

ART. XV.—*Monographia Chalcidum*. By FRANCIS WALKER,
ESQ. F. L. S.

(Continued from page 29.)

Family II.—TORYMIDÆ.

Caput transversum : oculi laterales : ocelli in triangulum dispositi : antennæ 13-articulatæ, plus minusve clavatæ : mandibulæ tridentatæ, aut una tridentata altera bidentata : maxillæ elongatæ, externè hirsutæ, internè ciliatæ : mentum plus minusve elongatum : labium elongatum, fissum : palpi maxillares articulis 4, ultimo elongato, subfusiformi : palpi labiales articulis 3, secundo brevi : thorax gibbus aut convexus : prothoracis scutellum plerumque antice angustatum : mesothoracis scutum magnum, suturis duabus lateralibus inter parapsides et scutum proprium benè determinatis, scutellum ovatum ; paraptera triangula : metathoracis præscutum angustum ; scutellum magnum, canaliculatum : abdomen^a convexus aut gibboso-compressus : oviductus plerumque exsertus : coxæ magnæ : femora clavata aut subclavata : tibiæ apice spinis duabus armatæ : tarsi articulo 1^{mo}. longo, sequentibus longitudine decrescentibus, ultimo longiore, crasso : ungues arcuatæ pulvilli distincti : alæ anticæ nervus solitus ramulum stigmaticalem emittens perbreve, apice furcatum.^b

It may be observed that this family resembles the preceding in the developement of the thoracic segments, the abdomen, &c. ; though the trophi are very differently formed, and the mandibles armed with much longer and sharper teeth : the stigmal branch is very short, curved : the apex furcate, the upper division pointing toward the extremity of the costal nervure, the lower terminated by the stigma : in some of the smaller species the furcation is indistinct.

The Eurytomidæ, and most of the pentamerous Chalcides, have very little variation in the shape of the stigmal branch ;

^a According to MacLeay there are nine primary abdominal segments, some of which, owing to the great developement of others, are almost evanescent. Of this fact the Chalcides offer a good illustration ; where the shape of the abdomen, owing to the difference in the size and form of the segments, is almost infinitely varied ; and the disposition of the ventral segments differs occasionally in the same species. As a complete description of the abdomen in each species of this tribe would alone fill a volume, and is more appropriate to their anatomy, I have omitted it here ; trusting that the descriptions given will enable entomologists to recognize my genera and species.

^b Forma ad hanc familiam, Leucospidem, Chalcidem et cognatos propria.

but the formation here described is peculiar to this family, and to Leucospis, Thoracanthus, Smiera, Dirhinus, Chirocera, Chalcis, Haltichella, and their affinities. These genera are distinguished by their gibbous bodies, large coxæ, and incrassated posterior thighs. The species are chiefly extra-European, and among their number are some of the largest in the whole tribe. Their natural situation I imagine to be immediately following this family; but having few genera or species, I shall leave them for examination to some future opportunity.

Characteres Generum.

Mesoscutellum {	convexum proscutellum {	elongatum	1. MEGASTIGMUS.
		femoribus posticis incrassatis dentatis, tibiis posticis arcuatis	2. PRIOMERUS.
	breve. Pedes {	femoribus posticis clavatis serratis, tibiis posticis rectis	3. TORYMUS.
		subæquales	4. CALLIMOME.
gibbum. Antennæ articulo 4to.	{	brevi	5. ORMYRUS.
		elongato	6. PERILAMPUS.

Dalman divides his genus *Torymus* (named *Callimome* long before by Spinola) into three sections, the second one subdivided, viz.

A. (*Megastigmus*.) *Stigma incrassatum magisque determinatum: collare majusculum: corporis color non metallicus.*

B. (*Torymus* propr.) *Stigma parvum abbreviatum; corpore metallicolor.*

(a.) *Femoribus posticis dentatis.*

(b.) *Femoribus omnibus muticis.*

C. (*Anomali*.) *Corpore brevior, abdomine gibbosior, oviductu non exserto.*

I have reserved his name, *Torymus*, for the first division of his second section; the other division is *Callimome*, *Spinola*. It is not unlikely that his third section is allied to *Ormyrus*, *Westwood*.

GENUS I. MEGASTIGMUS, *Dalman*.

Caput medium: palpi maxillares articulis 1, 2 et 3 subæqualibus: mentum ovatum, anticè acuminatum, posticè subquadratum:

mandibulæ arcuatæ, tridentatæ: antennæ subclavatæ, pilosæ, articulo 1°. elongato, 2°. brevicyathiformi, 3°. brevissimo, 4°. et sequentibus ad 10^{um}. latioribus longitudine decrescentibus, tribus ultimis approximatis: pedes subæquales: thorax convexus: proscutellum elongatum, anticè angustatum aut ferè subquadratum: mesoscutellum convexus: abdomen elongatum, convexus, *maris* petiolatum, *feminae* sessile: oviductus exsertus.

Sp. 1. Meg. transversus. Fem. *Fulvus nigro variegatus, oviductu corpore longiore, alis hyalinis.*

Caput posticè et inter oculos nigrum: oculi ocellique rufo-fusci: prothorax posticè flavus: mesoscutum anticè et paraptera nigro-fusca: metathorax ater: abdomen basi nigro maculatum, fasciis 5 connectis abbreviatis fuscis; segmentorum margines postici flavi: antennæ nigrae, scapus subtus flavus: pedes flavi: coxæ nigrae: tarsi apice fusci: nervus subcostalis fuscus: stigma magnum, nigrum. (Alarum longitudo, $2\frac{1}{2}$ —3 lin.)

July; on grass in woods; near London.

Sp. 2. Meg. dorsalis. Mas. et Fem. *Viridis flavo variegatus, abdomine æneo, oviductu corpore brevior, alis subhyalinis.*

Ichneumon dorsalis. *Fabr. Ent. Syst. Suppl.* 231. 218.

Coqueb. . . . *Illust. Icon.* 1. Tab. 5. Fig. 3.

Diplolepis dorsalis. *Fabr. Syst. Piezat.* 151. 11.

Cinips dorsalis. . *Fonscolombe, Ann. Sci. Nat.* 26. 282.

Mas. Caput anticè flavum: oculi flavo cincti ocellique rufi: antennæ fusca: scapus viridis, basi subtusque flavus: coxæ posticæ nigro-fusca: femora postica externè viridi-æneo maculata, basi rufo-cincta: pedes straminei: tarsi apice fusci: nervus subcostalis fuscus; stigma nigro-fuscum, magnum.

Fem. Caput flavum, inter oculos viride: abdomen flavum, disco-fusco-æneo: pedes straminei: tarsi apice fusci. (Alarum longitudo, $1\frac{3}{4}$ —3 lin.)

Var. β.—*Mas.* Pedes omninò flavi.

Var. γ.—*Mas.* Antennæ articulo secundo æneo-fusco.

Var. δ.—*Fem.* Thorax viridis, anticè et lateraliter flavus: paraptera basi nigra: antennæ nigro-fusca, apice basique fusca: stigma posticè in alarum discum productum.

Var. ε.—*Fem.* Flavus: caput inter ocellos thoracisque linea virides.

June and July; on oak trees; near London. September; Isle of Wight.

GENUS II. PRIOMERUS,^c Walker.

Caput medium: thorax convexus: abdomen subpetiolatum: oviductus exsertus: antennæ clava articulis precedentibus multo latiore: femora coxæque posticæ elongatæ, incrassatæ; illa subtus dentata: tibiæ posticæ arcuatæ.

Sp. 1. Priom. pachymerus. Fem. *Nigro-viridis, abdomine æneo-viridi, oviductu corpore dimidio longiore, antennis fuscis, pedibus rufis, alis subhyalinis.*

Oculi ocellique rufi: antennarum clava nigra, scapus rufus: abdomen subtus rufum: coxæ nigro-virides. (Alarum longitudo, $1\frac{3}{4}$ lin.)

The disc of the thorax is dark green, the margins brighter. July; South of France.

GENUS III. TORYMUS, Dalman.

Caput medium: thorax convexus: proscutellum breve: abdomen sessile: oviductus exsertus: clava articulis duobus præcedentibus multo brevior, acuminata: femora postica subtus clavata, serratæ apice abruptè graciliora.

The sutures of the mesoscutum are indistinct: the posterior thighs are dilated beneath, the dilatation increasing in breadth from the base to near the apex, where it terminates at a right angle: the stigmal branch is longer than in Callimome, and forms a more acute angle with the continuation of the subcostal nervure.

Sp. 1. Tor. caliginosus. Fem. *Nigro-purpureus, thorace nigro-æneo, oviductu abdomine longiore, tarsis stramineis, alis fuscis.*

Abdomen basi viride: antennæ nigrae, scapus viridis: tarsi apice fuscii: alæ basi hyalinæ, anticæ versus medium obscuriores. (Alarum longitudo, 2 lin.)

July; South of France.

GENUS IV. CALLIMOME, Spinola.

Ichneumon. Linn. Deg. Fabr. Scop. Schr. Vill. Ross. Walck.

Cynips. . . Geoff. Schæff. Schr. Fabr. Oliv. Walck. Lat. Christ. Leach, Samouelle, Fonscolombe.

^c Πριων serra, μηρος femur.

Diplolepis . . *Fabr. Walck. Illig. Spin.*

Cleptes . . *Fabr.*

Chalcis . . *Cuvier, Lam. Jurine.*

Misocampus *Latr.*

Torymus . *Dalman, &c.*

A Megastigmo, proscutello brevi *marisque* abdomine sessili, differt : antennæ plus minusve clavatæ : thorax convexus aut gibbus : oviductus exsertus aut subexsertus.

The species of this genus deposit their eggs in the larvæ of the gall-insects, (*Cynips*, *Linn.*), for which purpose their long ovipositors are well adapted. Réaumur, Degeer, Olivier, Latreille, and Spinola, have published many interesting observations on their economy and structure. The basal abdominal segment is long, and, lapping over the second, extends to the base of the third joint: its extremity is not connected with the abdomen.

Obs. Where the colour of the antennæ is not mentioned, it is invariably black.

Sp. 1. *Callim. regalis*. Mas. *Purpureo-cyaneus, abdomine æneo, antennis nigris, pedibus rufis, alis subfuscis.*

Caput cyaneum, inter oculos utrinque viride: oculi fuscis: ocelli pallidi: thorax purpureo-cyaneus, punctatus, rufo-hirtus: abdomen nitidum, glabrum, æneum, basi aureo-viride: antennæ nigræ: pedes rufi: tarsi pallidi, articulis 4 et 5 fuscis: alæ fuscæ, basi hyalinæ, anticæ fusco interruptè fasciatæ. (Alarum longitudo, $3\frac{1}{2}$ lin.)

The colour of the head and thorax is deep blue, slightly tinged with purple: the first abdominal segment is golden green, changing to æneous toward its posterior margin: the second and third segments are cupreous: the abdomen beneath, and the paraptera of the mesothorax are green: the anterior part of the superior wings is nearly hyaline, with a large fuscous spot in the centre.

July; on plants in a wood; near London.

Sp. 2. *Callim. cynipidis*. Fem. *Purpureus, abdomine cupreo, basi fulvo, pedibus rufis, alis subfuscis.*

Ichneumon cynipidis *Linn. Syst. Nat. II. 939. 68. Fn. Succ. 1639. Fabr. Ent. Syst. 2. 187. 223.*

Diplolepis cynipidis. *Fabr. Syst. Piezat. 152. 17.*

Oculi fuscī : ocelli pallidi : thorax purpureus, anticè æneo-viridis, posticè viridi-nitens : oviductus corpore dimidio longior : antennarum articulus primus flavus, apice niger : pedes pallidè rufi : tarsi straminei, apice obscuriores : alæ anticæ fusco longitudinaliter maculatæ. (Alarum longitudo, $3\frac{1}{4}$ lin.)

Prothorax æneous green : mesothorax purple, æneous green when viewed horizontally ; margins of the segments, and a spot near the apex of the scutellum, green : metathorax and coxæ of posterior legs bright green : abdomen dark cupreous, the two basal segments fulvous : legs pale red : two basal joints of the tarsi straw-coloured : the superior wings have a fuscous spot extending almost from their base to the stigmal branch.

July ; in a meadow ; near London.

Sp. 3. Callim. Roboris. Mas et fem. *Cyaneus, capite viridi, abdomine æneo basi flavo, pedibus rufis, alis hyalinis* (mas) *aut subfuscis* (fem.)

Caput viride : thorax cyaneus aut purpureo cyaneus : *maris* abdomen æneum aut viridi-æneum, basi flavo cingulatum ; *feminae* rufum, basi supra viride, apice æneo cupreo viridi nigroque variegatum : scapus rufus, *maris* supra viridis : oviductus corpore paullo brevior : pedes rufi : tarsi flavi, articulis duobus ultimis pallidè fuscis. (Alarum longitudo, $1\frac{3}{4}$ — $3\frac{1}{4}$ lin.)

Var. β.—*Mas.* Abdomen supra viridi-æneum, immaculatum.

Var. γ.—*Fem.* Thoracis latera viridi variegata.

This species is very abundant on the foliage of oak trees, and amongst the grass beneath, near London, from June to September. It varies considerably in size ; the male is usually much smaller than the female. It resembles *Cinips ventralis*, *Fonscolombe*.

Sp. 4. Callim. quadricolor. Fem. *Viridis, abdomine cupreo basi rufo, pedibus rufis, alis hyalinis, anticis fusco maculatis.*

Caput cyaneo-viride : oculi ocellique rufi : thorax viridis, nitens : abdomen cupreum, basi rufum, apice viride : oviductus abdomen longitudine æquans : scapus et pedes rufi. (Alarum longitudo, $1\frac{1}{2}$ — $2\frac{1}{2}$ lin.)

It has thick legs and antennæ, and runs much faster than most species of this genus : the base of the first abdominal

segment is green above: the tips of the posterior thighs, in some specimens, are slightly fuscous: the wings are narrow, the superior have a large fuscous spot occupying more than half their breadth, and extending from a little beyond the stigmal branch nearly to their base.

June; in a meadow; near London. September; on ferns; in the vicinity of Ambleside, Westmoreland.

Sp. 5. Callim. Geranii. *Curtis*. Fem. *Viridis, abdomine flavo cingulato, pedibus flavis, alis hyalinis*.

Abdomen viridi-æneum, flavo cingulatum, basi viride, apicis lateribus æneis aut nigris; oviductus corpus longitudine æquans: scapus et pedes flavi: genua tarsique straminei, horum apices fusci: femora antica apice pallidè virescentia. (Alarum longitudo, 3—3½ lin.)

Var. β. — Caput viridi-æneum: scapus supra niger: abdomen apicem versus viride.

The wings of this species are much longer and broader than those of *C. Roboris*, or *quadricolor*.

September; near the sea-shore; Isle of Wight.

Sp. 6. Callim. pretiosus. Mas. *Cyaneo-viridis, abdomine cupreo basi flavo, pedibus rufis, alis hyalinis*.

Oculi ocellique rufo-fusci: abdomen apice viridi-æneum, segmentum primum flavum basi cyaneum: femora postica virentia: tarsi flavi, apice fusci. (Alarum longitudo, 1½ lin.)

Reared with *C. Bedeguaris*, by Mr. Curtis, from the galls of the dog-rose.

Sp. 7. Callim. Bedeguaris. Mas et Fem. *Viridis, abdomine cupreo aut æneo, oviductu corpore paullò brevior, pedibus pallidè rufis, alis subfuscis*.

Ichneumon Bedeguaris. *Linn. Syst. Nat.* II. 993. 63. *Fn. Su.* 1634. *Fabr. Ent. Syst.* II. 185. 215. *Geoff. Ins.* II. 296. 1. *Roes. Ins.* III. Tab. 53. Fig. F. A. *Aut. Nat. Cur. Dec.* II. *Ann.* II. *Obs.* 10. *Réaum. Ins.* III. Tab. 41. Fig. 13, 14. &c. &c.

Diplolepis Bedeguaris. *Fabr. Syst. Piezat.* 150. 6.

Callimome . . . *Spinola.*

Misocampus	.	.	<i>Latr.</i>
Pteromalus	.	.	<i>Swed. Stock. Trans.</i> 1795.
Torymus	.	.	<i>Dalman.</i>
Cinips	.	.	<i>Oliv. Enc. Méth. Fonscolombe. Ann. Sci. Nat.</i> 26. 283.

Mas.—Æneo-viridis: oculi ocellique rufi: thorax apice viridis: abdomen æneum, basi viride: scapus totus niger: genua tarsique straminei, horum apices fusci.

Fem.—Viridis: caput inter oculos æneum: thorax apice subtusque æneus, segmentorum margines concolores: abdomen cupreum, basi viride: scapus basi subtusque flavus. (Alarum longitudo, $1\frac{3}{4}$ —3 lin.)

It is narrower than *C. pretiosus*: the wings also are narrower and longer, the nervures darker.

This insect, and several other species, are parasites of the larvæ which inhabit the galls of the dog-rose. Mr. Curtis has reared it from the galls during the months of July, August, and beginning of September. Mr. Wailes has taken it in the North of England.

Sp. 8. *Callim. varians.* Fem. *Viridis, nitens, abdomine apice æneo, oviductu corpore paullo longiore, pedibus flavis, femoribus supra viridibus aut æneis, alis subfuscis.*

Oculi ocellique rufi: thorax posticè subtusque viridi-æneus: abdominis segmentum primum viride, cupreo notatum: scapus flavus: genua tarsique straminei. (Alarum longitudo, $1\frac{3}{4}$ — $2\frac{1}{4}$ lin.)

Var. β.—Scapus fuscus, basi subtusque flavus: tibiæ posticæ femoraque 4 antica fusco maculatæ.

The basal joint of the antennæ above has sometimes a fuscous line near the apex, extending occasionally almost to the base: the thorax beneath, the margin of its segments above, and the whole metathorax, are æneous: the basal abdominal segment has several small cupreous spots on its disc: the thighs have a green or æneous spot above, larger and brighter in the posterior pair.

August; in meadows; near London.

Sp. 9. *Callim. formosus.* Fem. *Cupreus, nitens, oviductu corporis dimidio longiore, pedibus flavis, alis subfuscis.*

Caput cupreo-æneum, anticè viride: oculi ocellique rufo-fusci: thorax anticè posticèque viridi-æneus: abdominis segmentum

primum versicolor, cupreo æneo viridique micans : scapus flavus, apice æneo-fuscus : femora fulva, postica fusca : alæ anticæ ramulum prope stigmaticalem fuscescentes. (Alarum longitudo, $3\frac{1}{2}$ lin.)

The paraptera of the mesothorax are green : the basal abdominal segment, and the posterior coxæ, have a brilliant gold colour, changing to cupreous or green, according to the direction in which they are viewed : the posterior thighs have a cupreous or æneous tinge : the inferior wings are almost colourless.

July ; on grass, beneath an oak tree ; near London.

Sp. 10. Callim. scutellaris. Fem. *Viridis, cupreo micans, scutello cupreo, abdomine cupreo-æneo, oviductu corpore vix brevior, pedibus stramineis, femoribus posticis fuscis, alis subhyalinis.*

Thorax posticè abdominisque segmentum basale viridi micantes : scapus flavus : tibiæ posticæ femoraque 4 antica fulvæ : alæ superiores anticè subfuscæ. (Alarum longitudo, 3 lin.)

The head and thorax, being seen in different directions, vary in colour from green to cupreous, occasioned probably by the punctures having cupreous bases, while their sides and edges are green : the metathorax is golden green, as likewise is the abdomen, excepting the first segment and the anterior part of the second, which are green : it has more slender antennæ than the preceding species.

August ; on grass, beneath trees ; near London.

Sp. 11. Callim. Hederæ. Fem. *Cupreo-æneus, oviductu abdomine paullo longiore, pedibus pallidè rufis, alis anticis pallidè flavescentibus.*

Oculi ocellique fusco-rufi : abdominis segmentum primum supra : thorax anticè posticèque virides : scapus flavus, apice fuscus : tarsi 4 postici pallidè flavi : alæ hyalinæ, superiores marginem versus anticum pallidè flavescentes. (Alarum longitudo, $2\frac{1}{2}$ — $2\frac{3}{4}$ lin.)

The body is small : the head and thorax vary in colour from cupreous to green, like the preceding species : the first, and sometimes the second abdominal segment is green above : the antennæ are rather slender : the wings broad.

October ; on the flowers of the ivy ; near London.

Sp. 12. Callim. Arundinis. *Curtis*. Fem. *Æneo-viridis*, *oviductu corpore vix longiore, pedibus rufis, alis anticis subfuscis*.

Caput æneum: oculi ocellique rufi: abdomen basi viride: tarsi 4 postici straminei, apice rufi: alæ elongatæ, angustæ. (Alarum longitudo, $2\frac{1}{4}$ lin.)

Narrow, bright æneous green: legs slender: two basal joints of four posterior tarsi pale straw colour: wings slightly fuscous.

September; near the shore; Isle of Wight.

Sp. 13. Callim. macropterus. Fem. *Viridis*, *abdomine æneo, oviductu corpore vix brevior, pedibus flavis, alis subfuscis, quàm in C. Bedeg. latioribus*.

Caput posticè viridi-æneum: oculi ocellique rufi: thorax lateraliter posticèque æneus: abdomen basi viride: scapus viridis, subtus flavus: tarsi 4 postici basi genuaque straminei: alæ latæ. (Alarum longitudo, $2\frac{3}{4}$ lin.)

Bright green: abdomen bright æneous, changing to bright green toward the base: wings long and broad.

August; on grass beneath trees; near London.

Sp. 14. Callim. flavipes. Mas et fem. *Æneo-viridis, oviductu abdomine paullò longiore, pedibus flavis, alis subhyalinis*.

Oculi ocellique rufi: *maris* abdomen viride, basi apiceque æneum: *feminae*, scapus flavus, apice fuscus: tarsi 4 postici genuaque straminei. (Alarum longitudo, $1\frac{3}{4}$ — $2\frac{1}{4}$ lin.)

Var. β.—Fem. abdomen basi æneum.

Var. γ.—Mas, femora postica viridi, tibiæ posticæ fusco, maculatæ.

Apical joints of tarsi fuscous: wings much paler and rather narrower than those of the preceding species.

May and June; oak trees; near London. September; Isle of Wight. July; Forest of Fontainebleau.

Sp. 15. Callim. Dauci. *Curtis*. Fem. *Viridis, nitens, oviductu abdomen longitudine æquante, pedibus flavis, alis hyalinis*.

Cynips. auratus. Fourc. Oliv. &c.?

Oculi ocellique rufi: antennarum scapus flavus apice fuscus, articulus secundus fusco-æneus: genua tarsique 4 postici straminei, horum apices fusci. (Alarum longitudo, $1\frac{3}{4}$ —2 lin.)

It resembles the preceding species, but the colour is entirely brilliant green: the body is narrower and longer: the wings are quite hyaline, their nervures paler.

May and June; on oak trees; near London.

During the month of August, Mr. Curtis found, on the *Daucus Carota*, near Niton in the Isle of Wight, some galls containing bright orange-coloured larvæ. They produced this insect at the beginning of September.

Sp. 16. Callim. basalis. Fem. *Æneo-viridis, nitens, abdomine viridi basi æneo, oviductu abdomen longitudine æquante, pedibus flavis, alis subfuscis.*

Oculi ocellique rufi: scapus fuscus, subtus flavus: genua tarsisque straminei: tarsi 4 postici apice fuscii. (Alarum longitudo, 2 lin.)

Body shorter: wings darker than of *C. flavipes* or *Dauci*: abdomen bright green: base of the first segment bright æneous.

July, August; in fields; near London.

Sp. 17. Callim. confinis. Fem. *Viridis, nitens, oviductu abdomen longitudine æquante, pedibus pallidè rufis, tibiis posticis fusco-maculatis, alis hyalinis.*

Oculi ocellique rufi: scapus viridis, subtus flavus: tarsi apice fuscii, 4 postici genuaque straminei: nervus subcostalis flavus. (Alarum longitudo, $1\frac{1}{2}$ — $1\frac{3}{4}$ lin.)

Var. β .—scapus flavus.

Var. γ .—thorax æneo-viridis, posticè viridis.

The antennæ are shorter and more clavate than those of *C. flavipes*, *Dauci*, or *basalis*; there is sometimes a fuscous spot on each of the posterior tibiæ.

August; in fields; near London. September; Isle of Wight.

Sp. 18. Callim. autumnalis. Fem. *Viridis, nitens, abdomine æneo basi viridi, oviductu abdomine paullo longiore, pedibus flavis, alis hyalinis.*

Oculi ocellique rufi: thorax posticè viridi-æneus: scapus flavus, apice niger: genua tarsisque straminei, horum apices fuscii: femora tibiæque posticæ nonnunquam subtus fuscae: nervus subcostalis stigmaque pallidi. (Alarum longitudo, $1\frac{3}{4}$ lin.)

It is smaller and narrower, and has narrower wings than *C. flavipes*, *Dauci*, or *basalis*: the antennæ are more slender and less clavate than those of *C. confinis*: the subcostal nervure and stigma are pale fuscous, the latter small.

September; Isle of Wight.

Sp. 19. *Callim. nitens*. Fem. *Viridis, nitens, abdominis disco æneo, oviductu vix exserto, pedibus stramineis, femoribus posticis supra viridi maculatis, alis subfuscis.*

Oculi ocellique rufi: abdominis linea dorsalis abbreviata ænea: scapus flavus, supra viridis: articulus secundus æneo-fuscus. (Alarum longitudo, $2\frac{1}{2}$ lin.)

The base of the abdomen beneath, and its second and third segments above, are æneous: the apical joints of the four posterior tarsi are yellow: the claws slightly fuscous: the wings long and broad.

July; near London.

Sp. 20. *Callim. brevicauda*. Fem. *Viridis, nitens, præcedenti angustior, abdominis disco æneo, oviductu subexserto, pedibus pallidè rufis, femoribus viridi-æneis, tibiis posticis fuscis, alis subfuscis.*

Oculi ocellique rufi: thoracis abdominisque latera viridi-ænea: scapus, genua tarsique flavi, postici straminei. (Alarum longitudo, $2\frac{1}{2}$ lin.)

The abdomen has an æneous line above, extending from the second segment to the apex: the alary nervures are pale: the stigma very small.

September; Isle of Wight.

Sp. 21. *Callim. abdominalis*. Fem. *Viridis, nitens, abdominis basi æneo-cyaneo purpureoque micante, oviductu vix exserto, pedibus flavis, femoribus viridibus, tibiis posticis fuscis, alis hyalinis.*

Oculi ocellique rufi: abdominis segmentorum margines viridi-ænei: scapus viridis, subtus flavus: tarsi 4 postici genuaque straminei, illorum apices fusci. (Alarum longitudo, $2\frac{1}{2}$ lin.)

It is more slender, and has much narrower wings than the preceding species: the margins of the different thoracic parts are æneous green: the first abdominal segment has its base

æneous, changing to æneous green, green, blue; the apex is purple; the other segments are green, their bases æneous: the stigma is very small.

September; Isle of Wight.

Sp. 22. Callim. mutabilis. Mas et fem. *Viridis, nitens, abdomine æneo-viridi, oviductu abdomen longitudine æquante, pedibus flavis, femoribus viridibus, alis hyalinis.*

Oculi ocellique rufi: thorax posticè æneo-viridis: *maris* abdomen æneum, basi apiceque viride: *feminæ* viride, anticè cyaneo-viride, lateraliter viridi-æneum: scapus viridis, *feminæ* basi subtusque flavus: coxæ virides: trochanteres flavi: tibiæ posticæ fusco cingulatæ: genua tarsique straminei, 4 postici apicè fusci. (Alarum longitudo, $1\frac{1}{4}$ —2 lin.)

Var. β.—*Mas*, scapus basi flavus: abdomen apice æneum: tibiæ posticæ femoraque fuscae: tibiæ intermediæ supra pallidè fuscae.

Var. γ.—*Fem.* abdomen æneo-viride, basi viride: femora 4 antica flava, supra virentia.

Var. δ.—*Fem.* omnino viridis: pedes flavi: femora tibiæque posticæ pallidè fuscae.

This species varies considerably in size and colour: the prothorax of the male has a bluish, the metathorax an æneous tinge: the abdomen of the female is green, or æneous green, the base sometimes bluish green: the tips of the four anterior thighs are yellow.

July; on grass beneath trees; near London. September; Isle of Wight.

Sp. 23. Callim. microstigma. Fem. *Viridis, nitens, oviductu abdomine paullò longiore, pedibus flavis, femoribus viridibus, tibiis posticis nigro-fusco cingulatis, alis hyalinis.*

Oculi ocellique rufi: abdomen aureo viride, basi æneum: scapus niger, subtus flavus: trochanteres flavi: genua tarsique straminei, 4 postici apicè fusci: nervus subcostalis pallidus: stigma minimum. (Alarum longitudo, 2— $2\frac{1}{4}$ lin.)

Var. β.—abdomen viride: apice æneo-viride: scapus basi flavus: femora 4 antica flava, supra virentia.

Bright green: anterior part of the thorax darker: tips of the four posterior tarsi dark fuscous: it has broader wings and a paler stigma than the preceding species.

August; on grass in woods; near London.

Sp. 24. Callim. chloromerus. Mas et fem. *Viridis, nitens, oviductu corpore vix brevior, pedibus flavis, femoribus viridibus, tibiis posticis fusco cingulatis, alis hyalinis.*

Oculi ocellique rufi: *maris* abdomen æneum, basi viride: *feminae* scapus viridis, basi flavus: trochanteres, et femora 4 antica basi apiceque, flavi: genua et tarsi straminei, *feminae* antici apice flavi: nervus subcostalis pallidus: stigma minimum. (Alarum longitudo $1\frac{1}{2}$ —2 lin.)

Var. β .—*Mas*, femora 4 antica subtus flava.

Var. γ .—*Fem.* abdominis segmentum primum cyaneo micans.

Var. δ .—*Fem.* thoracis dorsum lateraque viridi-ænea.

The male has the mesoparaptera æneous green: the two basal, and the sides of the two following abdominal segments, green: the apical segment æneous green: the female is entirely bright green: this species is narrower than either of the two preceding, and may also be distinguished from *C. mutabilis* by its smaller and paler stigma.

September; Isle of Wight. On the banks of Windermere, in Westmoreland.

Sp. 25. Callim. latus. Mas et fem. *Viridis, nitens, oviductu abdomen longitudine æquante, pedibus flavis, femoribus viridi-fuscis, alis subfuscis.*

Oculi ocellique rufi: *maris* abdomen æneum, basi viride: scapus viridis aut fuscus, basi subtusque flavus: trochanteres flavi: genua tarsiue straminei, postici apice fusci: *feminae* femora viridi, tibiæ posticæ fusco cingulatæ: nervus subcostalis pallidus: stigma minimum. (Alarum longitudo, $1\frac{1}{2}$ lin.)

The metathorax of the male is darker and less punctured than the pro or mesothorax: the body is short and broad: the posterior tibiæ are fuscous, their tips yellow: the wings are rather short.

July; near London. September; Isle of Wight. North of England; Mr. Wailes.

Sp. 26. Callim. microcerus. Mas. *Viridis, nitens, abdomine æneo, antennis fuscis, basi nigris, pedibus flavis, femoribus posticis viridi-fuscis, alis hyalinis.*

Oculi ocellique rufi: thorax posticè et lateraliter viridi-æneus: abdomen basi viride: scapus et articuli tres sequentes nigri, ille subtus

flavus: tibiæ posticæ fusco cingulatæ: genua tarsique straminei, horum apices fusci: nervus subcostalis pallidus: stigma minimum. (Alarum longitudo, $1\frac{1}{2}$ lin.)

Head slightly æneous: prothorax dark green: mesothorax bright green: first and second abdominal segments green: antennæ short and slender: subcostal nervure pale fuscous, yellow towards its base.

July; near Clermont, in Auvergne.

Sp. 27. Callim. æqualis. Fem. *Viridis, abdomine viridi-æneo, oviductu dimidio abdomine longiore, pedibus flavis, tibiis posticis femoribusque fuscis, alis hyalinis.*

Oculi ocellique rufi: thorax posticè æneo-viridis: abdomen basi viride: scapus fuscus, basi subtusque flavus: femora postica supra virentia: genua tarsique 4 postici straminei, horum articuli duo ultimi fusci: nervus subcostalis pallidè fuscus: stigma parvum, obscurius. (Alarum longitudo, $1\frac{1}{2}$ lin.)

Tips of thighs and posterior tibiæ yellow: it has narrower, shorter, and rather less hyaline wings than *C. chloromerus*, *mutabilis*, or *microstigma*: from the two latter it may also be distinguished by its more slender body.

June; near London.

Sp. 28. Callim. chlorinus. Fem. *Viridis, nitens, oviductu abdomine brevior, pedibus flavis, femoribus viridibus, tibiis fuscis, alis hyalinis.*

Oculi ocellique rufi: abdominis segmentum primum cyaneo-viride: scapus flavus, apice fuscus: tibiæ fusco maculatæ, posticæ nigro-fuscae: genua tarsique straminei, horum apices fusci: nervus subcostalis pallidè fuscus: stigma parvum. (Alarum longitudo, $1\frac{1}{2}$ lin.)

Narrower and more linear than the preceding species: tips of thighs and posterior tibiæ yellow: four anterior tibiæ yellow, with a pale fuscous spot near the base.

June; near London.

Sp. 29. Callim. leptocerus. Mas et fem. *Æneo-viridis, nitens, oviductu abdomine longiore, pedibus fulvis, femoribus viridifusco, tibiis posticis fusco cingulatis, alis subhyalinis, quàm in C. æquali aut chlorino latioribus.*

Oculi ocellique rufi: mesoparaptera ænea: abdomen viride segmentorum margines viridi-ænei: scapus fuscus, basi subtusque flavus:

genua tarsique straminei, horum apices fusi: nervus subcostalis fulvus: stigma parvum. (Alarum longitudo, $1\frac{1}{3}$ — $1\frac{3}{4}$ lin.)

Var. β.—*Fem.* abdomen basi cyaneo-viride.

Var. γ.—*Fem.* abdomen viride, basi æneum.

Var. δ.—*Fem.* abdomen totum viride.

Var. ε.—*Mas,* pedes flavi, immaculati.

Body and wings much broader than those of the two preceding species: antennæ slender.

September; Isle of Wight. North of England. Scotland.

Sp. 30. Callim. micropterus. *Fem. Viridis, abdomine æneo-viridi, oviductu corpore paullo brevior, antennis quàm in C. æquali tenuioribus, pedibus fulvis, femoribus viridibus, tibiis posticis nigro-fuscis, alis hyalinis, quàm in C. chloromero brevioribus.*

Oculi ocellique rufi: abdomen basi viridi nitens: femora tibique apice flavæ: genua tarsique straminei, horum apices fusi: nervus subcostalis fulvus: stigma fuscum, parvum. (Alarum longitudo, $1\frac{1}{3}$ lin.)

The head and thorax are dark green; the antennæ short, more slender than of *C. æqualis*: the trochanters are fulvous: it resembles *C. chlorinus* in shape, and has narrower wings than *C. leptocerus*.

July; near London.

Sp. 31. Callim. bicolor. *Fem. Æneo-viridis, C. mutabili angustior oviductu abdomen longitudine æquante, pedibus flavis, tibiis posticis femoribusque fusco cingulatis, alis hyalinis.*

Oculi ocellique rufi: abdominis segmentum primum viride, cupreo variegatum: scapus fuscus, basi subtusque flavus: femora postica supra virentia: genua tarsique straminei, horum apices fusi: nervus subcostalis pallidè fuscus: stigma parvum. (Alarum longitudo, $1\frac{1}{3}$ lin.)

This species is more slender than *C. latus*, has a shorter and much broader abdomen than *C. chlorinus*, and may be distinguished from *C. leptocerus* by its narrower wings.

August; in fields; near London.

Sp. 32. Callim. leucopterus. *Fem. Viridis, nitens, abdomine basi cyaneo micante, oviductu corpore vix brevior, pedibus*

flavis, femoribus viridibus, tibiis posticis fuscis, alis hyalinis, C. chloromeri angustioribus.

Oculi ocellique rufi : scapus viridis, basi flavus : femora 4 antica subtus flava : tarsi apice fuscii : nervus subcostalis pallidè flavus stigma parvum, concolor. (Alarum longitudo, $1\frac{1}{2}$ lin.)

The four anterior thighs are sometimes almost fuscous above : it is longer, has more slender antennæ and narrower wings than *C. æqualis* : the latter character will also distinguish it from *C. leptocerus*.

September ; Isle of Wight.

Sp. 33. *Callim. viridi-æneus*. Fem. *Viridis, abdomine viridi-æneo, oviductu abdomine paullo brevior, pedibus fulvis, alis subfuscis.*

Oculi ocellique rufi : caput subtus et thoracis latera ænea : abdominis segmentum primum æneum, apice viride : scapus fuscus, subtus basique flavus : genua tarsique straminei, horum apices fuscii : nervus subcostalis pallidè fuscus : stigma parvum, concolor. (Alarum longitudo, $1\frac{1}{2}$ lin.)

The apex of the metathorax is æneous.

September ; Isle of Wight.

Sp. 34. *Callim. curtus*. Fem. *Viridis, nitens, oviductu abdomen longitudine æquante, antennis quàm in C. Dauci aut confini clarioribus, pedibus flavis, alis hyalinis.*

Oculi ocellique rufi : scapus viridis, basi subtusque flavus : genua tarsique 4 postici straminei, horum apices fuscii : nervus subcostalis pallidè fulvus : stigma parvum, concolor. (Alarum longitudo, $1-1\frac{1}{2}$ lin.)

The body and legs are short and thick ; the antennæ more clavate than of most species in the genus : the posterior thighs and tibiæ have sometimes a green or fuscous spot above.

September ; Isle of Wight. Near London.

Sp. 35. *Callim. meridionalis*. Fem. *Viridis, nitens, thorace cupreo maculato, abdomine æneo, oviductu corpore paullo brevior, pedibus flavis, femoribus æneis, alis subfuscis.*

Caput et thorax posticè viridi-ænei : oculi ocellique rufi : macula dorsalis cuprea : abdominis segmenta posticè virentia, primum cupreo notatum : scapus fuscus, basi subtusque flavus : tibiæ

posticæ apice fuscæ: genua tarsique straminei, horum apices fuscæ: nervus subcostalis fulvus: stigma parvum, fuscum. (Alarum longitudo, $1\frac{1}{4}$ lin.)

The apex of the scutum, the base of the scutellum, and the paraptera of the mesothorax, are cupreous: the metathorax is æneous: the first abdominal segment is æneous green, speckled with cupreous: the tips of the thighs are yellow.

July; south of France.

Sp. 36. Callim. Euphorbiæ. Fem. *Viridis, pubescens, oviductu corpore paullo brevior, pedibus flavis, femoribus viridibus, tibiis posticis fuscis, alis hyalinis.*

Oculi ocellique rufi: tibiæ posticæ subtus, femora apice basique, flavæ: tarsi straminei. (Alarum longitudo, $1\frac{1}{4}$ lin.)

I am indebted to M. F. Delaporte for this species, taken by him on the spurge in the vicinity of Paris.

Sp. 37. Callim. capreæ. Fem. *Viridis, nitens, oviductu abdominis dimidio paullo longior, pedibus flavis, femoribus viridibus, tibiis fuscis, alis hyalinis.*

Oculi ocellique rufi. (Alarum longitudo, $1\frac{1}{2}$ lin.)

Taken by M. F. Delaporte on the young shoots of the willow; in the vicinity of Paris.

Sp. 38. Callim. terminalis. Mas et fem. *Viridis aut viridi-æneus, oviductu corpore vix brevior, pedibus flavis, femoribus viridibus, tibiis posticis fuscis, alis hyalinis, nervis quàm in C. chloromero obscurioribus.*

Oculi ocellique rufi: fem. caput posticè thoracisque segmentorum margines ænei: abdomen æneum, basi viride: pedes virides: trochanteres, tibiæ 4 anticæ tarsique flavi: nervus subcostalis fuscus: stigma parvum, concolor. (Alarum longitudo, 1— $2\frac{1}{4}$ lin.)

Var. β .—Mas, thorax totus viridis: pedes flavi: femora postica virentia: tibiæ posticæ femoraque 4 antica fusco cingulatæ.

Var. γ .—Fem. caput supra, thoracis apex lateraque cyaneo-virides: abdomen viride aut viridi-æneum, anticè cyaneo-viride: scapus subtus flavus.

Var. δ .—Fem. viridis: thorax anticè cyaneo-viridis: caput supra abdominisque segmentum primum cyanea: antennæ articulo secundo viridi: scapus concolor, basi subtusque flavus: femora 4 antica apice flava.

Var. ϵ .—Fem. tibiæ intermediæ subfuscæ.

In some specimens the metathorax is entirely æneous: the knees and tarsi straw-coloured, the apical joints of the latter fuscous.

July; on grass in woods; near London. September; Isle of Wight.

Sp. 39. Callim. inconspetus. Mas. *Viridis, pedibus flavis, femoribus posticis et nonnunquam 4 anticis viridibus, tibiis 4 posticis fusco cingulatis, alis subhyalinis.*

Oculi ocellique rufi: tibiæ intermediæ apice fuscae: genua tarsique straminei, horum apices fusci: nervus subcostalis fuscus: stigma parvum, concolor. (Alarum longitudo, $1\frac{1}{2}$ lin.)

Var. β .—tibiæ posticæ femoraque intermedia flavæ, fusco cingulatae: tibiæ intermediæ femoraque antica flavæ.

Broad, thick: colour dark green: antennæ short and robust. September; near London. Isle of Wight.

Sp. 40. Callim. mæstus. Mas. *Nigro-viridis, pedibus nigris, tarsis flavis, alis hyalinis.*

Oculi ocellique rufo-fusci: scapus nigro-viridis: tibiæ nigro-fuscae: genua tarsique flavi, horum apices fusci: nervus subcostalis fuscus: stigma parvum, concolor. (Alarum longitudo, 1 lin.)

Tarsi fuscous: two basal joints yellow.

September; near London.

Sp. 41. Callim. apicalis. Mas. *Æneus, thorace anticè et posticè, capite pedibusque viridibus, tarsis flavis, alis subfuscis.*

Oculi ocellique rufi: antennæ crassæ: trochanteres genuaque flavi: tarsi apice fusci: nervus subcostalis fuscus: stigma parvum, concolor. (Alarum longitudo, $1\frac{1}{4}$ — $1\frac{1}{2}$ lin.)

Var. β .—Viridis, nitens: abdomen æneo maculatum.

The abdomen is sometimes green, with a small æneous spot in the centre: the antennæ are very thick.

August; near London.

Sp. 42. Callim. affinis. Mas et fem. *Viridis, abdomine æneo, oviductu corpore duplo longiore, pedibus fulvis, femoribus viridibus, alis subfuscis.*

Cinips affinis. Fonscolombe, Ann. Sci. Nat. 26. 283.

Oculi ocellique rufi: *feminæ* thorax anticè posticèque cyaneo-viridis: *maris* abdominis segmentum primum viride, *feminæ* cyaneo-viride: antennæ crassæ: scapus viridis, basi flavus: tibiæ posticæ fuscæ, apice flavæ: genua tarsisque flavi, horum apices fuscii: nervus subcostalis fuscus: stigma parvum, concolor. (Alarum longitudo, 1—2 lin.)

Var. β.—*Mas*, thorax æneo-viridis.

Var. γ.—*Mas*, tibiæ 4 anticæ supra-fuscæ.

Var. δ.—*Fem.* abdomen viride, segmentum primum anticè viridi-æneum.

Abundant near London; on oak trees; from June to August.

Sp. 43. Callim. littoralis. Fem. *Viridis, præcedenti similis, at multò gracilior, oviductu brevior.*

(Alarum longitudo, $1\frac{3}{4}$ lin.)

In C. affinis the ovipositor is more, in this species it is less, than twice the length of the body.

May; near the sea-shore; Southampton.

Sp. 44. Callim. tarsalis. Fem. *Cyaneo-viridis, oviductu dimidio corpore longiore, pedibus stramineis, femoribus viridibus, tibiis fuscis, alis subfuscis.*

Oculi ocellique rufi: abdomen viride: scapus viridis, basi flavus: trochanteres flavi: tarsi apice fuscii: nervus subcostalis pallidè fuscus: stigma minimum, concolor. (Alarum longitudo, $1\frac{1}{2}$ lin.)

It is more slender than C. quercus, and in shape much resembles the preceding species.

April; on grass in woods; near London.

Sp. 45. Callim. arvernus. Fem. *Viridis, oviductu abdomine brevior, pedibus viridibus, genibus tarsisque stramineis, alis subfuscis.*

Oculi ocellique rufi: antennæ graciles: scapus viridis: trochanteres flavi: tarsi apice fuscii: nervus subcostalis pallidè fulvus: stigma minimum, concolor. (Alarum longitudo, $1\frac{1}{4}$ lin.)

July; near Clermont, in Auvergne.

Sp. 46. Callim. notatus. Mas et fem. *Viridis, thoracis lateribus abdominisque segmento secundo æneis, oviductu abdomine multò longiore, pedibus viridibus, genibus tarsisque fulvis, alis subhyalinis.*

Oculi ocellique rufi : scapus viridis : trochanteres fulvi : tarsi apice fuscii : nervus subcostalis fulvus : stigma magnum, nigro-fuscum. (Alarum longitudo, $1\frac{1}{4}$ — $1\frac{2}{3}$ lin.)

Var. β.—*Mas*, abdomen apice viridi-æneum : tarsi antichi fuscii.

Var. γ.—*Fem.* thorax viridi-æneus, posticè æneus, lateraliter cupreus : scapus basi flavus.

Colour dark green : second joint of the antennæ æneous black.

May and June ; on grass in woods ; near London. Southampton.

Sp. 47. Callim. nigri-tarsus. *Mas et fem. Viridis, oviductu corpus longitudine æquante, pedibus viridibus, tibiis subtus tarsisque nigris, alis fuscis.*

Oculi ocellique rufi : *maris* abdomen viridi-æneum, basi viride : scapus viridis : nervus subcostalis fuscus, apice fulvus : stigma magnum, nigro-fuscum. (Alarum longitudo, $1\frac{1}{4}$ lin.)

The abdomen of the female has a slight æneous tinge, the basal segment is bluish green : the subcostal nervure is fuscous till it joins the margin, it then becomes fulvous.

August ; on grass in woods ; near London.

Sp. 48. Callim. straminei-tarsus. *Mas. Æneo-viridis, abdomine cupreo-æneo, femoribus viridibus, tibiis fuscis, tarsis 4 posticis stramineis, alis subhyalinis.*

Caput viride : oculi ocellique rufi : abdomen cupreo-æneum, basi viridi-æneum : thorax anticè posticèque viridis : scapus viridis, basi flavus : tibiæ anticæ flavæ : tarsi apice fuscii : nervus subcostalis fuscus : stigma parvum, concolor. (Alarum longitudo, $1\frac{1}{4}$ lin.)

Apex of the abdomen æneous : antennæ slender : the intermediate tibiæ much paler than the posterior, yellow beneath.

July ; on grass in fields ; near London.

Sp. 49. Callim. antennatus. *Mas. Viridis, abdomine cupreo, pedibus rufis, femoribus viridibus, tibiis posticis tarsisque rufo-fuscis, alis subfuscis.*

Oculi ocellique rufi : thoracis discus abdominisque segmentum primum æneo-virides : scapus viridis : nervus subcostalis fuscus : stigma minimum, concolor. (Alarum longitudo, 2 lin.)

Var. β.—Abdomen æneo-cupreum : tibiæ pallidè rufæ, supra viridifusæ, posticæ nigræ.

Mesothorax slightly tinged with æneous: abdomen cupreous beneath: antennæ long: trochanters and knees red: tips of the tarsi slightly fuscous.

May; Southampton. August; on grass in woods; near London. Scotland.

Sp. 50. Callim. lætus. Mas. *Æneo-viridis, nitens, abdomine cupreo, pedibus rufis, femoribus externè viridibus, alis hyalinis.*

Abdominis segmentum primum viride: tarsi flavi, apice fusci, antici rufi: alæ superiores marginem versus anticum flavescentes: nervus subcostalis nigro-fuscus: stigma concolor. (Alarum longitudo, 3—3½ lin.)

Var. β.—Alæ subfuscae: tarsi omnes rufi.

July; near London.

Sp. 51. Callim. versicolor. Mas. *Viridis, nitens, abdomine cupreo, pedibus fuscis, femoribus viridibus, alis subhyalinis.*

Oculi ocellique rufi: abdomen basi viride: scapus viridis: tibiis posticæ nigrae, anticæ rufæ: tarsi basi flavi: nervus subcostalis fuscus: stigma minimum, concolor. (Alarum longitudo, 1½—2 lin.)

Var. β.—Thorax posticè abdominisque segmentum primum æneo-virides, hujus apex cupreus: tibæ posticæ nigro-fuscae.

Var. γ.—Scapus æneus: femora 4 postica concolores: tarsi omninò fusci: alæ subfuscae, anticæ fusco prope stigma maculatæ.

Stouter than C. antennatus: antennæ thicker: wings broader: the superior wings have a large fuscous spot, occupying more than half their breadth, and extending along the nervure from whence it becomes costal, as far as the stigmal branch: sometimes this spot is indistinct, and the wings are nearly hyaline. Another and a very elegant variety has the head and thorax æneous green; the mesoscutum green; the first abdominal segment bright æneous green, cupreous toward the base; the apex and the second segment dark æneous, the others bright cupreous tinged with æneous; the coxæ and posterior thighs bluish green; the tibiæ and four anterior thighs æneous green; the anterior tarsi pale fuscous; the four posterior yellow, with the fourth and fifth joints fuscous.

September; near London. Isle of Wight. North of England. July; near Clermont, Auvergne.

Sp. 52. Callim. fusci-pennis. Mas. *Æneo-viridis, abdomine cupreo, antennis apice fuscis, pedibus viridibus, tarsis flavis, alis fuscis.*

Caput viride: oculi ocellique rufi: abdominis margo æneus: antennæ crassæ: scapus viridis: tarsi apice fuscis: alæ anticæ ramulum versus stigmaticalem obscuriores: stigma parvum, fuscum. (Alarum longitudo, $1\frac{1}{2}$ lin.)

The antennæ, from the second to the sixth joint, are black, the following joints fuscous.

July; near London.

Sp. 53. Callim. minutus. Mas et fem. *Viridis, nitens, C. mutabili obscurior angustior, maris abdomine cupreo, oviductu abdomen longitudine æquante, pedibus flavis, femoribus viridibus, alis hyalinis.*

Maris abdominis segmentum primum viridi-æneum: scapus viridis: tibiæ supra pallidè fusæ, posticæ et tarsorum apices obscuriores: nervus subcostalis fulvus: stigma parvum, concolor. (Alarum longitudo, $\frac{3}{4}$ — $1\frac{1}{3}$ lin.)

Var. β . — Mas, abdomen æneum, basi viride: tibiæ 4 anticæ omninè flavæ.

Var. γ . — Fem. scapus basi et pedes flavi: femora postica basi virentia: tibiæ posticæ fusco cingulatæ.

July and August; on grass in woods; near London. May; Southampton.

Sp. 54. Callim. gracilis. Fem. *Viridis, nitens, oviductu abdomine paullo longiore, pedibus flavis, alis hyalinis quàm in præcedenti latioribus.*

Antennæ quàm in C. minuto tenuiores: femora postica basi virentia: tibiæ posticæ fusco cingulatæ. (Alarum longitudo, 1 — $1\frac{1}{3}$ lin.)

July; on grass in fields; near London.

Sp. 55. Callim. posticus. Fem. *Viridis, oviductu abdomine longiore, pedibus fuscis, tarsis flavis, alis subfuscis.*

Oculi ocellique rufi: scapus viridis: femora nigro-fusca: tarsi apice fuscis. (Alarum longitudo, $1\frac{1}{2}$ lin.)

Dull green: longer than C. gracilis or minutus: legs more slender; wings longer: subcostal nervure and stigma pale fuscous; the latter small.

September; near Keswick, in Cumberland.

Sp. 56. Callim. exilis. Fem. *Viridis, oviductu abdomine paullo longiore, antennis fuscis, pedibus flavis, tibiis posticis femoribusque fusco cingulatis, alis hyalinis.*

Scapus flavus, apice fuscus : tarsi concolores : nervus subcostalis pallidè flavus : stigma parvum, concolor. (Alarum longitudo, $\frac{3}{4}$ —1 lin.)

Var. β .—Antennarum articulus secundus niger.

July; in woods; near London.

Sp. 57. Callim. fusci-cornis. Mas et fem. *Viridis mas, aut æneo-viridis fem. abdomine æneo, oviductu abdomen longitudine æquante, antennis fuscis, pedibus flavis, femoribus viridibus, tibiis posticis supra fuscis, alis hyalinis.*

Abdomen basi viride, *femine* apex lateraque concolores : scapus æneus, *femine* basi flavus : *maris* antennarum articulus secundus nigro-viridis : tarsi apice fusci : nervus subcostalis pallidè flavus : stigma parvum, concolor. (Alarum longitudo, $\frac{3}{4}$ —1 lin.)

Var. β .—Fem. femora fusca.

July; on grass in woods; near London.

Sp. 58. Callim. nitidulus. Fem. *Viridis, nitens, thorace anticè cyaneo-purpurascente, oviductu corpus longitudine æquante, antennis fuscis, pedibus flavis, alis hyalinis.*

Abdominis segmentum secundum æneum : scapus flavus : articulus secundus nigro-fuscus : femora basi virentia : tibiæ posticæ fusco cingulatæ : tarsi 4 postici apice fusci : nervus subcostalis pallidè stramineus : stigma parvum, concolor. (Alarum longitudo, $1\frac{1}{4}$ lin.)

Brilliant green : anterior part of the head blue.

June; on grass in woods; near London.

Sp. 59. Callim. ater. Mas. *Ater, tibiis fuscis, tarsis flavis, alis hyalinis.*

Caput et thorax obscuri, punctati : abdomen nitidum, glabrum : tibiæ 4-anticæ pallidè fuscae, subtus flavæ : tarsi 4-postici apice fusci : nervus subcostalis fuscus : stigma parvum, obscurius. (Alarum longitudo, $1\frac{1}{2}$ lin.)

May; near London.

Sp. 60. Callim. pubescens. Fem. *Viridis aut æneo-viridis, oviductu abdomine paullo longiore, pedibus pallidè rufis, femoribus viridi-æneis, alis subfuscis.*

Oculi ocellique rufi : abdomen æneum, pilosum, basi viride : scapus pallidè rufus : tibiæ posticæ fuscae : tarsi straminei : alæ anticæ prope stigma fusco maculatæ. (Alarum longitudo, $2\frac{1}{2}$ lin.)

Var. β.—Scapus æneo-fuscus : tibiæ posticæ rufæ.

Head green : mesoparaptera æneous : first abdominal segment green, apex æneous ; second segment æneous, base chalybeous, apex cupreous : second antennary joint æneous : subcostal nervures paler toward the base of the wings.

July ; on windows ; near London. South of France.

This species has the proscutellum more developed than any of the preceding : the stigma is longer and thicker.

It resembles *Diplolepis obsoletus*, *Fabr.*

Sp. 61. Callim. stigma. Fem. *Ater, oviductu abdomine paullo longiore, alis fuscis.*

Ichneumon. . . . *Fabr. Ent. Syst.* II. 188. 229.

Diplolepis stigma . . . *Fabr. Syst. Piezat.* 152. 21.

Cinips stigma. . . . *Fonscolombe, Ann. Sci. Nat.* 26. 289.

Oculi ocellique rufi : tarsi fusci : alæ basi subhyalinae, anticæ prope stigma nigro-fuscae. (Alarum longitudo, $2\frac{1}{4}$ lin.)

This species resembles the preceding in structure. Mr. Curtis has reared it, with *C. bedeguaris*, from the galls of the dog-rose, in the months of July, August, and September.

GENUS V. ORMYRUS. *Westwood.*

Caput magnum : palpi maxillares articulis 1° et 2° brevibus, 3° medio, 4° crassiore elongato subfusiformi : mentum ovatum, posticè quadratum : mandibulæ arcuatæ, tridentatæ, dens interna obtusa : *maris* antennæ clavatæ, articulo 1° elongato, 2° brevi, 3° et 4° brevissimis, 5° et sequentibus ad 10° cyathiformibus, tribus ultimis approximatis clavam componentibus obliquè truncatam ; *feminæ*, articulo 2° cyathiformi, 5° et sequentibus ad 10^{um} gradatim brevioribus, tribus ultimis clavam componentibus ovatam duos præcedentes longitudine æquantem : thorax gibbus ; prothoracis scutellum breve ; mesothoracis scutum magnum, scutellum gibbum ovatum apice acuminatum, super metathoracis præscutum extendens ; metascutellum magnum, canaliculatum : *maris* abdomen convexum, elongato ovatum, basi elevatum : *feminæ* subcompressum : tibiæ posticæ arcuatæ : alæ pilosæ.

Cinips tubulosa, *Fonscolombe*, may perhaps belong to this genus.

Sp. 1. *Orm. punctiger*. Mas et fem. *Æneo-viridis*, maris abdomine nigro, pedibus nigro-viridibus, tibiis anticis tarsisque fuscis, alis fuscis.

Ormyrus punctiger. Westwood. *Lond. & Edin. Phil. Mag. & Journ. of Science*, Third Series, No. II. p. 127.

Mas. Viridis, pilosus: oculi ocellique rufi: thorax posticè æneo-viridis: abdomen obscurum, segmentum primum nigro-viride, secundum punctis transversò unifasciatum, tertium et quartum eodem modo trifasciata: antennæ nigrae, apice fuscae: genua fusca: nervus subcostalis nigro-fuscus: stigma parvum, concolor.

Fem. Viridi-æneus: scutellum cupreo-æneum: abdominis segmentum secundum et sequentia punctis bifasciata: oviductus subexsertus: alæ flavo-fuscae: nervus subcostalis fuscus: stigma concolor. (Alarum longitudo, $1\frac{1}{2}$ — $2\frac{1}{2}$ lin.)

Var. β.—*Fem*. viridis: abdomen æneo-viride: tarsi flavi.

Var. γ.—*Fem*. abdomen nigro-æneum, segmentum primum viride.

June to August; on grass beneath oak trees; near London.

Sp. 2. *Orm. nigro-cyaneus*. Mas. *Cyaneus*, abdomine nigro, pedibus nigro-viridibus, tibiis anticis tarsisque fuscis, alis hyalinis.

Caput viride: oculi ocellique rufi: abdomen præcedenti simile: antennæ fuscae, articulis 1° et 2° nigris: nervus subcostalis fuscus: stigma parvum, concolor. (Alarum longitudo, $1\frac{1}{3}$ lin.)

More depressed than the preceding species: antennæ and legs slenderer.

June; on grass in a wood; near London.

GENUS VI. PERILAMPUS. Latreille, Dalman.

Cynips. *Fabr. Oliz. Lat.*

Diplolepis *Fabr. Panz.*

Chalcis . *Jur. Panz.*

Caput maximum: palpi maxillares articulo 1° medio, 2° 3° que brevioribus, ultimo elongato, subfusiformi, internè sinuato: mentum elongatum, posticè conicum: mandibulae arcuatae, una bidentatae, altera tridentata: labrum minutum, quadratum, anticè spinosum: antennæ articulo, 1° elongato, 2° minuto, 3° minutissimo, 4° magno, 5° et sequentibus ad decimum, cyathiformibus, tribus ultimis clavam componentibus ovatam: thorax gibbus,

profundè punctatus: prothoracis scutellum breve; mesothoracis scutum gibbum, scutellum magnum, apice acuminatum, supra metathoracis præscutum extendens; metascutellum benè determinatum, canaliculatum: abdomen subpetiolatum, convexum, breve, latum, contractum: oviductus absconditus.

Dalman has given an elaborate description of the external anatomy of this genus, and has added the characters of several species. He supposes *Perilampus micans* to be a parasite of *Lyctus canaliculatus* and *Dendrophilus picipes*, particularly of the latter.

Sp. 1. *Peril. pallipes*. *Curtis*. Mas et fem. *Æneo-viridis*, abdomine pedibusque cyaneis, antennis fulvis, genibus tarsisque flavis, alis subhyalinis.

Diplolepis ruficornis. *Fabr.?* *British Entomology*. Pl. 158.

Perilampus ruficornis. *Latr. Fonscolombe.?*

Caput æneum: antennæ articulis primo et secundo nigris. (Alarum longitudo, 4—6 lin.)

Taken in July at Dover, and beaten out of the juniper bushes at Birch Wood, by Mr. Newman and Mr. Davis, in April and May.

Sp. 2. *Peril. nigricornis*. *Newman*. Mas et fem. *Æneus*, abdomine cyaneo, antennis nigris, pedibus nigro-viridibus, tarsis flavis alis hyalinis.

Diplolepis violacea. *Fabr. Syst. Piezat.* 149. 4. &c.?

Chalcis violacea. *Panz. Faun. Germ.* 88. p. 15.?

Perilampus violaceus. *Dalman. Stock. Trans.* 1822. 398.?

Id. . . *Fonscolombe. Ann. Sci. Nat.* 26. 300.?

Oculi ocellique fuscii: scapus viridis: tarsi apice genuaque fuscii. (Alarum longitudo, 2—3 $\frac{3}{4}$ lin.)

Var. β.—Abdomen viridi-cyaneum.

Var. γ.—Thorax æneo-viridis.

Fonscolombe's description of *Perilampus violaceus* agrees very well with the above. Dalman says, that the 4 anterior legs are yellow, the thighs blue. Panzer represents them as entirely yellow.

Taken by Mr. Newman, in company with the last.

Sp. 3. Peril. Italicus. Mas et fem. *Cupreus, abdomine antennisque nigris, pedibus nigro-viridibus, tarsis flavis, alis subhyalinis.*

Cynips et Diplolepis Italica. *Fabr., &c.*

Perilampus Italicus. . . *Latr. Fonscolombe, &c.*

Caput viridi-æneum: oculi ocellique fuscii: metathorax nigro-viridis: scapus viridis: tarsi apice genuaque fusca: nervus subcostalis fuscus: stigma parvum, concolor. (Alarum longitudo, $3\frac{1}{2}$ lin.)

It resembles *Perilampus splendidus*, Dalman, but the abdomen is quite black. Fonscolombe's description does not well agree with the specimens that I have seen.

July; on oak, box, and lime trees; near London.

Sp. 4. Peril. aureo-viridis. *Stephens. Viridi-æneus, abdomine aureo nitido, antennis nigris, pedibus piceo-viridibus, geniculis tarsisque rufo-flavis, alis hyalinis.*

Rather less than *P. nigricornis*; taken near London, in July.

Sp. 5. Peril. auriceps. *Stephens. Nigro-æneus, abdomine atro nitido, capite viridi-aureo, antennis nigro-piceis, pedibus rufo-ochraceis, femoribus basi viridibus, tibiis posticis medio fuscis.*

Size of No. 4.—This and the following species are narrower than the others of the genus, and the abdomen is dissimilar in form, being somewhat lanceolate acute. The size of *P. nigricornis*.

Found amongst grass near Ripley, in June, 1827.

Sp. 6. Peril. femoralis. *Stephens. Viridi-æneus, abdomine atro nitido, antennis piceis, tibiis anticis et intermediis tarsisque omnibus rufo-ochraceis.*

Perilampus micans. *Dalman. Stock. Trans. 1822. var.?*

Rather larger and broader than the last; taken near Hertford in July.

Mr. Stephens, hearing that I was engaged in describing the genus *Perilampus*, most obligingly transmitted me the above descriptions of the three last species through the hands of Mr. Newman.
