marked. Abdomen linear, narrower and a little shorter than the thorax. Legs yellow. Wings nearly pellucid; veins pale testaceous; ulna longer than the humerus; radius much shorter than the ulna; stigma very small. Length of the body $\frac{3}{4}$ line.

ELACHISTUS CONTRACTUS. *Mas.*—Saturate viridis; antennæ testaceæ; parapsidum suturæ bene determinatæ; abdomen æneo-viride, fere lineare; pedes flavi, femoribus basi nigris; alæ anticæ testaceo suffusæ, venis pallide testaceis, stigmatè minimo.

Male.—Dark green. Antennæ testaceous. Sutures of the parapsides strongly marked. Abdomen æneous-green, nearly linear. Legs yellow; femora black towards the base. Fore wings with a testaceous tinge; veins pale testaceous; ulna longer than the humerus; radius much shorter than the ulna; stigma very small. Length of the body $\frac{1}{2}$ line.

EULOPHUS SOBRIUS. *Fœm.*—Æneus; caput viride; antennæ nigre, subclavatæ; prothorax et scutellum punctata, ille brevis; parapsidum suturæ bene determinatæ; metathorax brevis, subsulcatus; abdomen æneo-nigrum, ellipticum, thorace longius et latius; pedes fulvi; alæ cinereæ, fulvo-venosæ.

Female. Æneous. Head green, contracted in the middle, a little broader than the thorax. Antennæ black, subclavate, slender, a little shorter than the thorax; second joint elongate-cyathiform; third linear, much longer than the fourth; fourth, fifth and sixth successively decreasing in length; club conical, about twice the length of the sixth joint. Prothorax and scutum punctured. Prothorax short. Sutures of the parapsides well defined, wide apart. Paraptera large. Metathorax short, with a slight furrow. Abdomen æneous-black, elliptical, longer and broader than the thorax. Legs tawny. Wings cinereous; veins tawny; humerus longer than the

ulna; radius shorter than the ulna; cubitus nearly half the length of the radius; stigma small. Length of the body $1\frac{1}{2}$ line.

EULOPHUS DIVISUS. *Fœm.*—Æneo-viridis, gracilis; caput thorace latius; antennæ fuscæ, extrorsum crassiores, thoraci æquilongæ, articulo 1o luteo apice fusco, clava lanceolata; scutum antice attenuatum; parapsidium suturæ indeterminatæ; metathorax tricarinatus, bene determinatus; abdomen longi-ellipticum, vix petiolatum, thorace brevius; pedes lutei; alæ diaphanæ, venis pallide testaceis, stigmata minimo.

Female.—Æneous-green, slender. Head broader than the thorax. Antennæ brown, as long as the thorax, slightly increasing in thickness towards the tips; first joint luteous, brown towards the tip; second rather short; third and three following linear, successively decreasing in length; club lanceolate, much longer than the sixth joint. Prothorax very short. Scutum attenuated in front; sutures of the parapsides very indistinct. Metathorax well developed, with three keels. Abdomen elongate-elliptical, hardly petiolated, shorter than the thorax. Legs luteous. Wings pellucid; veins pale testaceous; ulna very much longer than the humerus; radius less than half the length of the ulna; stigma very small. Length of the body $\frac{4}{5}$ line.

EULOPHUS ENTEDONOIDES. *Mas.*—Aureo-viridis; antennæ nigræ, filiformes, clava lanceolata; parapsidium suturæ bene determinatæ; metathorax bene determinatus; abdomen planum, subovatum, subpetiolatum, thorace multo brevius; pedes flavi; alæ anticæ subcinereæ, venis pallidissime testaceis, stigmatè minimo.

Male.—Gilded green. Head a little broader than the thorax. Antennæ black, filiform; second joint subcyathiform; third and three following linear, successively and slightly decreasing in length; club lanceolate, very much longer than the sixth joint. Prothorax very short. Sutures of the parapsides strongly marked. Metathorax much developed. Abdomen somewhat oval, flat, slightly petiolated, much shorter than the thorax. Legs yellow. Wings slightly cinereous; veins very pale testaceous; ulna very much longer than the humerus; radius about half the length of the humerus; cubitus descending rather abruptly towards the disk; stigma very small. Length of the body $\frac{3}{4}$ line.

EULOPHUS CENTRALIS. *Mas et fœm.*—Læte viridis; antennæ fuscæ, thoraci æquilongæ, maris filiformes, fœm. subclavata; parapsidium suturæ bene determinatæ; abdomen maris longi-ovatum, fœm. ellipticum; thorace brevius; pedes flavi; alæ anticæ plaga discali fusca.

Male and female.—Bright green, in structure like *E. entedonoides*. Head a little broader than the thorax. Antennæ brown, as long as the thorax, filiform in the male, subclavate in the female. Sutures of the parapsides strongly marked. Abdomen elongate-oval in the male, elliptical in the female, shorter than the thorax. Legs yellow. Wings pellucid. Fore wings with a large or very large brown patch in the disk; veins pale testaceous. Length of the body $\frac{3}{4}$ line.

EULOPHUS MACULIPENNIS. *Fœm.*—Viridis, gracilis, æneo cupreoque varius, antennæ nigræ, filiformes, articulo 1o flavo apice nigro, 5o 6oque flavis; prothorax et metathorax brevis; parapsidum suturæ bene determinatæ; abdomen sessile, longi-fusiforme, depressum, apice compressum stylatum; pedes lutei, femoribus basi fuscis; alæ anticæ albæ, fascia informi furcata maculisque quinque fuscis.

Female.—Green, slender, varied with æneous and cupreous. Head a little broader than the thorax. Antennæ black, filiform, slender; first joint yellow, very long, black towards the tip; second clavate; third and three following successively decreasing in length; fifth and sixth yellow; club lanceolate, about twice the length of the sixth joint. Prothorax and metathorax short. Sutures of the parapsides well defined. Paraptera far apart. Abdomen sessile, elongate-fusiform, depressed, compressed and stylate at the tip. Legs luteous; femora brown towards the base. Wings white. Fore wings with two brown spots near the base, with an irregular and interrupted brown band which is forked in front, and with three exterior marginal brown spots; veins brown; ulna much longer than the humerus; radius short; cubitus shorter than the radius, descending nearly directly towards the disk; stigma small. Length of the body $\frac{3}{4}$ line.

I believe that I have seen a British specimen of this species in the collection of the late John Curtis, which collection is now in Australia.

DIGLYPHUS CLAVICORNIS. *Fœm.*—Aureo-viridis, gracilis; caput thoraci æquilatum; antennæ nigræ, clavatæ, septem-articulatæ, thorace multo breviores, clava lanceolata; scutum antice attenuatum; parapsidum suturæ indeterminatæ; scutellum bisulcatum; metathorax bene determinatus; abdomen lineare, apice conicum, thorace paullo longius; pedes nigri, femoribus apice tibiisque basi flavo-albis, tibiis apice tarsisque pallide flavis, tibiis tarsisque anticis sordide flavis, illis fusco vittatis; alæ diaphanæ, venis sordide albidis, stigmatè minimo.

Female.—Gilded green, slender. Head as broad as the thorax. Antennæ black, clavate, seven-jointed, much shorter than the thorax;

second joint elongate-cyathiform; third and fourth nearly equal: club lanceolate, much broader than the fourth joint and more than twice its length. Prothorax very short. Scutum somewhat attenuated in front; sutures of the parapsides indistinct. Scutellum with two furrows. Metathorax well developed. Abdomen linear, conical at the tip, a little longer than the thorax. Femora and four posterior tibiæ black, the former yellowish white at the tips, the latter yellowish white at the base; tibiæ towards the tips and tarsi pale yellow, tips of the latter brown; fore tibiæ and fore tarsi dingy yellow, the former striped with brown, the latter with brown tips. Wings pellucid; veins dingy whitish; ulna longer than the humerus; radius shorter than the ulna; stigma very small. Length of the body $\frac{3}{4}$ line.

EPICLERUS FEMORALIS. *Mas et fœm.*—Viridis aut cupreus; caput thorace latius; antennæ nigræ, graciles, thorace multo breviores, maris filiformes, fœm. clavatæ; prothorax brevis; parapsidum suturæ conspicuæ; metathorax bene determinatus; pedes rufescentes, femoribus basi nigris; alæ diaphanæ; fusco venosæ.

Male and female.—Green or cupreous. Head and thorax finely squamous, with some white hairs. Head broader than the thorax. Antennæ black, slender, much shorter than the thorax, filiform in the male, clavate in the female; club elongate-conical in the male, conical in the female, about twice the length of the preceding joint. Prothorax short. Sutures of the parapsides distinct, far apart. Scutellum rather long. Metathorax well developed. Abdomen subpetiolated, elliptical, shorter than the thorax. Legs reddish; femora black towards the base; tips of the tarsi black. Wings colourless; veins brown; ulna as long as the humerus; radius nearly half the length of the ulna; cubitus very short; stigma small. Length of the body $\frac{1}{2}$ — $\frac{2}{3}$ line.

ENTEDON INTAMINATUS. *Fœm.*—Aureo-viridis, gracilis; caput antice et apud oculos luteum, thorace paullo latius; antennæ fuscæ, filiformes, 8-articulatæ, articulo 1o luteo apice fusco; prothorax brevis, conicus; scutum longiusculum, parapsidum suturis bene determinatis; scutellum bicarinatum; metathorax sat longus; pedes flavi; alæ diaphanæ, venis flavis, stigmatè minimo.

Female.—Gilded green, slender. Head a little broader than the thorax, luteous in front and about the eyes. Antennæ brown, filiform, slender, 8-jointed; first joint luteous, brown at the tip; second clavate; third, fourth and fifth linear, successively decreasing in length; club lanceolate, more than twice the length of the fifth joint. Prothorax short, conical. Scutum elongate; sutures of parapsides well defined. Scutellum with two distinct keels. Metathorax elongate. Legs yellow. Wings quite pellucid; veins yellow;

ulna very much longer than the humerus; radius rudimentary; cubitus very short; stigma very small. Length of the body $1\frac{1}{2}$ line.

TETRASTICHUS MADERÆ. *Mas.*—Viridi-niger; caput thorace paullo latius; antennæ 9-articulatæ, nigrae, filiformes, setulosæ, thorace longiores; prothorax et metathorax breves; scutum subsulcatum; scutellum bicarinatum; abdomen sessile, fusiforme, thorace brevius; pedes nigri, genubus tarsisque obscure fulvis, tibiis anticis basi apiceque fulvis; alæ subcinereæ, venis fuscis, cubito stigmatæque fulvis. *Fæm.*—Antennæ 8-articulatæ, thoraci æquilongæ; abdomen cyaneo-viride, ellipticum; tibiæ anticæ, genua tarsique lutea.

Male.—Greenish black. Head short, a little broader than the thorax. Antennæ black, filiform, 9-jointed, longer than the thorax; first joint fusiform; second elongate cyathiform; third and three following linear, setulose, nearly equal; club lanceolate, much more than twice the length of the sixth joint. Prothorax and metathorax short. Scutum large, with a slight longitudinal furrow. Scutellum with two well-defined parallel keels. Abdomen sessile, fusiform, shorter than the thorax. Legs black; knees and tarsi dark tawny; fore tibiæ tawny at the base and at the tips. Wings slightly cinereous; veins brown; ulna very much longer than the humerus; radius rudimentary; cubitus and stigma tawny; cubitus about one-sixth of the length of the ulna. Antennæ 8-jointed, as long as the thorax; third, fourth and fifth joints nearly equal; club lanceolate, more than twice the length of the fifth joint. Abdomen elliptical, bluish green. Fore tibiæ, knees and tarsi luteous, the latter brown at the tips. Length of the body $\frac{5}{8}$ line.

TETRASTICHUS SOCIUS. *Mas.*—Niger; antennæ testaceæ, clavatæ, thoraci æquilongæ; prothorax et metathorax brevissimi; parapsidum suturæ bene determinatæ; pedes pallide testacei, femoribus posticis nigris apice testaceis; alæ anticæ fimbriatæ, valde setulosæ. *Fæm.*—Abdomen longi-ovatum, subtus carinatum.

Male.—Black. Head as broad as the thorax. Antennæ testaceous, clavate, as long as the thorax; second joint linear, as long as the third; fourth shorter than the third; fifth shorter than the fourth; club lanceolate, broader than the fifth joint and full thrice its length. Prothorax and metathorax very short. Sutures of the parapsides strongly marked. Abdomen tapering from the base to the tip. Legs pale testaceous; hind femora black, pale testaceous at the tips. Wings pellucid. Fore wings very pubescent, fringed; veins pale testaceous, setulose; ulna longer than the humerus; radius none; cubitus rather short; stigma very small. *Female.*—Abdomen

elongate-oval, keeled beneath, longer than that of the male. Length $\frac{1}{3}$ — $\frac{1}{2}$ line.

TETRASTICHUS SUBPICTUS. *Fœm.*—Æneus; caput thoraci æquilatum, apud oculos flavum; antennæ testaceæ, clavatæ, thorace non longiores, articulis 1o 2oque nigris, 2o apice testaceo, clava acuta; prothorax postice flavo fasciatus; scutum flavo marginatum; parapsidum suturæ bene determinatæ; abdomen thorace longius; pedes flavi, femoribus posticis nigris apice flavis; alæ diaphanæ, venis pallidis, stigmatè minimo.

Female.—Æneous. Head as broad as the thorax, yellow about the eyes. Antennæ testaceous, clavate, not longer than the thorax; first and second joints black; second testaceous at the tip; club elongate-oval, acute at the tip, much broader than the fifth joint, and more than twice its length. Prothorax very short, with a yellow hind band. Scutum bordered with yellow on the hind side and along the sutures of the parapsides, which are well defined; a yellow streak on each side of the scutellum. Abdomen elongate-elliptical, longer than the thorax. Legs yellow; hind femora black, yellow towards the tips. Wings pellucid; veins pale; ulna much longer than the humerus; radius none; stigma very small. Length of the body $\frac{2}{3}$ —1 line.

TETRASTICHUS PERPUSILLUS. *Fœm.*—Æneo-niger; antennæ clavatæ, sordide testaceæ, thorace breviores; prothorax brevissimus; parapsidum suturæ bene determinatæ; metathorax subcarinatus; abdomen sessile, fusiforme, thorace brevius; pedes testacei; alæ anticæ subcinereæ, venis fuscescentibus.

Female.—Æneous black. Head a little broader than the thorax. Antennæ dingy testaceous, clavate, shorter than the thorax; club lanceolate, much broader than the preceding joint, and thrice its length. Prothorax very short. Sutures of the parapsides well defined. Metathorax with a slight keel. Abdomen sessile, fusiform, shorter than the thorax. Legs testaceous. Fore wings slightly cinereous; veins brownish; ulna longer than the humerus; radius none; cubitus rather short; stigma very small. Length of the body $\frac{1}{4}$ line.

The Notes on Chalcidæ are here concluded. Some alterations are required in the arrangement of the families, and the genera and their respective species have yet to be examined in detail; but it is not likely that an opportunity will occur for publication thereon.