

the præscutum and scutum being very short and external, but covered above by the mesothoracic scutellum, and the meta-thoracic scutellum and postscutellum (the latter small but distinct) internal.

The student will, perhaps, find some assistance in his investigation of this subject, by examining the highly-magnified figures contained in the four anatomical plates, published in Mr. Griffiths's Translation of the Animal Kingdom, in which, for the purpose of elucidation, I have uniformly represented each of the three thoracic segments in the different orders by a different colour,—the prothorax pink, the mesothorax blue, and the metathorax yellow.

ART. XLVIII.—*Descriptions of some Chalcidites discovered by*
C. DARWIN, Esq. By FRANCIS WALKER.

GENUS.—SMIERA, *Spinola*.

Corpus convexum, punctatum, pubescens, parum nitens: caput transversum, breve, thorace vix angustius; frons foveolata: oculi mediocres, subrotundi, extantes: ocelli approximati, vertice triangulum fingentes: thorax breviovatus: prothorax transversus, brevis: mesothoracis scutum longitudine latius; parapsidum suturæ bene determinatæ; scutellum breviobconicum, apice obtusum, subtus retractum: metathorax brevis, obconicus: petiolus longus, gracilis, abdominis dimidio vix brevior: abdomen fusiforme, subcompressum, glabrum, læve, nitens, thorace paullo brevius multo angustius: propedes et mesopedes simplices, graciles; metapedum coxæ magnæ, femora maxima compressa subtus serrata et sulcata, tibiæ arcuatæ: alæ mediocres.

Sp. 1. Smi. subpunctata. Fem. *Flava, nigro-maculata, antennæ fuscae, abdomen fulvum, pedes flavi, alæ limpidæ.*

Smiera subpunctata. *Guilding, Ent. Mag. II. 25.*

Flava: oculi et ocelli rufi: mesothoracis scutum nigro basi et apice fasciatum dorso univittatum; parapsides nigro maculatæ; macula parva nigra utrinque ad proalarum squamulas; scutellum apice nigro maculatum: abdomen fulvum, basi flavescens; segmenta dorsalia 2^o. ad 5^{um}. nigro maculata; apex nigra: coxæ extus nigro maculatæ; trochanteres subtus picei; femora apice nigra;

genua nigra; tarsi fulvi: alæ limpidæ; nervi fulvi, basi flavi; stigma fuscum. (Corp. long. lin. $2\frac{1}{4}$; alar. lin. $4\frac{1}{4}$.)

August; Bahia, Brazil.

Fem.—Corpus convexum, pubescens, scite punctatum, parum nitens: caput transversum, breve, thorace vix angustius: oculi mediocres, subovati: ocelli vertice triangulum fingentes: antennæ 13-articulatæ, pubescentes, fere filiformes; articulus 1^{us}. gracilis, linearis; 2^{us}. cyathiformis; 3^{us}. et 4^{us}. minimi; 5^{us}. et sequentes ad 10^{um}. lineares, approximati, subæquales; clava conica, non acuminata, articulo 10°. duplo longior: thorax breviovatus: prothorax transversus, mediocris: mesothoracis scutum magnum, longitudine paullo latius; parapsidum suturæ bene determinatæ; scutellum magnum, subrotundum: metathorax transversus, parvus: petiolus gracilis, abdominis triente brevior: abdomen longiovatum, nitens, læve, subtus carinatum, apice acuminatum, basi fere glabrum, thorace paullo longius; segmenta 1^{um}. et 2^{um}. sat magna, 3^{um}. et sequentia breviora; 7^{um}. obconicum: pedes et mesopedes simplices, graciles, subæquales; metapedum coxæ magnæ, femora ovata maxima, tibiæ arcuatæ: alæ mediocres; proalis nervus humeralis ulnari duplo longior, cubitalis brevissimus, radialis ulnari paullo longior.

Sp. 2. Smi. Pielus. Fem. *Fulvus, nigro-varius, antennæ piceæ, pedes lutei, alæ sublimpidæ.*

Fulvus: caput ad os luteum: oculi et ocelli rufi: antennæ piceæ; articulus 1^{us}. fulvus: thorax subtus luteus, nigro-bimaculatus; suturæ nigrae: mesothoracis scutum et scutellum nigro-vittata, parapsides nigro-maculatæ: abdomen subtus luteum, apice nigrum; segmenta dorsalia basi ferruginea: pedes lutei; tarsi apice obscuriores; metapedum coxæ nigro-maculatæ, trochanteres nigri, femora apice subtus picea: alæ sublimpidæ; squamulæ fulvæ; nervi fusci, apice picei. (Corp. long. lin. $2\frac{1}{2}$; alar. lin. 4.)

Rio Janeiro, Brazil.

Fem.—Corpus gracile, convexum, punctatum, pubescens, parum nitens: caput transversum, breve, thoracis latitudine; frons abrupte declivis, lævis, nitens: oculi mediocres: ocelli vertice triangulum fingentes: thorax ovatus: prothorax transversus, subquadratus, mediocris: mesothoracis scutum longitudine latius; parapsidum suturæ non bene determinatæ; scutellum subrotundum: metathorax magnus, obconicus: petiolus gracilis, sulcatus, abdominis dimidio longior: abdomen ovato-compressum,

læve, nitens, fere glabrum, thorace brevius et angustius, segmento 1°. fere obtectum: pro- et mesopedes simplices, subæquales; metapedes coxis femoribusque maximis, tibiis arcuatis: alæ mediocres; nervus humeralis ulnari longior.

Sp. 3. Smi. Teleute. Fem. *Atra*, abdomen nigro-piceum ferrugineo varium, antennæ nigræ, pedes nigro-picei, tarsi fulvi, alæ limpidæ.

Atra: oculi et ocelli rufi: antennæ nigræ: abdomen nigro-piceum, subtus et utrinque ferrugineo varium: pedes nigro-picei; coxæ nigræ; trochanteres ferruginei; genua ferruginea; tarsi fulvi; protarsi fusci: alæ limpidæ; squamulæ ferrugineæ; nervi fulvi (Corp. long. lin. $1\frac{1}{4}$; alar. lin. 2.)

Hobart Town, Van Diemen's Land.

GENUS.—CHALCIS, *Fabricius*.

Mas.—Corpus robustum, convexum, punctatum, parum nitens, parce hirtum: caput transversum, breve, thorace vix latius; vertex latus; frons abrupte declivis: oculi mediocres, non extantes: ocelli remoti, vertice triangulum fingentes: antennæ pubescentes, extrorsum crassiores, apice obtusæ, thorace vix longiores: thorax breviovatus: prothorax transversus, brevis, subquadratus: mesothoracis scutum longitudine latius; parapsidum suturæ non bene determinatæ; scutellum breviobconicum, postice retractum: metathorax transversus, brevis: petiolus brevissimus: abdomen ovatum, læve, thorace angustius et paullo brevius: segmentum 1^{um}. glabrum, dorsi plus dimidium occupans: pro- et mesopedes simplices, subæquales; metapedum coxæ magnæ, femora ovata maxima, tibiæ arcuatæ: alæ mediocres; nervus humeralis ulnari duplo longior, radialis ulnari longior, cubitalis brevissimus; stigma minutum.

Fem.—Antennæ subclavatæ, quam *mari* graciliores: abdomen apice acuminatum, thorace non brevius.

Sp. 1. Chal. Phya. Mas et Fem. *Æneo-atra*, paraptera flava, antennæ nigræ apice piceæ, pedes nigro-picei, tarsi flavi, alæ limpidæ.

Mas et Fem.—*Atra*, æneo subnitens: capitis frons pilis albis vestita: oculi et ocelli rufi: antennæ nigræ, apice piceæ: mesothoracis paraptera flava: pedes nigri, pubescentes; genua flava; tibiæ

mari piceæ fem. nigræ, basi et apice flavæ; tarsi flavi, apice picei: alæ limpidæ; squamulæ flavæ; nervi fusci, basi flavi. (Corp. long. lin. $1\frac{1}{2}$ — $1\frac{5}{4}$; alar. lin. $2\frac{1}{2}$ — $2\frac{2}{3}$.)

Sydney, New South Wales.

Fem. — Corpus breve, convexum, punctatum, dense pubescens, parum nitens: caput transversum, breve, thoracis latitudine: oculi mediocres, subovati: ocelli vertice triangulum fingentes: antennæ 13-articulatæ, pubescentes, extrorsum crassiores, corporis dimidio paullo longiores; articulus 1^{us}. gracilis, linearis; 2^{us}. subrotundus; 3^{us}. minimus; 4^{us}. et sequentes transversi, usque ad 10^{um}. curtantes; clava conica, non acuminata: thorax ovatus: prothorax magnus, transversus, subquadratus: mesothoracis scutum longitudine paullo latius; parapsidum suturæ bene determinatæ; scutellum magnum, obconicum: metathorax parvus, transversus: petiolus brevissimus: abdomen ovatum, subcompressum, nitens, læve, basi glabrum, thorace paullo brevius et angustius; segmentum 1^{um}. magnum, 2^{um}. et sequentia brevia: metapedum coxæ magnæ, femora ovata, maxima: alæ mediocres; nervus humeralis ulnari duplo longior, radialis longus, cubitalis brevissimus.

Sp. 2. Chal. Cabira. Fem. *Atra, antennæ nigræ, pedes nigri, tibiæ fulvo-flavæ, tarsi lutei, alæ limpidæ.*

Atra, pilis albis vestita: oculi et ocelli rufi: antennæ nigræ: pedes nigri; tibiæ flavæ, fulvo fasciatæ; tarsi lutei; protarsi fulvi: alæ limpidæ; squamulæ flavæ; nervi fusci, apice picei. (Corp. long. lin. $1\frac{1}{2}$; alar. lin. $2\frac{1}{2}$.)

Charles's Isle, Galapagos.

GENUS.—HOCKERIA, *De Laporte.*

Mas. — Corpus crassum, convexum, punctatum, nitens, parce pubescens: caput transversum, breve, conferte punctatum, thorace paullo latius; frons foveo-lata, abrupte declivis: antennæ filiformes, corporis dimidio longiores: thorax ovatus, parce punctatus: prothorax magnus, transversus, subquadratus: mesothoracis scutum longitudine multo latius; parapsidum suturæ remotæ, bene determinatæ; scutellum brevi-obconicum: metathorax transversus, brevis, carinatus: petiolus vix ullus: abdomen breviovatum, læve, thorace paullo angustius multo brevius, segmento 1^o. fere obtectum: pro- et mesopedes simplices, subæquales.

metapedum coxæ magnæ, femora maxima, tibiæ arcuatæ : alæ mediocres ; nervus humeralis ulnari quadruplo longior, radialis et cubitalis vix ulli.

Sp. 1. Hoc. Dexius. Mas. *Atra, antennæ nigræ, pedes rufi, alæ sublimpidæ.*

Atra, subtus pilis albis vestita : oculi et ocelli rufi : antennæ nigræ, fulvo-pubescentes : pedes rufi ; coxæ nigræ : alæ sublimpidæ ; proalæ apud costam obscuriores ; squamulæ rufæ ; nervi picei. (Corp. long. lin. $1\frac{1}{2}$; alar. lin. $2\frac{1}{2}$.)

March ; King George's Sound, Australia.

Fem. — Corpus convexum, punctatum, pubescens, parum nitens : caput transversum, breve, thoracis latitudine ; frons foveolata, abrupte declivis : oculi extantes : antennæ subfiliformes, pubescentes, corporis dimidio longiores : thorax ovatus : prothorax transversus, mediocris, subquadratus : mesothoracis scutum longitudine latius ; parapsidum suturæ sat bene determinatæ ; scutellum magnum, obconicum, apex bimucronata : metathorax transversus, brevis : petiolus brevissimus : abdomen ovatum, nitens, læve, basi fere glabrum, subtus carinatum, apice acuminatum, thorace paullo brevius et angustius ; segmentum 1^{um}. magnum, 2^{um}. et sequentia breviora : pedes pubescentes ; tibiæ apice mucronatæ ; tarsi graciles ; metapedum coxæ magnæ, femora maxima ovato-compressa, tibiæ arcuatæ : alæ mediocres ; nervus humeralis ulnari quadruplo longior, radialis longus, cubitalis vix ullus.

Sp. 2. Hoc. Eracon. Fem. *Atra, antennæ nigræ, pedes picei, tarsi rufi, proalæ fusco bifasciatæ.*

Atra, pilis albis vestita : oculi et ocelli rufi : antennæ nigræ : pedes picei ; trochanteres rufi ; genua rufa ; tarsi rufi, apice fusci : alæ sublimpidæ ; proalæ fusco bifasciatæ ; squamulæ piceæ ; nervi fusci, apice picei. (Corp. long. lin. $1\frac{1}{2}$; alar. lin. $2\frac{1}{4}$.)

Hobart Town, Van Diemen's Land.

Fem. — Corpus convexum, punctatum, parce pubescens, parum nitens : caput transversum, breve, thorace vix latius ; frons foveolata, abrupte declivis : oculi mediocres, extantes : ocelli vertice triangulum fingentes : antennæ subfiliformes, pubescentes, corporis dimidio longiores : thorax ovatus : prothorax transversus, mediocris, subquadratus : mesothoracis scutum longitudine latius ; parapsidum suturæ sat bene determinatæ ; scutellum magnum,

brevi-obconicum, apex subproducta bimucronata: metathorax transversus, brevis: petiolus brevissimus: abdomen ovatum, nitens, læve, basi fere glabrum, subtus carinatum, apice attenuatum et acuminatum: thorace paullo angustius vix brevius; segmentum 1^{um}. dorsi dimidium occupans, 2^{um}. et 3^{um}. brevissima, 4^{um}. et 5^{um}. brevissima, 6^{um}. et 7^{um}. sat longa: pedes pubescentes; tarsi validi, articuli 1°. ad 4^{um}. curtantes, 5^{us}. 4°. paullo longior; metapedum coxæ magnæ, femora ovato-compressa, tibiæ arcuatæ: alæ parvæ; nervus humeralis ulnari quadruplo longior, radialis longus, cubitalis vix ullus.

Sp. 3. Hoc. Nyssa. Fem. *Atra*, abdomen rufum apice nigropiceum, antennæ nigræ, pedes piceo-rufi, proalæ fusco nebulosæ.

Atra, pilis albis vestita: oculi et ocelli rufi: antennæ nigræ: abdomen rufum, apice nigro-piceum: pedes rufi; tarsi fusci; propedum femora picea, tibiæ basi piceæ; mesofemora fusca; metatibiæ basi subtus nigræ: proalæ sublimpidæ, fusco nebulosæ; metalæ limpidæ; nervi fusci, apice picei. (Corp. long. lin. 1 $\frac{5}{4}$; alar. lin. 2.)

Sydney, New South Wales.

GENUS.—CALLIMOME, *Spinola*.

Sp. 1. Call. Daonus. Fem. *Viridis*, cupreo-varius, oviductus vaginæ abdominis dimidio longiores, antennæ nigræ apice fuscae, pedes flavi, metafemora viridi-cyanea, alæ limpidæ.

Læte viridis, nitens, scite squameus, breviter pubescens: caput thorace latius; frons æneo-varia: os fulvum: oculi et ocelli rufi: antennæ nigræ; apices subtus pubescentes; articuli 1^{us}. et 2^{us}. virides: thoracis latera cupreo-varia: abdomen viridi-cupreum, læve, fere glabrum: oviductus vaginæ nigræ, abdominis dimidio longiores: pedes flavi; tarsi apice fusci; protarsi fulvi; metafemora viridi-cyanea, apice cuprea: alæ limpidæ; squamulæ fulvæ, antice virides, nervi fusci. (Corp. long. lin. 1; alar. lin. 1 $\frac{3}{4}$.)

March; King George's Sound, Australia.

GENUS.—PTEROMALUS, *Svederus*.

Mas.—Corpus angustum, sublineare, nitens, pubescens, squameum: caput breve, convexum, thorace paullo latius; vertex latus; frons

abrupte declivis : oculi mediocres, subrotundi : ocelli vertice triangulum fingentes : antennæ subfiliformes, ad apices angustiores et acuminatæ, corporis dimidio paullo breviores ; articulus 1^{us}. longifusiformis ; 2^{us}. cyathiformis ; 3^{us}. et 4^{us}. minimi ; 5^{us}. et sequentes subquadrati, approximati, latitudine longiores ; clava teli-formis, articulo 10°. duplo longior : thorax longiovatus, convexus : prothorax brevissimus : mesothoracis parapsidum suturæ non bene determinatæ, scutellum obconicum : metathorax brevis : abdomen sublineare, ad apicem subdilatatum, thorace paullo angustius vix brevius : alæ mediocres ; nervus ulnaris humerali non brevior, cubitalis radiali paullo longior.

Sp. 1. Pter. Eneubulus. Mas. *Viridi-æneus, abdomen nigro-cupreum, antennæ nigræ, pedes fulvi, femora æneo-viridia, tarsi albidī, alæ sublimpidæ.*

Æneus : caput ad os viride : oculi et ocelli rufi : antennæ nigræ ; articuli 1^{us}. et 2^{us}. æneo-virides : metathorax cyaneo-viridis : pectus viride : abdomen nigro-cupreum, subtus nigro-cyaneum : pedes fulvi ; coxæ et femora æneo-viridia ; tibiæ basi piceæ ; tarsi albidī, apice fuscī ; propedum tibiæ viridi-fulvæ, tarsi fulvi : alæ sublimpidæ ; squamulæ æneo-piceæ ; nervi fuscī. (Corp. long. lin. $1\frac{1}{6}$; alar. lin. $1\frac{3}{4}$.)

Charles's Isle, Galapagos.

GENUS.—EUELMUS, *Dalman*.

Sp. 1. Eup. Amillarus. Fem. *Viridi-ferrugineus, æneo et albido varius, antennæ fulvæ, pedes piceo-fulvi, femora viridi-vittata, alæ nullæ.*

Caput viridi-aureum : os fulvum : oculi et ocelli rufi : antennæ fulvæ : gula albida : pectus ferrugineum, antice viridi-varium : abdomen æneo-fulvum, basi subtus albidum : pedes fulvi ; coxæ virides ; femora viridi vittata ; tarsi apice fuscī ; metapedum tibiæ et tarsi supra picea : alæ nullæ. (Corp. long. lin. $1\frac{1}{4}$.)

Discovered in the beginning of August, by sweeping in forests and open places after the rainy season or winter.

GENUS.—ENCYRTUS, *Dalman*.

Corpus breve, latum, crassum, nitens, pubescens, scite squameum, parce punctatum : caput transversum, convexum, thoraci juxta

latum; vertex latus; frons abrupte declivis: oculi mediocres: antennæ nonnisi articuli 1^{us}. et 2^{us}. ademptæ, hic longicyathiformis, ille fusiformis: thorax breviovatus, convexus: mesothoracis scutum transversum, paraptera non convenientia, scutellum obconicum, epimera brevia glabra: pectus fere glabrum: abdomen obconicum, fere læve, thorace angustius et brevius: oviductus occultus: pedes validi: alæ amplæ.

Sp. 1. En. Odacon. Fem. *Viridis, æneo et purpureo varius, abdomen purpureum, pedes fulvi, metapedes nigro-virides, proalæ fusco bifasciatae.*

Caput viride, ad os viridi-cyaneum: oculi et ocelli rufi: antennis articulus 1^{us}. fulvus, supra fuscus; 2^{us}. niger: thorax viridis: mesothoracis scutellum et latera æneo-viridia: metathoracis latera cyaneo-purpurea: abdomen purpureum: pro- et mesopedes fulvi, tarsi apice fusci: metapedes nigri, coxæ et femora obscure viridia: alæ albidæ; squamulæ piceæ; nervi flavi; proalis fasciæ 2 connexæ fuscae, una apud stigma, altera ad alæ apicem; metalæ apice subfuscae. (Corp. long. lin. $\frac{5}{8}$; alar. lin. $1\frac{3}{4}$.)

Hobart Town, Van Diemen's Land.

GENUS.—EULOPHUS, *Geoffroy*.

Fem.—Corpus breve, latum, parum nitens, scite squameum, breviter pubescens: caput transversum, breve, thorace paullo angustius; vertex latus, convexus; frons impressa, abrupte declivis: oculi mediocres, subrotundi: ocelli vertice triangulum fingentes: antennæ subfiliformes, corporis dimidio non longiores; articulus 1^{us}. longifusiformis, gracilis; 2^{us}. cyathiformis; 3^{us}. et 4^{us}. minimi; 5^{us}.? et sequentes quadrati, subæquales, latitudine longiores; clava triarticulata, longiconica, articulo præcedente duplo longior: thorax breviovatus: prothorax brevissimus, supra non conspicuus: mesothoracis scutum transversum, parapsidum suturæ non bene determinatæ, paraptera maxima supra convenientia, scutellum rhombiforme: metathorax brevissimus: abdomen subrotundum, sessile, planum, glabrum, scitissime squameum, apice parce hirtum, thorace latius vix longius; segmenta 1^{um}. et 2^{um}. maxima; 3^{um}. breve; 4^{um}. longius; 5^{um}. et sequentia vix conspicua: oviductus occultus: pedes graciles, subæquales: alæ mediocres; nervus ulnaris humerali multo brevior, cubitalis arcuatus, radiali paullo longior, stigma minutum.

Sp. 1. Eul. Megalarus. Fem. *Cupreus*, abdomen fulvum, antennæ fuscae, pedes fulvi, alæ limpidæ.

Obscure cupreus: oculi picei: ocelli rufi: antennæ fuscae; articulus 1^{us}. nigro-cupreus; 2^{us}. flavus: abdomen fulvum; discus subtus cupreus: pedes fulvi; coxæ nigro-cupreæ; tarsi apice fusi: alæ limpidæ; squamulæ piceæ; nervi fulvi. (Corp. long. lin. 1 $\frac{1}{6}$; alar. lin. 2.)

March; King George's Sound, Australia.

ART. XLIX.—*Notes on various Insects*, by J. B——N; with further explanatory Observations, by W. E. SHUCKARD.

[If our correspondent, when sending to town, will transmit us specimens of the insect he supposes to be *Philanthus*, it will greatly oblige. By favouring us with his address, he will enable us to return him the correct name. See vol. iv. p. 5.—EDITOR.]

SIR,—I have sent you a few scraps; if you think any of them worth insertion in the *Entomological Magazine* they are at your service, with the greatest pleasure. J. B——N.

On the Habits of the Chrysididæ.—Mr. Shuckard, in his Essay upon the British Chrysididæ, (*Ent. Mag.* vol. iv. p. 156,) states that their habits are not known with certainty, but that they are supposed to be parasites upon various species of *Odynerus* and solitary bees.^a I think the following statement of facts that have come under my own notice bear out his inference. In the old root of a tree which had been dug out of the earth and left in a waste place near the side of the river Avonllwyd, with a quantity of the soil (a hardish clay) remaining attached to it, I observed it perforated with a quantity of small holes, the work of some solitary bees or wasps. One bee I caught coming out of one of them, and also a *Chrysis bidentata* coming out of an adjoining one; this happened in 1836. In March, 1837, I happened to go by the stump again, when I scraped a little of the earth from the upper surface of it, and thus uncovered six or seven specimens of an ichneumon, half an inch long, and all quite lively. [See Note A.] I could

^a Is there any probability of Mr. Shuckard's promised work upon the Bees of Britain coming out this season? [Mr. Shuckard promises it before the end of the present year.—EDITOR.]



Walker, Francis. 1838. "Description of some Chalcidites discovered by C. Darwin, Esq." *The Entomological magazine* 5, 469–477.

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