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ILLUSTRATIONS
OF
BRITISH ENTOMOLOGY;

OR, A
Synopsis of Indigenous Insects ;

CONTAINING
THEIR GENERIC AND SPECIFIC DISTINCTIONS;

WITH
AN ACCOUNT OF THEIR METAMORPHOSES, TIMES OF
APPEARANCE, LOCALITIES, FOOD, AND ECONOMY,
AS FAR AS PRACTICABLE.

BY JAMES FRANCIS STEPHENS, F.L.S.

MEMBER OF THE ZOOLOGICAL SOCIETY, ETC.

EMBELLISHED WITH COLOURED FIGURES OF THE RARER AND
MORE INTERESTING SPECIES.

MANDIBULATA.
VOL. I.

"In his tam parvis tamque ferè nullis quæ ratio ! quanta vis ! quam inextricabilis
perfectio !"—*Plin.*

"Finis Creationis Telluris est gloria DEI, ex opera Naturæ, per Hominem
solum."—*Linné.*

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INTRODUCTION.

I PROPOSE, in the following work, concisely to describe, in systematic order, and with reference to their natural affinities, such species of insects as have hitherto been discovered to inhabit the united islands of Great Britain and Ireland: to these descriptions—which I trust will be sufficiently explicit to enable the entomologist clearly and satisfactorily to identify any of the insects he possesses, or may hereafter obtain—will be appended such facts, relative to the economy or locality of the respective species, as have either been communicated by others, or observed by myself, accompanied with occasional entomological remarks. The average lengths, or the usual expansions, of the several species, are also introduced at the end of the specific characters; and for the purpose of enabling the student readily to obtain at one view a knowledge of the contents of any order, or inferior section, their more obvious characters are laid down in a tabular form at the head of each superior group; their peculiar distinctions are afterwards detailed, in English, drawn out as far as possible from external differences: and unless mentioned to the contrary, the descriptions, &c. are made from, or collated with, specimens in my own collection.

There are probably entomologists to whom less superficial descriptions of the insects would be more satisfactory; but to those persons I shall merely observe, that I have endeavoured to steer the middle course, and to give such distinctive characters as will apparently separate from its affinities any particular insect that has come under my observation; and remind them of the judicious remark of *Mr.* reverend friend, the learned author of the inimitable *Monographia Apum Angliæ*, that “he who undertakes an entire department in natural history should select those features principally which distinguish the objects he describes from their congeners;” as minute descriptions are the province of the monographer alone, and are ill calculated for a work of this nature.

The absence of synonyms may also by some be considered as a



INSECTS

Are included in the subkingdom ANNULOSA*: they have usually a distinct head, furnished with two antennæ, or horns: six articulated legs; and breathe by means of tracheæ: they undergo several metamorphoses.

Clairville divides insects into two great tribes, which he terms MANDIBULATA and HAUSTELLATA, from the structure of the apparatus employed in obtaining their food; the former being characterised by possessing jaws, or *mandibles* as they are technically denominated, and the latter by having a variously modified tubular tongue, or *haustellum*, for the purpose. As this appears to be a very natural division, I have adopted it; though it is worthy of observation, that the transition from one tribe, or rather sub-class, to the other is nearly imperceptible—thus beautifully illustrating the position of my friend Mr. Mac Leay, that nature in leaving one form gradually assimilates its structure with the succeeding—the Trichoptera being so closely allied to the Lepidoptera, that authors differ as to which of the sub-classes they truly belong:—the mandibles in the Trichoptera being nearly obsolete as in the Lepidoptera, and the structure of the wings and legs being similar in both.—Again, the Hymenoptera are in many instances furnished with a kind of tongue, their mandibles being solely of use in their economy; and some of the Apteræ possess rudimentary mandibles. The

MANDIBULATA, *Clairville*,

comprehend seven orders, which may be discriminated by characters drawn from the wings, as briefly exhibited in the following table:

<i>Alæ superiores</i>	{ contortæ:	2. STREPSIPTERA.
plus minusve	{ transversim	
coriaceæ,	{ haud contortæ: { plicatiles: <i>neuræ</i> { simplices: 3. COLEOPTERA.	
		4. DERMAPTERA.
	<i>alæ inferiores</i> { longitudinaliter plicatæ:	5. ORTHOPTERA.
		6. NEUROPTERA.
<i>Alæ omnes membranaceæ,</i>	{ reticulatæ:	7. TRICHOPTERA.
	{ pilosæ:	1. HYMENOPTERA.
	{ venosæ, { adæ:	

As the above series, to use the expression of Mr. Mac Leay, “returns into itself,” it is of little consequence where I commence.

* *Annulosa* are invertebrate, oviparous, white-blooded animals; having an imperfect circulation: the external integument of a firmer consistence than the internal substance: the sexes distinct, the body divided into segments, or rings.

I shall therefore first treat upon that order which has chiefly engaged the attention of the scientific world, or

ORDER I. COLEOPTERA.

Distinguished by having usually two membranaceous wings * longitudinally and transversely folded, and covered by two horny or coriaceous elytra, or wing-cases, united generally with a straight suture. Metamorphoses incomplete.

This order is usually subdivided into groups agreeably to the number of joints of which the tarsi are composed, as pentamera, or five-jointed, &c.: but as the numerous anomalies presented by this method—which was proposed by Geoffroy—materially disturb the succession of natural affinities, I shall not adopt it; and, with reference to the more philosophical views of Mr. Mac Leay, of arranging insects in accordance with their metamorphoses, I cannot venture, as he proposes, to employ his terms of chilopodomorpha, &c. as primary divisions, from the ignorance we labour under with respect to the larvæ of several of the groups. I shall therefore consider these and the tarsal characters as subsidiary, and proceed with the descriptions of the various groups as they are apparently connected with each other by affinity and habits, commencing with those beetles whose oral organization appears to be the most perfect, or

Section I. ADEPHAGA, *Clairville*.

Palpi sex:—with six *palpi*; one pair attached to the mandibles; two to the maxillæ: the superior portion of the *maxillæ* scaly, the internal side ciliated, its apex armed with an articulated, or simple *claw*†: *mentum* large, horny, nearly semicircular, deeply notched, and frequently armed with a tooth in the middle of the superior margin.

The larvæ of this section, as far as ascertained, are in general long, semicylindric, and subpyramidal; with the head very large, and armed with extremely strong falciform jaws: the terminal (or in the *Cicindelidæ*, and some of the *Scaritidæ*? the eighth) joint of the body is furnished with two appendages, and the three primary joints with six scaly legs: from their form being analogous to that of the *Chilopoda*, or *Scolopendræ* of Linné, Mr. Mac Leay terms these *larvæ*

* Many genera among the *Carabidæ*, *Curculionidæ*, *Cantharidæ*, &c. have no wings:—some, as *Cychrus*, *Blaps*, *Liparus*, &c. have the elytra soldered together:—other exceptions to the characters of the order likewise occur.

† Or, as Mr. Mac Leay analytically expresses it, the *maxillæ* furnished internally with a lobe, and externally with a biarticulate palpiform process.

chilopodiformes. They voraciously devour worms and the larvæ of all other insects, as well as perfect insects; though the larvæ of *Zabrus gibbus* are said to destroy young wheat, and a long account of their devastations, in the canton of Seeburg, near Halle in Germany, is given in the first volume of Germar's Magazine der Entomologie, wherein it is stated that they were accompanied with a large proportion of the herbivorous larvæ of *Melolontha ruficornis**. When ready to effect their metamorphoses they construct an oval cell under ground, and change therein to a pupa, in which state they remain about three weeks.

The perfect insects live either on the ground, or in the water; the former constitute the

Subsection GEODEPHAGA, *Mac Leay*.

Whose characters, as laid down by him, are: *legs* formed for running; the *hinder* capable of horizontal and vertical motions, and the pectoral laminae into which they are inserted being of moderate size: the *body* oblong, or ovate:—to which may be added, *antennæ* filiform, or setaceous: *internal maxillary palpi* with two joints, *external* with four: *labial palpi* with three or four joints: *tarsi* invariably with five articulations: the *hinder thighs* furnished with appendages at the base, termed *trochanters*.

The individuals of this extensive group in their perfect state are fully as rapacious as their larvæ, and they feed indiscriminately upon all other insects, and their larvæ, which they can overpower: thus, being extremely beneficial in the economy of nature, by diminishing the numbers of noxious species, and forcibly exemplifying the superintendency of DIVINE PROVIDENCE over the interests of mankind. They lurk beneath stones, clods of earth, or the refuse materials of gardens, fields, &c.; the rejectamenta of the ocean and rivers. Most of the species undergo their final metamorphoses in the autumn; hybernate in plenty beneath mosses, under the bark of trees, &c. and appear abundantly in the spring and early summer months, when they may be frequently observed running in pathways and roads in search of their prey; whence they have obtained the appellation of *ground-beetles*: nearly 400 species occur in this country, which may be subdivided into the following apparently natural families:

* May not these herbivorous larvæ have been the principal cause of the mischief to the wheat, while those of the *Zabrus* contributed rather to lessen their numbers than to destroy the corn?



<i>Tibiæ anticæ</i> haud emarginatæ:	{	apice articulatæ:	.	.	.	.	1. CICINDELIDÆ.
		<i>Maxillæ</i> {	haud apice articulatæ:				
		<i>Antennæ</i> {	breves, crassæ:	.	.	7. ELAPHRIDÆ.	
			subelongatæ, graciles:	.	.	4. CARABIDÆ.	
<i>Tibiæ anticæ</i> emarginatæ:	{	<i>Elytra</i> {	haud truncata, vel apice sub-sinuata:	{	haud pedunculatum:	articulo ultimo minuto: .	6. BEMBIDIIDÆ.
			<i>Abdomen</i> {		<i>Palpi exteriores</i> {	articulo ultimo penultimo æquale: .	5. HARPALIDÆ.
		{	truncata:		pedunculatum	.	3. SCARITIDÆ.
						.	2. BRACHINIDÆ.

FAMILY I.—CICINDELIDÆ, *Leach*.

Antennæ filiform, inserted before the eyes: *labrum* horny, somewhat triangular: *mandibles* armed internally with many teeth: *maxillæ* strongly ciliated, with a distinct, articulated, horny claw at the tip: *labium* minute: *labial palpi* with four joints: *mentum* deeply emarginated: *legs* long, slender.

The CICINDELIDÆ, termed *Sparklers*, or *Scale-beetles*, frequent arid and sandy places exposed to the sun; they are the most active and vigorous of coleopterous insects, run with great velocity, and fly with celerity, but their flight is of short duration, rarely exceeding ten or a dozen yards at a time. They have been truly styled the tigers of the insect world, as in their larva and imago states their rapacity and gluttony are pre-eminent, seizing and devouring every insect they can overcome, sparing not even their own species. The typical genus only has been observed in Britain.

From the dissimilar structure of the larvæ of this family to that of the other geodephagous families, Mr. Kirby is of opinion that the CICINDELIDÆ belong to a tribe distinct from the CARABIDÆ—the former he terms *Eupterina*, or flyers, the latter *Eupodina*, or runners.

GENUS I.—CICINDELA, *Linnè*, &c.

Internal maxillary palpi with the joints nearly equal in length: *external* with the first joint short, the second elongated, the third and fourth equal: *labial palpi* with the two basal joints very short, the third elongated, ciliated with hairs, the fourth short, somewhat clavate, naked: *mentum* deeply notched, with a strong spine-like tooth in the middle. *Antennæ* inserted into the anterior margin of the eye: *head* broader than the thorax: *forehead* excavated: *eyes* large, prominent: *elytra* flat: *wings* two: *anterior tarsi* with the three basal joints dilated in the male.

Six species only of this truly elegant genus have been detected in this country; but it is highly probable that other European



species may occur when the entomological productions of Britain are more satisfactorily ascertained, as no less than three of the subjoined have been added to our Fauna since the appearance of the *Entomologia Britannica* by Marsham in 1802!

Interesting accounts of the metamorphoses of a species of this genus are given by Geoffroy, Desmarest, and Latreille. The larvæ are long, cylindric, soft, whitish, and furnished with six brown scaly feet: the head and first joint of the body are metallic-green above, and brown beneath. The head is extremely large, trapeziform, with six * very visible smooth black eyes, the four largest of which are placed on the upper and posterior parts of the head, and the others on the sides. They have two very long and sharp, nearly vertical, mandibles, armed on their inner base with a strong tooth: the maxillæ are also very long. The three first joints of the body are without stigmata: the first is broader than the head, the second and third much narrower, the fourth and fifth are a trifle broader than the second; the eighth is considerably larger and more expanded than the others, and is furnished above with two fleshy tubercles, which are thickly clothed with reddish hairs, and each armed in the middle with a recurved horny spine: the size and structure of the joint last mentioned (the eighth) give to the form of the larvæ that of the letter, Z: the last joint of the body is very small: the legs are short and weak: the tarsi have only two joints, the terminal one bearing two small claws.

These larvæ construct their retreats to the depth of eighteen inches, the entrance to them being perpendicular, and larger in diameter than their body. In excavating this canal, which is of a cylindrical form, they employ their mandibles and legs: they clear away the particles of sand, &c. by placing them on their broad head, and then climb up gradually to the surface, in which they are assisted by their dorsal appendages, till they reach the top, when they throw off their load. When they have completed their habitation (which is frequently a work of much difficulty, and which from the nature of the soil they are sometimes compelled to abandon, and to construct in a fresh situation), they fix themselves at the entrance by the assistance of their dorsal appendages, the recurved hooks

* Mr. Kirby says eight: *K. and S. Introd. vol. iv. p. 394, note, and plate xvii. f. 13.*—Latreille, however, observes, that the larva of *Ci. hybrida* (not of Linne as hereafter shown) has six eyes, two small and four large. *Latr. et De Jean, Col. des Europe, v. i. p. 30.*



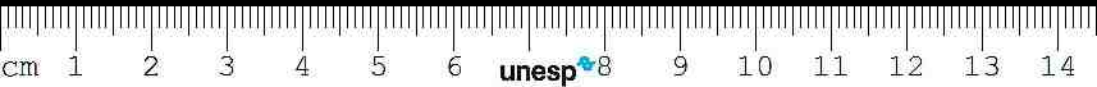
being admirably adapted for the purpose, by forming a fulcrum, or support, and the broad plate at the top of the head exactly fitting the aperture of their den, and being on a level with the soil. In this position they continue immoveable, with expanded jaws ready to seize and devour their prey, which consists principally of the smaller adepagous beetles; but their voracity is so great, that they do not even spare those of their own species, should one by accident come in their way. In case of danger they retire to the bottom of their pit, and are consequently very difficult to discover. The method employed by Geoffroy and Desmarest to obtain them was by gently introducing a pliant twig or straw into their holes, and gradually and carefully excavating the soil around it, when the animals were usually found at the bottom of their cell, resting in a zigzag position. Towards the end of spring the larvæ are most abundant, but they may also be obtained during the summer and the beginning of autumn.

Sp. 1. *sylvatica*. *Purpurascenti-fusca, elytris fascia undulata punctisque tribus albidis*. (Longitudo corporis, 7—8 lineæ.)

Ci. *sylvatica*. Linné.—Donovan. x. plate 351, f. 1.—Stephens' *Catalogue*, No. 1.

Above deep iridescent purplish-brown, elytra with a whitish external, sometimes interrupted, lunule at the base, a transverse, narrow, waved band in the middle, and a round spot near the tip: towards the suture many impressed punctures. Beneath rich blue-green, with fine coppery and purple reflections on the sides of the thorax and breast: thighs metallic-blue, shanks and tarsi bronzed-green: labrum (or upper lip) black: palpi deep bronzed-green.

In addition to the habitat of this species, given in *Entomologia Britannica* (Martlesham heath, Suffolk), the extensive sandy heaths between Cobham and Ripley, and the neighbourhoods of Godalmin in Surry, and Christchurch and Parley heaths, Hants, have recently produced it in plenty during the months of June and July. In the former places it was first observed among the fir plantations by my highly valued friend Dr. Leach, and subsequently by myself, and in the latter places (at other periods of the year) by my friend J. C. Dale, Esq., F. L. S., &c., and afterwards by Messrs. Samouelle, Chant, and Bentley. It also abounds near Aldborough in Suffolk, as I am informed by my friend the Rev. F. W. Hope, F. L. S., &c.



Sp. 2. hybrida. *Subpurpurascens, elytris lunulâ humerali apicisque, fuscâque mediâ valde deflexâ, albis; palpis labialibus basi rufo-albidis.* (Long. c. 6—7 lin.)

Ci. hybrida. Linné. Sowerby. i. plate 18.—Steph. Catal. No. 2.

Above fine purplish, or dull iridescent copper; each elytron finely shagreened, and marked with a white external lunule at the base and tip, and a transverse, waved, and strongly deflexed band in the middle: the suture bright red-copper. Beneath, the sides of the thorax and breast, are splendid rufous-copper: the abdomen rich and brilliant green-blue: thighs and shanks red-copper; tarsi green blue: labrum whitish: maxillary palpi bronzed-green; labial palpi reddish-white, with the terminal joint bronzed-green.

This species is subject to considerable variation, both in colour and markings; but in all the varieties the labial palpi are reddish-white at the base, and the maxillary palpi are brassy-green, with a rufous tinge at the joints of the articulations. In these points this insect materially differs from Ci. Sylvicola, which it otherwise closely resembles, excepting in colour, and in the form of the central fasciæ on the elytra, which in this reach transversely to the centre of the disc, then become suddenly deflexed and attenuated, and finally, after again expanding, terminate abruptly near the suture.

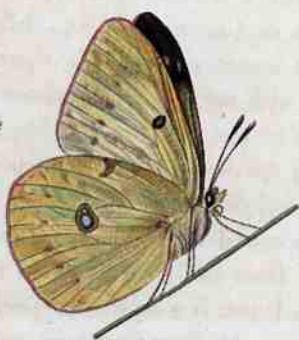
In pronouncing this to be the true *Ci. hybrida* of the Fauna Suecica, I am guided by the following words of the illustrious Swede:—“*color purpurascenti-fuscus. Elytra in medio fasciâ albâ, undatâ, simili sequentis speciei* (Ci. sylvatica) *et ad marginem anteriorem baseos, uti etiam ad apicem, lunulâ albâ,*”—as they so perfectly express its peculiar colour and markings.

Much confusion occurs in modern entomological works respecting Ci. hybrida and its congeners, which has given rise to contrariety of opinion respecting the true habitat of this species. Latreille, in his Histoire Nat. des Crust. et des Insectes, &c., observes, that it is common in the neighbourhood of Paris; but from the recent publication * of this learned entomologist, and his compatriot De Jean, it is evident that the insect called Ci. hybrida by them is totally distinct from the present, and appears intermediate between Ci. riparia and Ci. Sylvicola, and that the species now under consideration is their Ci. maritima, which is confined to the *coasts* of France, as our insect is to those of Britain; and on the extensive

* Coleoptères d'Europe, &c.

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sandy shores of Norfolk, Suffolk, and Glamorganshire, it is found abundantly during the months of May and June. It also occurs, as I am informed by Mr. Dale, at Weston-super-Mare, in Somersetshire.

Sp. 3. *riparia*. PLATE I. f. 1. *Subpurpureo-nigricans, elytris lunulâ humerali apicisque, fasciâque mediâ subrectâ abbreviatâ albis, palpis labialibus basi albis.* (Long. c. $7\frac{1}{2}$ lin.)

Ci. *riparia*. Megerle.—*Steph. Catal. No. 3.*

In colour this insect greatly resembles the last (but it is considerably narrower, although longer); it is of a more dusky hue above, with a very slight cupreous iridescence on the thorax: the elytra are shagreened, each being adorned with a slender white external lunule at the base, a broader one at the apex, and a broad, nearly straight and slightly sinuated, white, transverse band in the middle, reaching nearly to the suture. The under parts resemble those of the last species, but the blue tinge predominates: the palpi are nearly coloured as in it, but the basal joints of the labial palpi are of a purer white, and the articulations of the maxillary palpi are less rufescent: the thighs are very rich golden-green; the shanks cupreous, and the tarsi bronzed-blue.

The disposition of the markings on the elytra agrees *precisely* with those of Ci. *Sylvicola*, but the insect is clearly distinct from it, and may at once be readily discriminated by its elongate shape, its pale labial palpi and atropurpureous colour, exclusively of other characters.

The only indigenous specimen of this hitherto undetected species which has come under my observation, and is in my collection, I formerly conceived to be merely an extraordinary variety of Ci. *hybrida*, but upon a mature examination its characters appear to be sufficiently marked to constitute a distinct species; and upon referring to M. De Jean's *Species de Coléoptères*, &c., I find that he has described and figured an insect (as the Ci. *riparia* Megerlei) agreeing in every respect with my specimen, whose "local habitation," I regret, is unknown to me, from my having hitherto confounded it with the preceding species. De Jean suspects that it may be simply a variety of Ci. *hybrida*; but it is of importance to bear in mind that the insect so called by him is totally distinct in form, size, colour, and locality from the true Linnean *hybrida*, his being an inland while Linne's insect is a maritime species.

It affords me real gratification to add, from my own cabinet, a second species of this truly elegant and lovely genus to our Fauna. And I wish to call the attention of entomologists to the fact of the



locality, and probably the economy *, of the species allied to *Ci. hybrida*, having been so strangely blended together for want of accurate discrimination, as exhibiting a striking instance of the necessity of attending to comparatively trifling differences in the examination of specimens obtained from different localities, and of the caution to be observed in determining the question of specific distinctions, as by hastily discarding an apparent species, and pronouncing it to be merely a variety, we may run the hazard of committing a serious error, and thus necessarily interrupt the series of affinities, and prove the justice of the poet's assertion, that

" From Nature's chain, whatever link you strike,
Tenth, or ten thousandth, breaks the chain alike."

POPE.†

Sp. 4. *Sylvicola*. *Viridi-purpurea, elytris viridibus lunulâ humerali apicisque, fasciâque mediâ subdeflexâ abbreviatâ albis, palpis totò nigro-cærulescentibus.* (Long. c. 7 lin.)

Ci. Sylvicola. *Megerle*.—*Curtis*. i. pl. 1.—*Steph. Catal.* No. 3.

Above purple-green, with green shagreened wing-cases, a white lunule at the base and tips, and a slightly deflexed abbreviated band in the middle. Beneath deep coppery blue: the palpi entirely blue-black.

One specimen only of this highly elegant insect, which is in my collection, has hitherto been captured in England: it was found near Epping (Essex), in the summer of 1820: its nigro-cærulescent labial palpi, broad head, and beautiful rich green colour, well characterize it, and distinguish it from the two preceding species, which it somewhat resembles in other respects, excepting that the fasciæ on the elytra differ from those of *Ci. hybrida*, as they scarcely reach beyond the centre of the disc, and are very slightly deflexed or attenuated; in which particular it agrees *precisely* with *Ci. riparia*. My friend, Mr. Curtis, has given a figure of this insect in his *Illustrations of the Genera of British Insects*; but he has accidentally reversed the description of the colour of the palpi, by stating that the third joint of the labial palpi is more ferruginous than in *Ci. hybrida*, whereas in my specimen they are *totally* of a deep nigro-cærulescent hue, as stated in the specific character.

* M. Latreille has given a description of the larvæ of his *Ci. hybrida*, in the *Nouveau Dictionnaire d'Histoire Naturelle*, 2d edit.

† 20th April, 1827.—My friend Mr. Ingpen has this day shown me a second specimen of *Ci. riparia*, captured near Manchester.



Sp. 5. *campestris*. *Viridis, elytris punctis ter, quatuor vel quinque marginalibus albis, unoque disci.* (Long. c. 5— $7\frac{1}{2}$ lin.)

Ci. *campestris*. Linné.—Donovan. i. pl. 12.—Steph. Catal. No. 5.

Above dull green, or bluish, sometimes richly resplendent with coppery and golden reflections; elytra very finely shagreened, green, with from three to six pale spots on each; disposed, one externally on the shoulder, three on the outer edge of the elytra, one at the tip, and one in the disc. Beneath green, with rich coppery-red hues: legs bright copper, glossed with green, especially on the tarsi: labrum whitish.

Ci. *campestris* varies exceedingly in the number, size, and colour of the spots on the margin of the elytra: in some specimens those nearest the base are almost obliterated, and in others all the spots are of a dusky hue: the discoidal spot is generally slightly edged with fuscous, and is sometimes connected to the central marginal one by a slender white line; the two spots towards the tip are likewise often connected together: the female invariably possesses two fuscous, slightly impressed, spots, towards the base of the elytra, near the suture.

This species is a general inhabitant of all the southern portion of Britain, frequenting sandy situations, from March to October. During the spring of 1826 it was particularly abundant. Observed also in plenty by Mr. Dale, on Schehalion, one of the Breadalbane mountains, as well as in the lowlands of Scotland.

Sp. 6. *germanica*. *Subcylindrica, viridis, elytris lunulâ ad apicem punctisque duobus marginalibus albis.* (Long. c. 5 lin.)

Ci. *germanica*. Linné.—Steph. Catal. No. 6.

The form of this insect is more cylindric than the other species of the genus: its upper surface is rich, dull, slightly iridescent, green; the elytra very finely shagreened, with a whitish spot at the shoulder, a second on the outer margin near the middle, and a lunule of the same colour at the tip. Beneath, greenish blue, with a slight cupreous tinge on the sides of the thorax and breast: legs greenish, with the shanks testaceous.

Certain seasons produce this species in plenty: about ten years back, it was observed by Mr. Brightwell in abundance, running amongst the grass, at Blackgang-Chine in the Isle of Wight, and by myself in the chalky lane leading from Dartford to Darent Wood, Kent, in July: but, till recently, it does not appear to have been seen at either place, although repeatedly sought after. I



have received specimens from Devonshire, captured, I believe, in the neighbourhood of Barnstaple. Since writing the above, Mr. Dale has informed me, that he captured four or five specimens in August 1824, at the former place, where Mr. Curtis also obtained specimens in September last.

According to the observations of De Jean, this species flies less than its congeners.

FAMILY II.—BRACHINIDÆ, *Mac Leay*.

Elytra abruptly truncated; shorter than the abdomen. *Antennæ* filiform, inserted before the eyes: *labrum* linear, or subquadrate, entire or emarginate, rarely trilobate; more or less coriaceous: *mandibles* without teeth, or dentated only at the base: *maxillæ* ciliated internally, bent, with a claw at the tip: *labium* exserted; *labial palpi* with four joints: *mentum* deeply notched: *anterior tibiæ* notched at their internal side before the apex: *anterior tarsi* very slightly, or not at all, dilated in the males.

Much dissimilarity prevails in the habits of the genera of this family; the individuals of the three first frequenting sandy districts in the vicinity of the ocean, or the extensive meres in the counties of Huntingdon and Cambridge; those of the genera *Brachinus* and *Cymindis*, damp places on the margins of great rivers or estuaries; and the remainder principally affecting grave pits, or the trunks and branches of trees and shrubs.

The typical genus *Brachinus* is endowed with a most remarkable property as a defence against the attacks of its enemies; as fully detailed in my observations upon the common species.

The *Brachinidæ* embrace the following genera, which may be thus briefly characterized:

Palpi breves,	{	filiformes:	{	Palpi breves,	{	Mandibulæ	elongatæ, porrectæ:	.	.	2. DRYPTA.
							breves, haud porrectæ:	.	.	3. POLISTICHUS.
							oblongus, subcylindricus:	.	.	4. ODACANTHA.
							cordatus, longior	.	.	
							quàm latius:	.	.	
{	Corpus	{	Thorax	{	Tarsi	depressum:	articulo penultimo	.	.	5. DEMETRIAS.
						bifido:	articulis integris:	.	.	6. DROMIUS.
						transversus:	articulo penultimo	.	.	7. LEBIA.
						bifido:	articulis integris:	.	.	8. LAMPRIAS.
						subconvexum:	.	.	.	10. BRACHINUS.
{	labiales	{	{	{	Tarsi	articulo ultimo dilatato:	.	.	.	9. CYMINDIS.
						

GENUS II.—DRYPTA, *Fabricius*.

Palpi elongated; *internal maxillary* filiform, with two nearly equal joints, *external* with the basal joint minute, the second elongate, somewhat curved,



and nearly equal in length to the third and fourth, which are subconic, the last being obliquely truncate internally: *labium* small, linear, with three setæ: *labial palpi* with the two first joints minute, the third elongate-conic, the fourth subconic with its apex dilated: *mentum* large, horny, suborbicular: *labrum* trilobate, the middle lobe largest: *mandibles* much exerted, not toothed. *Antennæ* with the first joint very long and subclavate, the second minute: *head* triangular: *eyes* prominent: *thorax* cylindric, rather narrowed behind: *tarsi* with the penultimate joint bifid; *anterior* dilated in the males.

Sp. 1. *emarginata*. PLATE I. f. 2. *Cærulea, ore, antennis pedibusque rufis*. (Long. c. 4 lin.)

Dr. *emarginata*. *Fabricius*.—*Steph. Catal. No. 7*. Ca. *Chrysotomos*. *Sowerby. i. pl. 59*.

Head deeply punctate: eyes dusky: thorax with an impressed longitudinal line: elytra oblong, with punctured striæ, and slightly notched at the tip: apex of the first and middle of the third joint of the antennæ brown: the body slightly villose, and bright- or greenish- blue above and beneath: mouth, antennæ, and legs, red; tarsi dusky.

Several specimens of this highly beautiful and rare insect were taken near Hastings and at Faversham during the spring and early part of the summer of 1815; since which period I have not heard of any other captures: at the former place I have frequently sought for it without success. My friend, the Rev. F. W. Hope, informs me, that it has been taken beneath marine rejectamenta at Leith Sands near Edinburgh.

GENUS III.—POLISTICHUS, *Bonelli*.

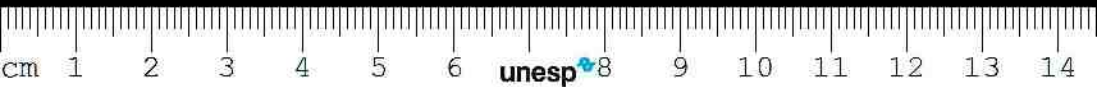
Palpi resembling in their proportions those of the preceding genus, but somewhat more slender and shorter, the last joint of the *external maxillary*, and of the *labial*, securiform; *internal maxillary* filiform: *labium* quadrate, with a membranaceous tooth on each side: *mandibles* short, not toothed: *tarsi* with all the joints entire. *Antennæ* with the first joint shorter than the head, the second minute, the rest nearly equal in length: *head* nearly triangular: *thorax* subcordate: *body* depressed.

Sp. 1. *fasciolatus*. PLATE I. f. 3. *Brunneus, elytrorum vitta abbreviata, abdomine pedibusque ferrugineis*. (Long. c. 4½ lin.)

Pol. *fasciolatus*. *Bonelli*.—*Steph. Catal. No. 8*.

Deeply punctate, brown, with an abbreviated longitudinal vitta on the wing-cases, the antennæ, breast, abdomen, and legs rufo-ferrugineous: the elytra depressed, striated.

Four specimens only of this curious and very rare insect have



come under my observation: one in the collection of my friend A. H. Haworth, Esq. F. L. S., &c., taken by the Rev. S. Bale, near ———; another in that of the Rev. F. W. Hope, captured by that gentleman near Southend, in the spring of the year 1823; a third in the collection at the British Museum, and the fourth in my own: the two latter specimens were procured from Cley on the northern coast of Norfolk (beneath marine rejectamenta) by my friend Dr. Leach, who, after depositing one in the British Museum, kindly supplied my cabinet with the other, which has enabled me to introduce the accompanying figure, for the first time as an indigenous insect.

GENUS IV.—ODACANTHA, *Paykul*.

Palpi short, filiform, the last joint of the external *maxillary* and *labial* ovate, slightly truncate: *mandibles* dentate at the base: *tarsi* with entire joints. *Antennæ* with the first joint shorter than the head, the second somewhat abbreviated, the remainder nearly of equal length: *head* ovate, produced posteriorly: *thorax* subcylindric, narrower than the head.

Sp. 1. *melanura*. *Cyanea*, *elytris testaceis apice nigro-cyaneo*, *antennarum basi, pectore pedibusque testaceis*. (Long. c. 3 lin.)

Od. *melanura*. *Paykul*.—*Steph. Catal. No. 9*.—*Carabus angustatus*, *Sowerby*. i. pl. 36.

Green-blue, with the base of the antennæ, breast and legs reddish-testaceous, the tarsi dusky, and the tips of the antennæ and of the thighs black: the elytra with smooth impressed dots, rufo-testaceous, with a blue-black common spot at the tip.

Od. *melanura* principally inhabits the counties of Norfolk and Huntingdon; in the former county, I believe, it chiefly occurs in the vicinity of Norwich, on the banks of the river Yare—where it has been frequently captured by the entomologists of that city—and in the marshes at Horning and near Fakenham. In the latter county it was found abundantly in the summer of 1825, on the borders of Whittlesea-Mere, by Messrs. Chant and Bentley. My friend Mr. Donovan observes, that it is found in profusion in Cromllyn bog, in Glamorganshire, near Swansea, whence Dr. Leach procured many specimens.

Although few of the metropolitan collections were supplied with this species, till within these few years, it cannot be reputed a rare, but a local species, notwithstanding the opinions of several entomologists to the contrary; but for my sentiments upon the actual rarity of insects, the reader is referred to the observations under *Dromius meridionalis*.

GENUS V.—DEMETRIAS, *Bonelli*.

Palpi with the terminal joint ovate, slightly truncate: *labrum* slightly emarginate: *labial palpi* with the basal joint minute, second and third short, of equal length, fourth elongate-ovate: *mentum* obscurely toothed: *labrum* quadrate, slightly emarginate: *mandibles* dentate at the base: *tarsi* with the fourth joint bifid. *Antennæ* with the first and terminal joints longest, the second shortest, the remainder nearly equal in length: *head* ovate, narrowed posteriorly: *thorax* obcordate, not wider than the head: *body* elongate, depressed.

Sp. 1. *atricapillus*. *Pallide flavus, capite pectoreque nigro-piceis, elytris immaculatis*. (Long. c. $2\frac{1}{2}$ lin.)

Carabus atricapillus. *Linne*.—*De. atricapillus*. *Steph. Catal. No. 10*.

Above pale yellowish: the head black: thorax reddish, a trifle narrowed behind: elytra obsoletely striated, the interstices punctate. Beneath pale, with the breast and abdomen at the base pitchy-black. The suture is sometimes dusky.

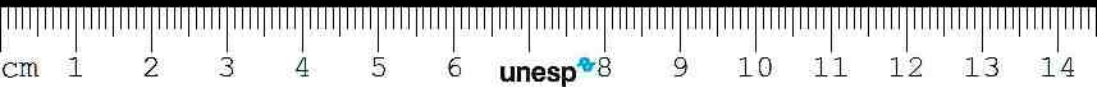
Found at the roots of grass in damp hedges; common in the neighbourhood of London during the spring and summer months, and beneath the bark of trees, and under moss, in the winter.

Sp. 2. *monostigma*. *Pallide flavus, capite elytrorumque puncto communi apicis nigris*. (Long. c. 2 lin.)

De. monostigma. *Leach, MSS.*—*Curtis, iii. pl. 119.*—*Steph. Catal. No. 11*.

Above pale-yellowish: the head glossy-black: thorax reddish, with an obsolete dorsal line: elytra obsoletely striated, with four impressed dots, and a deep fuscous spot towards their tips, reaching half-way up the suture. Beneath ochraceous.

This species frequents hedges in sandy maritime situations, but is not found near London, where the last described insect abounds. It has been repeatedly captured near South Creak, Norfolk, by the Rev. T. Skrimshire, from whom, and Dr. Leach (who procured them from Swansea), I have received several specimens. Gyllenhal (vol. ii. p. 188.) considers this insect to be merely a variety of *De. atricapillus*; but I cannot accede to that opinion, as, among the numerous specimens of this genus captured near London, which I have had an opportunity of examining, not one of *De. monostigma* has occurred; whereas, on the contrary, the latter occurs in plenty on the Norfolk coast. It has also been taken abundantly at Witlesea-Mere, by Messrs. Dale, Chant, and Bentley, by searching at the roots of the low herbage: and near Aberistwith, in Cardiganshire, by the Rev. F. W. Hope.



GENUS VI.—DROMIUS, *Bonelli*.

Palpi with the terminal joints ovate-cylindric: *labium* slightly emarginate: *labial palpi* with the two basal joints short, the third elongate-clavate, the fourth ovate-clavate: *mentum* obsoletely toothed: *labrum* quadrate, slightly emarginate: *mandibles* dentated at the base: *tarsi* with cylindric joints, the penultimate simple. *Antennæ* with the basal joint longest, the rest nearly equal in length, the second being somewhat shortest: *head* ovate, very slightly produced posteriorly: *thorax* more or less cordiform, or heart-shaped, a little wider than the head: *body* elongate, depressed.

The species of this genus are more frequently observed beneath the bark of trees than any others of the geodephaga, especially during the winter months; a situation wisely appointed for them by their "OMNISCIENT CREATOR," in order that they may keep within due bounds the various kinds of subcutaneous larvæ, which might otherwise destructively accumulate, to the disturbance of the beautiful and harmonious economy of nature.

A. *With wings.*

† Sp. 1. meridionalis. *Oblongus*; *capite thoraceque ferrugineis*; *thorace subquadrato, angulis posticis rotundatis*: *elytris fuscis, striatis, lineaque è punctis parvis impressis, antennis pedibusque pallidis*. De Jean.—(Long. c. 3 lin.)

Dr. meridionalis. De Jean.—*Steph. Catal. No. 12.*

Allied to the following species, but readily distinguished from it by the posterior angles of the thorax being rounded: in colour it is similar: the head is more rounded: the striæ or the elytra are more obsolete, and a single series alone of impressed dots exists between the sixth and seventh striæ.

Hitherto one specimen only of this species has occurred in Britain: it was captured near Southend, in the spring of the year 1820, by my friend the Rev. F. W. Hope, who kindly permitted me to examine it while in a recent state. It appears to be the *Carabus agilis* of Panzer's Fauna, No. LXXV. f. 11.; but as some years have elapsed since I made the comparison, and I have not been able to obtain a specimen, the above description is abridged from that of De Jean.

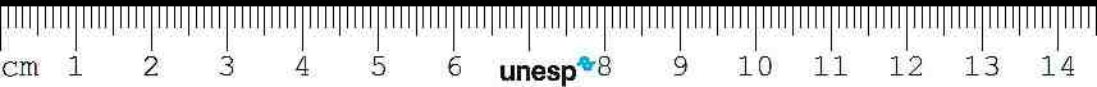
Entomology illustrates the limited powers of human research to an extent rarely surpassed by any other science, for notwithstanding her numerous votaries she repeatedly exhibits to them merely a single specimen of some of her choicest productions: but, although unique, I do not consider the present insect one of these, as I sus-



pect that its apparent rarity arises either from its habitation being strictly local, as well as situated in a distant and hitherto unexplored part of the country,—or from its having been overlooked by collectors owing to its very close affinity to the following species. I cannot, therefore, consistently with my notions, maintain that this is a rare, or even an uncommon, insect, knowing by experience that novelties are perpetually arising from the smaller insects having been so little attended to in this country. It consequently betrays either an indisposition for generalization, or a pertinacious adherence to preconceived opinions, originating from the proneness of mankind to overrate the value of their acquisitions, when experienced entomologists assert in opposition to facts, that local or minute insects are very rare, merely because they have hitherto remained undiscovered, from their locality, or from the apathy with which their investigation has been treated; whereas the truth is that in repeated instances, when once detected and made known, they prove to be not only common, but frequently even *unusually abundant*—as is sufficiently exemplified in the present advanced state of the family Pselaphidæ—now consisting of thirty species, *one only* of which is described by Marsham (a fact, however, that has escaped the notice of *every* subsequent English writer on that family), whereas many are now ascertained to be so plentiful that several dozens of specimens may be readily obtained in the course of a single day, if industriously sought after *! The same remark applies with redoubled force to the absurd parade generally made respecting the capture or possession of *nondescript* species, by individuals who are nevertheless fully aware that in the order Coleoptera alone we have several hundred nondescripts, and that every day's experience increases the number:—nay, it may be added, even in the group upon which I am now treating (the Geodephaga), and which has occupied the attention of our continental neighbours more than any other belonging to this order, we have in Britain alone at least one hundred undescribed species, and of the remainder, of the said group, scarcely two hundred and fifty are noticed by foreigners, and not one hundred and fifty by native writers!—facts that fully illustrate the real value of a nondescript species †, and the impro-

* Mr. Denny states that one hundred specimens of *Arcopagus bulbifer* may be taken in a day in Norfolk.—*Den. Monog. Psel. &c.* p. 25.

† At least two-thirds of the insects I possess are unrecorded as British, and of these more than half are nondescript.



priety of considering every unrecorded insect to be either rare or uncommon†. Would not he who were to affirm that *Lucanus Cervus* was a scarce species be justly ridiculed? Yet were an entomologist located in certain situations near the metropolis, he would experience much difficulty in procuring specimens, as, although found abundantly in the county, I have never seen a single one in the vicinity of Hertford during fifteen years' research, though I have assiduously toiled, from "morn to dewy eve," in the capture of the insects indigenous to that part.

Since the above observations were penned I have obtained several specimens of this species, chiefly captured in the immediate vicinity of London, thereby affording another proof of the importance of a thorough investigation previously to asserting that a recently detected insect is of unfrequent occurrence; and I cannot here avoid noticing, as bearing upon the point, that in consequence of my observations upon *Cicindela hybrida* and its affinities, my friend E. T. Bennett, Esq. F. L. S., &c. exhibited to me several specimens of an insect which appear to correspond with the *Ci. hybrida* of Latreille;—they were given to him by Mr. Leyland of Halifax, and he kindly presented me with a specimen. I have subsequently applied to Mr. Leyland for information respecting their locality, &c. and in reply he obligingly favoured me with several individuals, which he informs me were captured in Lancashire, he believes in the neighbourhood of Preston. As they differ considerably from *Ci. riparia*, and the other allied species which I have noticed, I shall embrace the present opportunity of briefly introducing the description of them, accompanied with some remarks upon their congeners, as I shall give the necessary reference thereto in my systematic catalogue.

Sp. 3*. *Ci. aprica*. *Supra sericeo-cuprea subvirescens, aut purpureo-nigricans, elytris subconvexis, lunulâ humerali apicisque, fasciâque mediâ subsinuatâ abbreviatâ albis.* (Long. c. 7—7½ lin.)

Ci. hybrida. Latreille?—*Ci. aprica*. Steph. Catal. No. 3*.

The upper surface of the typical variety of this beautiful insect is usually of a rich silken purple or reddish-copper tinged with green, with iridescent reflections on the head and thorax; the elytra are rather convex, shagreened, or granulated as in the other species, and each ornamented with a whitish lunule at the base and tip, and a slightly waved, transverse, abbreviated bar

† In the Literary Gazette of 11th of March, 1827, the capture of a new British *Cychrus* is exultingly announced as a valuable novelty, whereas the specimen alluded to proves to be merely the female of the common *Cy. rostratus*!



in the middle, usually more deflexed than in *Ci. riparia*, but much less than in *Ci. hybrida*, though varying a little in different specimens. The under parts of the body and the legs are nearly similar in colour to those of *Ci. riparia*.

Var. β . This variety is considerably darker in colour than *Ci. riparia*, being of a deep black purple, and totally destitute of the beautiful silken gloss so conspicuous in the typical variety: the lunules and fasciæ on the elytra are similar, excepting that the latter is considerably less deflexed, and merely resembles an irregular curved line, which is nearly of an uniform breadth throughout. In many respects this variety resembles *Ci. riparia*, but its shorter and more convex form at once distinguish it from that insect:—again, in the shape of the transverse fasciæ it closely approximates to *Ci. transversalis* of Ziegler, another kindred species, which has not yet been detected in Britain.

Desirable as it is to clear up any obscure question, I regret exceedingly my inability satisfactorily to determine whether or not this insect be specifically distinct from *Ci. riparia*, owing to its scarcity, or rather locality; and as I am of opinion that it is at all times preferable to separate those creatures which nature has apparently divided, than run the hazard of uniting them, it becomes necessary that this apparent species should receive a new appellation, if my ideas respecting the identity of the true Linnean *Ci. hybrida* be correct: I have therefore given it the above name; but until we are better acquainted with the history of it and its congeners, I must express my doubts as to the propriety of considering it a truly distinct species from *Ci. riparia*, from which its rich silken subvirescent hues, and more convex but less elongate form, alone appear to separate it; its other characters (in common with those of the other species of this genus) varying considerably in different specimens: but I have no hesitation in affirming that this and also *Ci. riparia* are totally distinct from the *Ci. hybrida* of this work, as I have possessed several dozens of specimens of that insect from the habitats before mentioned, without a single individual of *Ci. aprica* occurring amongst them; and of this last insect I have inspected no less than nine specimens, since the appearance of my last sheet, all of which were obtained from Lancashire and the adjoining counties*, where *Ci. hybrida* does not appear to occur.—My friend, the Rev. W. Kirly, seems to have experienced difficulties of a similar nature to the above in his endeavours to determine the

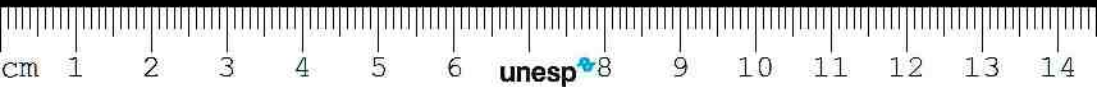
* One of these specimens was received from Derbyshire, and is in the collection of my friend Mr. Stone.



specific identity of several of the bees described in his invaluable *Monographia Apum Angliæ*, and offers the following apologetical remarks in the introduction thereto.—“An account of any genus, perfect and elaborate in all its parts, must be the work of him who is versed in the history and economy of every individual that belongs to it; He, and he only, can go upon sure grounds, for no other person can in all cases with certainty distinguish the species from the variety, and unite each sex to its legitimate partner.”

Notwithstanding I have introduced the colour of the basal joints of the labial palpi into my specific characters of *Ci. hybrida*, *riparia*, and *Sylvicola*, I am now convinced that it is of little or no importance in discriminating these insects from each other, as in my specimens of *Ci. aprica* I have one of the typical variety with the labial palpi nearly all metallic-green, and the variety β has those parts deep cærulescent-green with purplish tinges, and I now possess one specimen of *Ci. hybrida* which has their basal joints nearly white: I therefore presume that the colour varies with the age of the individual: however, with regard to the palpi of *Ci. Sylvicola*, I must, in justice to myself, observe, that in consequence of my remarks upon the alleged difference in the colour of those organs, between the *only* indigenous specimen of that insect and *Ci. hybrida*, I have been disingenuously accused of misrepresentation, and of augmenting rather than of removing error, because I employed the words *accidentally reversed*; thereby tacitly admitting the palpi of the last-named insect to be of a *ferruginous* tinge—an unimportant fact which I conceive requires no correction, inasmuch as they are usually of a *rufescent* hue: nevertheless, from what I have above observed, the actual colour of the palpi is evidently of trifling consequence; the only point worthy of attention respecting them being, that they are invariably of a pale hue in *Ci. hybrida*, and never become dark coloured in it, as in the kindred species; though it is remarkable that the only foreign specimen of *Sylvicola*, which I have had an opportunity of examining, should possess nigro-cærulescent labial palpi*.

* As this lengthened but I trust useful digression has necessarily occupied considerable space, I have increased the stipulated number of pages in the present number; and I embrace this opportunity of correcting a mistake in the characters of the section *Adephaga*, wherein it is inadvertently stated that one pair of the palpi is attached to the *mandibles*, instead of the *labium* or lower lip.



Sp. 2. *agilis*. *Oblongus, rufo-ferrugineus, thorace ferrugineo sub-quadrato, elytris fuscis obsolete striatis, disco duplici serie punctatis, antennis pedibusque testaceis.* (Long. c. 3 lin.)

Ca. *agilis*. *Fabricius*.—Dro. *agilis*. *Steph. Catal. No. 13.*

This variable species is usually larger than the next, and of a reddish rust-colour, with the thorax rather paler, and the elytra dusky-brown, obsoletely striated, with a double series of impressed dots upon each, one being between the second and third striae from the suture, the other between the seventh and eighth: the antennae and legs are testaceous.

Var. β . *Steph. Catal. l. c.* This variety has the head dusky, and agrees with the *Carabus atricapillus* of *Panzer's Fauna*, No. xxx. f. 9.

Var. γ . *Steph. Catal. l. c.* With a pale spot on the disc of the elytra, reaching from the middle nearly to the base, and an indistinct spot near the apex.

Var. δ . *Steph. Catal. l. c.* With a pale spot at the base of the elytra alone.

Not uncommon in the south of England. I have generally found it most abundant beneath the bark of firs near Hertford: the varieties are less frequent.

Sp. 3. *quadrinotatus*. *Oblongus, niger, thorace pectoreque ferrugineis, elytris maculis duabus albidis, antennis pedibusque pallidis.* (Long. c. $2\frac{1}{2}$ —3 lin.)

Cr. 4—*maculatus*. *Linne*.—Dr. 4—*maculatus*. *Steph. Catal. No. 14.*

Less than the last: black, with the thorax and breast ferruginous; the former subquadrate, with the hinder angles rounded: the elytra somewhat striated, brown, with two whitish spots: the antennae and legs pale: the body beneath pitchy.

Var. β . With the whitish spots on the elytra united.

Var. γ . With the pale spot at the tip of the elytra nearly obsolete, or totally wanting.

A very common and elegant insect: taken throughout the year, beneath the bark of trees; frequently in the winter among moss and dead leaves, and during the summer under stones: the varieties are however rare: of var. β I have seen but a solitary specimen in the collection of my friend A. Cooper, Esq. R. A.

Sp. 4. *quadrinotatus*. PLATE I. f. 4. *Oblongus, niger, thorace piceo, elytris fuscis, punctis duobus pallidis, antennis pedibusque testaceis.* (Long. c. $1\frac{1}{2}$ —2 lin.)

Ca. *quadrinotatus*. *Panzer*.—*Steph. Catal. No. 15.*

Oblong, subdepressed, black: the head black: the thorax pitchy, rather elongated, attenuated behind, the hinder angles prominent: the elytra brown, slightly striated, with two pale spots, one at the base, the other at the tip.



near the suture, and smaller than the first: the under parts of the body are obscure brown: the antennæ and legs testaceous.

Var. β . In this variety the elytra are somewhat more deeply striated, and viewed under a lens, the striæ are adorned with obsolete impressions: the basal half of the elytra is nearly all pale, and the apical portion fuscous, with a small pallid spot towards the tip near the suture: in other respects it resembles the last, but the antennæ and legs are more rufous.

Rather an uncommon species, which I have occasionally taken beneath the bark of oaks near Hertford: it also occurs in the fields to the north of London: at Cobham and Coombe Wood, Surry, and in Dorsetshire; it appears to be less rare in Yorkshire, especially the typical variety, of which my friend, Mr. Cooper, has supplied me with specimens captured by him near Langton Wold, during the present spring.

At the time I caused the drawing to be made from which the accompanying figure was taken, I suspected that the insect was a distinct species; but, upon a close examination of several specimens, I am convinced that it is merely a variety, differing in being somewhat paler, and having the elytra more strongly striated, with impressed dots, which are visible only in certain directions of light: it agrees with var. β .

Sp. 5. *melanocephalus*. PLATE I. f. 5. *Brevis, pallidus capite nigro, elytris immaculatis, abdomine ferrugineo*. (Long. c. $1\frac{1}{2}$ — $1\frac{3}{4}$ lin.)

Dr. melanocephalus. De Jean.—*Steph. Catal.* No. 16.

An elegant little species: head black: thorax rust-coloured-red, quadrate, with a strongly impressed longitudinal line: the elytra pale yellowish, very obsoletely striated: the under parts dull ferruginous: the antennæ and legs pale.

Var. β . *Dr. venustulus*. *Steph. Catal.* l. c.—A re-examination of some specimens which I had received by the name of *Lebia venustula*, Spence's MSS. has satisfied me that they are merely immature individuals of this species; the only differences I observe in them being that the head is pitchy-black, and the elytra rather transparent.

Var. γ . *Dr. scutellaris*. *Steph. Catal.* l. c.—This variety differs in having a triangular dusky-black spot at the base of the wing-cases near the scutellum, and in having the abdomen deep brown or dusky: it is somewhat larger than the first, the colour is more clear and better defined, and the antennæ are of a dusky hue towards the tip.

Although not described in the *Entomologia Britannica*, this species is not uncommon in the neighbourhood of London; and in the gravel-pits at Coombe Wood, as well as beneath moss, at Hertford and elsewhere, I have repeatedly taken it. It also occurs in



Oxfordshire, as my friend, Mr. I. O. Westwood, F. L. S., informs me; and in Dorsetshire and Shropshire: it appears, therefore, to be generally diffused.

Sp. 6. *impunctatus*. *Brevis, subæneo-niger, opacus, elytris fusciscentibus macula humerali obsoletissimâ pallidiore, tibiis tarsisque pallide fuscis*. (Long. c. $1\frac{1}{2}$ lin.)

Dr. *impunctatus*. *Kirby, MSS.—Steph. Catal. No. 17.—Dr. spilotus var.? De Jean.*

At first sight this species greatly resembles Dr. *foveolus*, but it is readily distinguished from it by the absence of the two impressed dots, so conspicuous in that insect, and, upon a closer inspection, by the presence of wings. Its upper surface is of an opaque brassy or dusky-black, with the elytra brassy-brown, and each marked on the basal angle with an obsolete pale spot: the elytra are slightly convex and obsoletely striated; the tip is obliquely truncated, and slightly sinuated: the thorax is rather transverse, with an impressed longitudinal line: the under parts of the body and the antennæ are black; the legs are pale brown, with the thighs dusky. In one of my specimens there is a very slight appearance of a pale spot near the apex of the elytra.

It is probable that this insect may be simply a variety of Dr. *spilotus* of De Jean, which, from his description, appears to be a variable species; it seems to differ, so far as I learn from his account, in wanting the pale line near the suture, the apical spot on the elytra, and in having the legs of a darker colour; but it is probable that these are variable characters, arising from the age of the individual. I have hitherto examined five specimens only; two in the collection of my friend, N. A. Vigers, Esq., F. L. S., &c., one in Mr. Stone's, and two in my own cabinet; one of the latter I found among Mr. Marsham's Carabidæ, and the other, as well as Mr. Stone's specimen, was taken near London.

Sp. 7. *humeralis*. *Brevis, niger, nitidissimus, elytris maculis duabus aut quatuor pallidis, alterâ humerali, alterâ (scæpè obsoleta) in disco elytrorum*. (Long. c. $1\frac{3}{4}$ lin.)

Dr. *humeralis*. *Curtis, MSS.—Steph. Catal. No. 18.—Dr. quadrillum? De Jean.*

Above of a deep glossy black; the elytra with a conspicuous rhomboidal yellowish-white or ochraceous spot at the basal angle, and sometimes a smaller one on the disc towards the apex: they are rather strongly striated, especially near the suture, and between the striæ are slightly impressed points: the under parts are also deep glossy black, the tarsi rather obscure or brownish: the basal joint of the antennæ is sometimes pale brown.

Closely allied to Dr. *quadrillum* of De Jean, but the anterior



margin of the thorax is not strongly notched as he describes, and the humeral spot is not round. Until very recently the only specimen I had seen of this insect was in the cabinet of J. Curtis, Esq., F. L. S., whose name I have adopted; it was taken, I believe, by him in Norfolk: however, upon an examination of all the specimens of *Dromius* which I possessed, I found among them, to my satisfaction, a single humeralis, which was captured by myself in the London district; but much as I regret the loss of the true habitat of my insect, I am happy to record the fact that several specimens were taken near Southend, in April last, by the Rev. F. W. Hope, to whose kindness I am indebted for the variety with four spots.

B. *Without wings.* a. *Body oblong.*

Sp. 8. *fasciatus*. *Subdepressus niger, thorace ferrugineo, clytris sublævibus, anticæ pallidis, posticæ fuscis, maculâ pallidâ, antennis pedibusque pallidis.* (Long. c. $1\frac{1}{2}$ — $1\frac{3}{4}$ lin.)

Ca. *fasciatus*. *Fabricius*.—Dr. *fasciatus*. *Steph. Catal. No. 19.*

Considerably elongated and depressed: head shining, pitchy black: thorax subquadrate, ferruginous, a little elongated: the elytra slightly striated, pale anteriorly, brown posteriorly, with a small pale spot near the suture: the antennæ and legs pale: under part of the body pitchy-black.—In some specimens the elytra are destitute of the pale spot, in others they are nearly all pale, with a fuscous external marginal dash near the apex: others again have a triangular fuscous spot surrounding the scutellum.

Found abundantly near Southend, by the Rev. F. W. Hope, during the spring of 1825 and 1826, and again in 1827. It also occurs in Devonshire, as appears by specimens in the British Museum. I am not aware that it has been taken elsewhere, though I have observed it in collections by the name of Dr. *bifasciatus*; but the insect, so called by De Jean, is evidently distinct, and appears not to have occurred in Britain.

Sp. 9. *notatus*. *Niger, thorace piceo, clytris sublævibus pallidis, apicæ fuscis, maculâ minutissimâ pallidâ, antennis pedibusque rufescentibus.* (Long. c. $1\frac{1}{4}$ —2 lin.)

Dr. *notatus*. *Steph. Catal. No. 20.*

It is not without hesitation that I give this insect as a distinct species: its chief differences consist in its superior size and deeper colour: like the last it is considerably elongated and depressed: the head and thorax are deep piceous, the latter has a paler margin: the basal half of the elytra is pale ochraceous, the rest fuscous, with a minute pale spot near the suture: the antennæ and legs are reddish: under parts of the body dusky.

Found at Southend with the preceding species.



Sp. 10. linearis. *Elongatus, fusco-ferrugineus, elytris punctato-striatis, pallidioribus, postice infuscatis, antennis pedibusque pallidis.* (Long. c. $2\frac{1}{2}$ lin.)

Ca. linearis. *Olivier.*—Dr. linearis.—*Steph. Catal. No. 21.*

Of a more elongate and linear form than the other species of the genus: the general colour of the upper parts is deep dusky ferruginous: the thorax rather brighter than the head, and the elytra somewhat of a pale hue, rather deeply striated, the striæ deeply punctate: the extremities of the elytra are more or less suffused with dusky: the under parts of the body are also ferruginous, with the abdomen dusky: the antennæ and legs are pale yellowish.

The most common species of this genus, frequent in hedges throughout the neighbourhood of the metropolis during the greatest part of the year, hybernating abundantly beneath the bark of trees. Found in the nidus of *Bombus Donovanellus*, in the isle of Arran, by Dr. Leach, and supposed by him to be a new species, which he proposed to call *Dr. parasiticus*.

Sp. 11. glabratus. *Oblongus, æneo-niger, elytris obsoletissime striatis, disco impunctato, pedibus nigris.* (Long. c. $1\frac{1}{4}$ lin.)

Dr. glabratus. *De Jean.*—*Steph. Catal. No. 22.*

Above glossy bronzed-black: the thorax somewhat quadrate, a little convex, smooth, with an impressed longitudinal line: the elytra very obsoletely striated: the under parts are black, with an æneous tinge: the legs are dull black, with the shanks and tarsi paler, or nearly brown.

Found, though rarely, beneath stones near Hertford; not uncommon in the sandy heaths between Cobham and Ripley, Surry, and at Southend.

Sp. 12. femoralis. *Niger obscurus, elytris substriatis, disco impunctato, appendiculis femoribusque basi pallidis.* (Long. c. $1\frac{1}{2}$ lin.)

Ca. femoralis. *Marsham.*—Dr. femoralis.—*Steph. Catal. No. 23.*

Distinguished from the preceding by its striated elytra, and from the following by its elongate shape: it is of an obscure black above, with the head and thorax rather shining; the latter has a longitudinal groove, and is subquadrate: the elytra are rather strongly striated, but without any impressed dots: the under parts are pitchy black, with the trochanters, coxæ, and base of the thighs pale testaceous brown, the rest of the thigh black: the tibiæ and tarsi pale brown: the antennæ are dusky, with their tips reddish.

I possess two specimens of this insect (which somewhat resembles *Dr. pallipes*, Ziegler), one of which I obtained from the cabinet of the late Mr. Marsham, the other was found in the vicinity of London.

b. *Body short.*

Sp. 13. *truncatellus*. *Brevis, æneo-niger, elytris substriatis, disco impunctato, pedibus piceis*. (Long. c. $1\frac{1}{2}$ lin.)

Ca. *truncatellus*. *Linne*.—Dr. *truncatellus*.—*Steph. Catal. No. 24.*

Very similar to Dr. *foveolus*, but at once distinguished from it by the absence of the impressed dots on the elytra, its smaller size, and more elongate form. Above glossy black, with a slight æneous tinge: thorax rather deeply channelled: elytra rather convex, black, glossed with brassy, obsoletely striated, but without any foveolæ on the disc: body beneath smooth, glossy black: thighs pitchy black: shanks and tarsi brownish: mouth and palpi blackish-brown.

Found in dry sandy and gravelly situations, beneath stones, near London.

Sp. 14. *foveolus*. *Brevis, æneo-niger, supra-æneus, elytris obsoletè striatis, disco bifoveolato*. (Long. c. $1\frac{1}{2}$ —2 lin.)

Le. *foveola*. *Gyllenhal*.—Dr. *foveolus*. *Steph. Catal. No. 25.*

An elegant and very common species: above brassy black: the head is broad and smooth: the thorax a little wider than the head, and narrower posteriorly, with an impressed longitudinal line: the elytra are still wider than the thorax, they are obsoletely striated, and have each two deeply impressed dots near the third stria; the under parts are glossy black: the legs the same, with the tarsi brownish.

Frequent throughout the metropolitan district*, in sand and gravel pits; also beneath stones; and under bark and moss in the winter.

GENUS VII.—LEBIA, *Latreille*.

Palpi with the terminal joints filiform, nearly ovate, slightly truncate at the tip: *labium* elongate, rounded, hirsute: *labial palpi* with the two basal joints short, the third and fourth elongate: *mentum* with the sides lobed, centre produced, not toothed: *labrum* suborbicular: *mandibles* dentated at the base: *tarsi* with triangular joints, the penultimate bifid: *antennæ* growing thick towards the tip, with the third joint longest, the second shortest, the rest nearly equal in length, the terminal one being rather the longest. *Head* ovate, a trifle produced behind: *thorax* transverse, with the hinder margin produced into a lobe in the middle: *elytra* very broad: *body* short, much depressed: *claws* denticulated: *wings* long.

As before remarked, the individuals comprised in this genus are more frequently observed beneath the bark of trees than under stones, but in Britain they are very rare; they are usually very

* The circuit comprised within twenty-five miles of St. Paul's.



beautiful, though small, insects, and are discriminated from the other genera of this family, excepting *Lamprias* (from which they may be readily known by the slenderness of the base of the antennæ, and the more evidently bifid penultimate joint of the tarsi), by their transverse lobated thorax.

Sp. 1. *crux-minor*. PLATE I. f. 6. *Niger, thorace pedibus antennarumque basi rufis, elytris rufo-testaceis cruce nigra*. (Long. c. 3 lin.)

Ca. *crux-minor*. *Linne*.—*Le. crux-minor*. *Steph. Catal. No. 26*.

Head black, punctate: thorax rufo-ferruginous: the elytra short, subquadrate, slightly striated, with two minute impressed dots on the third stria from the suture: in colour they are pale rufo-ferruginous: the suture is black, with a large triangular spot at the base surrounding the scutellum, which is also black: rather beyond the middle of the elytra is a broad slightly waved transverse black bar, which expands towards the suture, and on the sides of the elytra towards the tip, where it again joins the suture, forming a round unclouded spot at the apex: the breast and abdomen are black: the legs rufo-testaceous, with the tips of the thighs and the tarsi dusky: the three basal joints of the antennæ and the base of the fourth are rufous, the rest obscure black.

This species still remains a desideratum to most collections, and is apparently very rare. I have one specimen from the collection of the late Mr. Marsham, and a male which was captured near Windsor; it has once been found at Coombe Wood; and Mr. Curtis mentions that Mr. Brightwell took one out of a tan-pit at Lymington, Hants. Dr. Leach has obtained specimens from Bristol, and the Rev. F. W. Hope found one upon sorrel, near Netley in Shropshire, in August, 1824.

† Sp. 2. *turcica*. *Niger, ore, antennis thoraceque rufis, elytris nigris lunula baseos pallida*. (Long. c. $2\frac{1}{2}$ lin.)

Ca. *turcicus*. *Fabricius*.—*Le. turcica*. *Curtis. ii. pl. 87*.—*Steph. Catal. No. 27*.

Head black, strongly punctate and rugulose between the eyes: mouth, palpi, antennæ, and thorax rufo-ferruginous; the latter with an impressed line down the middle, and slightly wrinkled transversely: the elytra black, with a testaceous yellow irregular crescent-shaped spot at the base of the external margin, and a narrow border of the same colour extending to the tip; each is adorned with eight nearly smooth striæ and an abbreviated finely punctured one near the scutellum, and also two impressed dots near the third stria from the suture. The breast is ferruginous; the abdomen black, with an ochraceous spot in the middle; the legs are testaceous yellow.



Fabricius was the first person who noticed this insect, and he expressly describes it as a native of England, from a specimen in the collection of Dr. Hunter: a fact of which no English writer appears to have been aware. It may be esteemed a very rare species. I have hitherto seen but six specimens, which were captured in Oakhampton Park, Somersetshire; four of these are now in the collection at the British Museum, to which they were presented by my friend, Dr. Leach; the fate of the other two I have reason to deplore.

† Sp. 3. hæmorrhoidalis. *Rufa; elytris nigris, apice rufis.* (Long. c. 2 lin.)

Ca. hæmorrhoidalis. *Fabricius.*—Le. hæmorrhoidalis. *Steph. Catal. No. 28.*

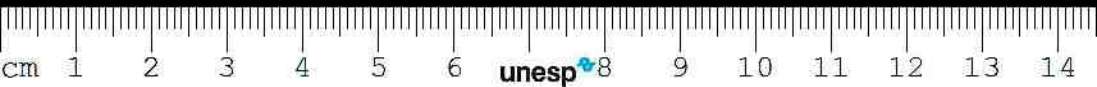
About the size of *Le. turcica*. the head, antennæ, thorax, and scutellum are red: the eyes and elytra black; the latter with a yellowish rusty-red spot at the tip, waved on the upper part: the elytra are very slightly striated and finely punctated; they have also two impressed dots, as in *Le. turcica*: the breast is dusky; the rest of the under parts and the legs are rusty-red.

I have seen one specimen only of this insect, which was captured near Netley, Shropshire, on broom, by the Rev. F. W. Hope.

GENUS VIII.—LAMPRIAS, *Bonelli.*

Palpi with the terminal joints filiform, distinctly truncated: *labium* elongate, entire: *labial palpi* with the two basal joints short, the third and fourth elongate, the latter subtruncate. *mentum* lobated, not toothed: *labrum* suborbicular, entire: *mandibles* not toothed: *tarsi* with triangular joints, the penultimate very obsoletely bifid: *antennæ* nearly linear, the basal joint largest, and nearly the length of the third, which is longest, the second shortest, the remainder nearly equal in length, the terminal joint not longer. *Head* subovate, a little produced posteriorly: *thorax* transverse, the hinder margin lobated: *elytra* broad: *body* short, depressed: *claws* denticulated: *wings* short.

This genus was established by Bonelli upon very slender characters; so much so as to induce De Jean to reunite it with *Lebia*: but the difference of habit between the species of the two genera is, in my opinion, sufficient to induce us to pause ere we retrograde and expunge the genus *Lamprias* from our nomenclature: the chief differences between them consist in the present genus having linear antennæ, short wings, the palpi distinctly truncated, and the penultimate joint of the tarsi so very slightly bifid as to appear simple; while in *Lebia* the antennæ become incrassated towards the ex-



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G.M. Lucas, del.

J. Samuël, Senr. sculp.

London, Published by J.F. Stephens, July 1 1827.



tremities, the wings are long, the palpi slightly truncated, and the penultimate joint of the tarsi is very strongly bifid. All the species frequent broom, and are of lively, brilliant, colours.

Sp. 1. *cynocephalus*. PLATE II. f. 1. *Cyaneo-viridis, thorace pedibusque rufis, femoribus apice tarsisque nigris, articulo primo antennarum rufo.* (Long. c. $2\frac{1}{2}$ — $3\frac{1}{2}$ lin.)

Ca. *cynocephalus*. Linné.—La. *cynocephalus*. Steph. Catal. No. 29.

The head is bluish-green, strongly punctate: the thorax is ferruginous-red, rather convex, strongly punctate, with a distinct longitudinal impressed line in the middle, and a transverse line, which divides the lobated appendage: the scutellum is dusky: the elytra are rather broader than the thorax, their angles are rounded, and their colour varies from clear green to blue and dusky; they are highly glossed and brilliant, and have impressed subpunctate striæ, the spaces between which are more or less punctate: the breast and the abdomen are bluish-green: the legs are ferruginous, with the tips of the thighs and the tarsi dusky or blackish: the basal joint of the antennæ is rusty-red: the remaining joints and the palpi are dusky-brown.

This species varies considerably in the colour of its elytra, and also in size: some specimens, as above noticed, are fine green, others deep blue; and it is observed by M. De Jean that the larger specimens on the continent are usually of the former colour. I may here remark as a general rule, that all insects that are usually of a green colour, vary to different shades of blue, and vice versa.

Not a very common insect; I have seen about twenty specimens only, most of which were captured at Darenth in Kent, six by myself out of the common broom: it has also been taken at Windsor, and at Netley in Shropshire; and in June last I found a specimen at Ripley in Surry.

Sp. 2. *nigritarsis*. *Cyaneo-viridis, articulo primo antennarum pedibusque nigricantibus, femoribus basi thoraceque rufis.* (Long. c. $2\frac{1}{2}$ lin.)

La. *nigritarsis*. Leach, MSS.—Steph. Catal. No. 30.

The principal differences between this insect and La. *cynocephalus* arise from the present species having the base of the antennæ, the tibiæ, and the tarsi dusky, the two former of which are rufous in *cynocephalus*: the head is blue-green or dusky: the thorax rufous: the elytra deep blue or greenish; striated, with impressed dots between the striæ, and two more deeply impressed spots between the second and third striæ from the suture: the antennæ are dusky, with a rufous tinge on the under side of the basal joint: the abdomen is blue-black, the breast red; the base of the thighs red, their tips blue-black; their shanks dusky, with a paler hue on their under-side; the tarsi dusky.

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Taken at Windsor and Dover: at the last place by myself, out of the common broom. In the British Museum is a specimen from the former place of a most splendid opaline purple-cyaneous tinge.

Sp. 3. chlorocephalus. *Cyaneo-viridis, antennarum articulis tribus baseos, thorace pectore pedibusque rufis, tarsis nigris.* (Long. c. $2\frac{1}{4}$ — $3\frac{1}{2}$ lin.)

Ca. chlorocephalus. *Ent. Hefte.*—La. chlorocephalus. *Steph. Catal. No. 31.*

Head as in La. cyanocephalus, but more strongly punctate: thorax rather longer, more attenuated behind, and the posterior angles more produced and acuminate than in the first species; it is also rather more convex; its colour is similar: the scutellum is rufo-ferruginous: the elytra are generally of a beautiful emerald-green, sometimes bluish; they are regularly punctato-striate, the spaces between flat, with minute somewhat regularly disposed impressed dots: near the third stria from the suture are two larger impressions: the head is piceous beneath: the breast rusty-red: the abdomen blue-green: the legs entirely testaceous-red, with the tarsi brownish, or dusky: the two basal, and the under part of the third, joints of the antennæ are ferruginous; the rest black.—It varies considerably in size and colour.

Common upon broom in the neighbourhood of London: the specimens which I have obtained from Epping Forest are generally but half the size of those taken at Darent, and their wing-cases are usually deeply tinted with blue. Not uncommon in many other parts of Britain.

Sp. 4. rufipes. *Nigro-cyaneus, thorace pectore pedibusque rufis; elytris cyaneis striatis, striis interstitiisque obsolete punctatis.* De Jean. (Long. c. $2\frac{1}{2}$ lin.)

Le. rufipes. *De Jean.*—La. rufipes. *Steph. Catal. No. 32.*

Closely allied to the preceding insect: the head is deep blue-black: the thorax red, very slightly wrinkled transversely: the elytra blue-green, slightly striated, with impressed dots between the striæ, and two more deeply impressed between the second and third striæ from the suture; the tips of the elytra are slightly rounded: the three basal joints of the antennæ are red, the remainder dusky: the abdomen is bluish-black, and the breast and legs are rufous; the tarsi somewhat more obscure.

I have seen but my own single specimen of this insect, which was taken in Hampshire:—it may possibly be merely a variety or an immature specimen of the preceding: its chief differences appear to consist in the three basal joints of the antennæ being entirely



rufous; the legs being totally of that colour, without black tarsi, and the punctations on the elytra being more obsolete.

GENUS IX.—TARUS, *Clairville*.

Palpi various: *labium* coriaceous in the middle, rounded at the tip: *labial palpi* with the terminal joint large, securiform: *external maxillary palpi* filiform: *mentum* lobated, with a simple notch in the middle: *labrum* subquadrate, emarginate: *tarsi* with their joints nearly cylindric, entire; the *anterior* very slightly dilated in the males. *Head* oval, a little produced behind: *thorax* obcordate-truncate: *body* oblong, depressed: *claws* denticulated below: *wings* moderate: *antennæ* filiform.

Latreille and Clairville proposed this genus about the same period; the name applied by the former has been usually adopted, and I have unintentionally followed the stream by using it in page 12, contrary to the maxims which are laid down for the proper application of generic names,—the term *Cymindis* having been anciently used to designate a bird of the hawk kind, to which it has recently been restored by ornithological writers.

The Tari are all rare in this country: they are found beneath stones, usually in damp places near the coast: they are much elongated and very flat, and are generally of sombre brownish hues, and are with difficulty discriminated from each other, owing to their great similarity in colouring and markings.

Sp. 1. *angularis*. *Piceo-niger, punctatus, ore, antennis, thorace pedibusque ferrugineus, elytris macula humerali margineque flavo-testaceis*. (Long. c. $3\frac{1}{2}$ —4 lin.)

Cy. *angularis*. *Gyllenhal*.—Ta. *angularis*. *Steph. Catal. No. 33*.

Head pitchy-black, slightly punctate, the mouth and palpi ferruginous: thorax ferruginous, anteriorly broad, truncate, the sides rounded, base slightly rounded, with the angles minute and prominent; the disc convex, slightly punctate, and a little wrinkled transversely, the edge very thickly and deeply punctate; an obsolete longitudinal line down the centre with two obscure rugose foveolæ at the base: scutellum ferruginous; punctate: elytra oblong, much depressed, very shining, with strongly impressed punctate striæ, the intervals very flat and thickly and rather deeply punctate, with about three strong impressions near the sutural edge of the third stria; they are of a pitchy-black, with a spot at the basal angle, and the external margin testaceous-yellow; the spot at the shoulder united to the marginal border: the body beneath is pitchy-black, the breast being rather palest: the legs and antennæ are ferruginous, the latter pubescent at the tip.



I have several specimens of this insect, of which three were taken at Swansea, and one I obtained from Mr. Marsham's collection, in which it was placed for *Ta. humeralis*; but the true Fabrician *humeralis* is a totally distinct species, which I do not possess; it, however, occurs in Britain, and is subsequently described.

Sp. 2. *lævigatus*. PLATE II. f. 2. *Piceo-niger, obsoletissimè punctatus, antennis thoraceque ferrugineis, pedibus pallidis, elytris maculâ humerali margineque flavo-testaceis.* (Long. c. 4—4½ lin.)

Ta. lævigatus.—*Steph. Catal. No. 34.*

This appears to be a distinct insect from the preceding, and differs chiefly by having the surface of the elytra very obsoletely punctate, and the striæ more obscure, with deeply impressed spots: the elytra are very dull, and the edges of the thorax are very strongly rugose, with a less deeply impressed longitudinal line than in *Ta. angularis*: the insect is also broader in proportion, but its colouring is very similar, except that the mouth is piceous instead of ferruginous, the antennæ more dusky, and the under parts nearly all ferruginous instead of piceous, as in *Ta. angularis*: the head is much more advanced, and is larger than in that species. In other respects the two insects are very similar.

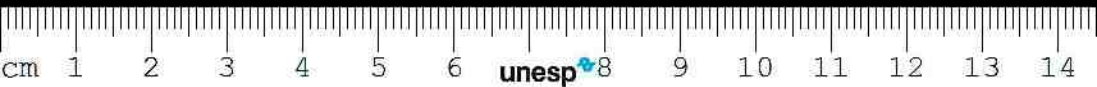
I have two specimens of this insect which were taken in the neighbourhood of London; and, unless I am mistaken, several individuals were captured near Hammersmith many years since by a collector, who has suffered them to perish.

Sp. 3. *macularis*. PLATE II. f. 3. *Niger, glaber, confertissimè punctatus, ore, antennis thoraceque ferrugineis, pedibus pallidis, elytris maculâ humerali lineolâ apicis margineque laterali rufo-ferrugineis.* (Long. c. 5 lin.)

Cy. macularis? *Mannerheim*.—*Ta. macularis*.—*Steph. Catal. No. 35.*

This very pretty and distinct species, which appears to be the *Cy. macularis* of Mannerheim according to the description of De Jean, differs from the other indigenous species of the genus by its very superior breadth, and in several other important discrepancies: it is also much larger; it has the mouth, antennæ, and thorax ferruginous, the latter being rather dusky on the disc, which is very thickly, though delicately punctate: the thorax is slightly emarginated in front, and has its edges very thickly and strongly punctured with impressed dots: the elytra are broad, with the margin, a large humeral spot connected therewith, and a dash towards the apex pale rufo-ferruginous: they are depressed, rather glossy and punctate, with rather obsolete striæ, not much impressed: the body beneath is deep glossy black: the legs and antennæ are ferruginous.

I have seen one specimen only of this species, which is in my



own collection, and was obtained from that of Mr. Marsham, in which it was placed as the other sex of *Ta. humeralis*: the habitat I cannot give.

† Sp. 4. humeralis. PLATE II. f. 4. *Niger glaber, subtiliter punctatus, ore, antennis, pedibusque ferrugineus, elytris macula humerali margineque antice flavo-testaceis.* (Long. c. 4—5 lin.)

Ca. humeralis. *Fabricius*.—*Ta. humeralis*.—*Steph. Catal. No. 36.*

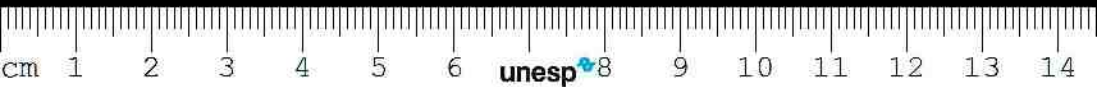
Head shining black, large, thickly, but not deeply, punctate: the mouth and palpi ferruginous: thorax much broader in front and truncate, the sides rounded, the base a trifle rounded, with the angles minute and prominent: the disc convex above, sparingly and slightly punctate, glossy black, the edge thickly and strongly punctate and depressed, the sides reddish-piceous: towards the base two impressed foveolæ: the scutellum punctate, rufo-piceous: the elytra oblong, rather oval, flat, rounded anteriorly, and nearly square at the tip; they are very deeply striated: the striæ very slightly punctate, with very minute impressed dots between, and two or three very deeply impressed near the third: in colour they are blackish, the outer margin being testaceous-yellow from the base nearly to the extremity, with an oblong spot of the same colour at the basal angle, which is united to the margin: the body beneath is glossy rufo-piceous, with the edge of the abdomen black: the legs are totally of a pale ferruginous: the antennæ are of the same colour, and pubescent, with the base bald.

I have seen only two specimens of this species, one in the British Museum, captured by Dr. Leach near Swansea; the other in the Rev. F. W. Hope's cabinet, taken at Cuckfield, Sussex.

GENUS X.—BRACHINUS, *Weber.*

Palpi filiform, the terminal joint truncate: *labium* membranaceous, with a coriaceous stripe in the middle, the upper margin straight, entire, with the angles rather prominent: *labial palpi*, with their fourth joint rounded, oval: *maxillary palpi* filiform: *mentum* lobated, with a toothless notch in the middle: *labrum* short, transverse: *mandibles* short, dentate at their base: *tarsi*, with their joints nearly cylindric, simple: *body* thick, rather convex. *Head* oval, rather produced behind: *thorax* elongate-cordate: *elytra* oval, slightly truncate: *legs* moderate: *claws* simple: *wings* large: *antennæ* filiform.

The Brachini are readily known from the other genera of this family by the convex form of the body, combined with short filiform palpi; from Cymindis they are discriminated by having the claws simple, and by their vivid colours: they usually secrete themselves beneath stones or dead leaves, and are distinguished by a faculty subsequently detailed.



Sp. 1. crepitans. PLATE II. f. 6. *Ferrugineus; elytris subcostatis, cyaneo-virescentibus; antennarum articulo tertio quartoque abdomineque obscuris.* (Long. c. $2\frac{1}{2}$ — $4\frac{1}{4}$ lin.)

Ca. crepitans, *Linné*.—Br. crepitans.—*Steph. Catal. No. 37.*

This remarkable insect varies much in size and in colour: the head is oblong, ferruginous-red: the antennæ are of the same colour, with a conspicuous obscure spot on the third and fourth joints: the eyes are projecting and black: the thorax is cordate, the colour of the head, slightly wrinkled transversely, and very obsoletely punctured with a longitudinal impressed line: the scutellum is ferruginous: the elytra are much broader than the thorax, oblong, rather oval, round at the base, very slightly pubescent, and delicately punctate: they are strongly costate, or ribbed, and they vary much in the intensity of their colour, in some species the green tinge predominates, in others the blue, the smallest specimens being usually the brightest,—which is the reverse of the continental specimens, as De Jean says the largest are the most vivid green.—Beneath, the abdomen is of an obscure brown: the middle of the breast is more or less reddish: and the legs are ferruginous-red.

Far from an uncommon species, occurring even among the “busy haunts of man,” on the northern verge of the metropolis; but its most usual habitat appears to be on the banks of the larger rivers, and near Gravesend and Southend, on the shores of the Thames, it occurs in great profusion; it also occurs near Cobham in Surry, at Hertford, in the New Forest, Hants, near Teignmouth in Devonshire, and in Glamorganshire.

I noticed in page 12, that the typical genus of this family was endowed with a remarkable and singular property as a defence against the attacks of its enemies, and as this species is not only the most common of the genus in Britain, but also the one upon which the observations were originally made, I shall here detail it.

At the posterior extremity of the abdomen a little sac or bladder is placed, which is furnished with the means of producing a highly volatile fluid, which the animal has the power of suddenly ejecting: this fluid is apparently of an acid nature, and is of so pungent a quality, as to irritate considerably any part of the body upon which it falls; and if any should by accident get into the eyes, the pain for a time is excessive; and if permitted to be discharged upon the skin, it becomes coated with a kind of dusky tinge. Now from the very rapid volatilization of this fluid when emitted from the body of the animal, a curious effect is produced, accompanied with a considerable explosion—especially in the larger continental species, as related by foreigners—and a bluish kind of vapour



ascends, which is found to be most beneficially employed by the animal for its own preservation. In common with the other smaller Geodephaga this insect is obnoxious to the attacks of the larger species, and it has been observed, that when one of the latter makes an assault upon it, that it lies down in the path of its adversary—who advances with expanded jaws ready to devour it—and immediately discharges its artillery, as it has not unaptly been termed, which causes the enemy suddenly to draw back in confusion, and the Brachinus conceals itself in some neighbouring crevice, or flies off: the latter method is seldom resorted to. From this military kind of procedure the Brachini have been called Bombardiers; and it is stated by Rowlander that they are capable of effecting eighteen or twenty discharges at a time, though, notorious as this fact is, a practical English collector asserts* that the account is little better than a fable and an amusing tale; but I presume that this author must have laboured under some delusion, or has not paid that attention to the subject, which appears requisite, before attempting to controvert a well-established fact. So far as my experience leads me, I have invariably found that the insects are ready to discharge their ammunition at all times, especially if roughly handled; and Mr. Cooper informs me, that one he met with at Cobham, in the beginning of the present spring, performed the operation no less than thirteen times in rapid succession.

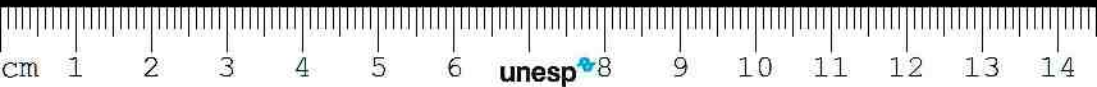
Sp. 2. *explodens*. *Ferrugineus; elytris sublævibus nigro-cyaneis antennarum articulo tertio quartoque abdomineque obscuris.* (Long. corp. $2\frac{1}{2}$ lin.)

Br. *explodens*? *Dufts.*—*Steph. Catal.* No. 38.

Very similar to the last, but smaller, and the elytra of a deeper hue, with less elevated costæ: like Br. *crepitans*, the antennæ have the third and fourth joints spotted with dusky, and the abdomen obscure fuscous: the head, thorax, legs, and antennæ, except as above noticed, are bright ferruginous; the elytra blue-black, with very obsolete ribs, and the abdomen dusky.

Four specimens, which are evidently distinct from Br. *crepitans*, and agree pretty accurately with the description of Br. *explodens* of Duftschmidt, were taken near Southend in April last by the Rev. F. W. Hope, who furnished me with a pair while recent.

* Vide Millard's *Outlines of Brit. Ent.* p. 221.



Sp. 3. glabratus. *Ferrugineus; elytris sublævibus, cyaneis; abdomine obscuro.* De Jean. (Long. c. $2\frac{1}{2}$ lin.)

Br. glabratus. *Bonelli.*—*Steph. Catal. No. 39.*

Very similar to Br. crepitans, but at once distinguished from it by the want of the elevated costæ on the elytra, and by having the antennæ spotless, by which character it may also be known from Br. explodens. It is ferruginous, with the elytra bluish-green, and the abdomen obscure fuscous.

The first indigenous specimen of this species which I examined was taken by myself in the month of June, 1819, beneath a stone near Dover, on the road to Folkestone, and Dr. Leach took a second, about three years since, near Ashburton, in Devonshire, which he sent to the British Museum, where it is now deposited. No other instance of its inhabiting Britain has come to my knowledge, but it is probably not uncommon in the districts above-mentioned.

Sp. 4. sclopeta. PLATE II. f. 5. *Ferrugineus; elytris sublævibus, cyaneis, suturâ abbreviatâ ferrugineâ.* (Long. c. 3 lin.)

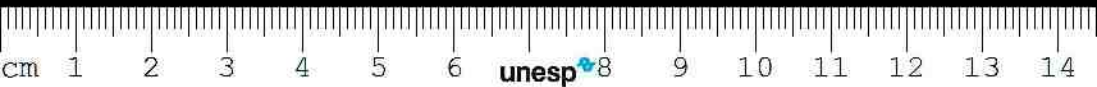
Br. sclopeta. *Fabricius.*—*Steph. Catal. No. 40.*

Known at first sight by the abbreviated red dash at the base of the elytra, near the scutellum: it is rather less than the general size of Br. crepitans, a little more elongated, and rather more convex: it is ferruginous on the head, thorax, breast, and the entire abdomen; the legs are also of that colour, as well as the antennæ and the basal half of the suture: the elytra are rather shorter and broader than in the common species, and are blue-green, without elevated lines: the antennæ are clear ferruginous-red, without any duskiness on the third and fourth joints.

Of this species I have seen but three specimens, the first of which was captured by Dr. Leach in Devonshire, two years since; the second is in the collection of the Rev. F. W. Hope, and the other in my own. I am not aware of the locality of the two last, but I rather suspect that mine came from Hastings.

FAMILY III.—SCARITIDÆ, *Mac Leay.*

Elytra not truncated: *abdomen* remote from the thorax, or pedunculated. *Antennæ* moniliform, the basal joint largest: *labrum* short, entire, or dentate, sometimes trilobate: *mandibles* generally dentated on the inner edges: *maxillæ* ciliated internally, bent, with a claw at the tip: *labium* short, broad, expanded on the upper edge, or projecting, trilobate, with the central lobe obtuse and truncate at the tip; *labial palpi* four in number: *mentum* large,







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tridentate, the middle tooth strong: *anterior tibiæ* deeply emarginated internally, and generally expanded and palmated externally: *anterior tarsi* simple in both sexes: *head* large.—*Labial palpi* four-jointed; two in number, not four, as stated by a typographical error in page 36.

The typical character of this family, as observed by Mr. MacLeay, "consists in the broken antennæ, the pedunculated abdomen, the semilunar thorax, and digitated anterior feet." Several genera are found in Britain, which may be thus briefly discriminated:—

<i>Tibiæ anticæ</i> palmatæ:	forte dentatæ:	.	.	.	.	11. SCARITES.
<i>Mandibulæ</i> introrsum	haud dentatæ:	.	.	.	.	12. OXYGNATHUS?
	denticulatæ:	Thorax	{	quadratus:		13. CLIVINA.
			{	globosus:		14. DYSCHIRIUS.
<i>Tibiæ anticæ</i> haud palmatæ	.	.	.	.	.	15. DISTOMUS.

GENUS XI.—SCARITES, *Fabricius*.

Labrum very short, tridentate: *mandibles* large, porrected, strongly dentated internally: external *maxillary palpi* and terminal joint of the *labial* nearly cylindric: *labium* short, broad, concave, emarginate: *mentum* trilobate: *antennæ* with the basal joint subconic, the remaining joints gradually increasing in thickness to the tip: *thorax* broad, lunate: *body* oblong, more or less depressed: *anterior tibiæ* strongly palmated: the rest simple.

The insects of this genus are nocturnal feeders; and during the day they lurk almost without motion in the holes which they dig in the earth, but at night they sally forth in quest of their prey: they frequent the sea-coasts, but are very rare in Britain. There are two sections of this genus, which is rather an extensive one; the first of which possesses two perpendicular spines on the intermediate legs; the second one spine only:—*Sc. Beckwithii* and *subterraneus* belong to the first, and *lævigatus* to the second.

† Sp. 1. *Beckwithii*. PLATE III. f. 1.—*Niger, tibiis anticis tridentatis, posticè quadridenticulatis, elytris oblongis, striatis, striis haud punctatis; antennis pedibusque nigro-piceis*.—(Long. corp. 8½ lin.)

Sc. Beckwithii. *Steph. Catal. No. 41*.

Apparently very closely allied to *Sc. subterraneus*; dull black above: the head smooth, with two deep impressions in front: the antennæ reddish-brown:

† Sp. 2. *subterraneus*. *Niger, tibiis anticis tridentatis, posticè denticulatis; elytris oblongis, striatis, striis obsoletissime punctatis, punctisque tribus impressis*. (Long. corp. 7½ lin.)

Sc. subterraneus. *Fabricius*.—*Martyn, Col. pl. 38. f. 46*.—*Steph. Catal. No. 42*. More convex than the preceding: it is brilliant black above: the head has two longitudinal impressions: the elytra are oblong, striated; the striæ obsoletely

MANDIBULATA, VOL. I. 1ST AUGUST, 1827.

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eyes dusky: the thorax is broader than the head, a little excised anteriorly, and emarginated posteriorly: it is smooth and slightly convex, with an obsolete longitudinal line, and a deeply impressed one parallel with the anterior margin: the elytra are rather convex, with eight not very deeply impressed smooth striæ, the lateral ones being slightly obliterated: the under parts of the body are pitchy-black; the legs ferruginous-brown, the tarsi and denticulations being palest: on the intermediate tibiæ are two perpendicular spines.

I have seen but three reputed indigenous specimens of this species, which appear to be distinct from *Sc. subterraneus*; though, as I have not had an opportunity of collating them together, I cannot confidently assert that they are all the same. Of these the one from which the accompanying figure and description were drawn is in the collection of N. A. Vigors, Esq., and was formerly in that of Mr. Beckwith; but its locality remains unknown: the second specimen is in the British Museum, and was obtained from the collection of the late Mr. Lyon, who took it near Dover: and the third specimen was captured about fifteen years since on the Yorkshire coast.

punctated, with three impressed dots on the disc: the anterior tibiæ are tridentate in front, and denticulated behind.

Martyn appears to have introduced this insect, which is a native of North America, into the British Fauna, probably by mistake for the individual above mentioned, which was in the collection of the late Mr. Beckwith.

‡ Sp. 3. *lævigatus*. *Niger, tibiis anticis tridentatis, postice bidenticulatis, elytris oblongis, subdepressis, obsolete striato-punctatis, punctisque duobus posticis impressis.* (Long. corp. 7 lin.)

Sc. lævigatus. *Fabricius.—Wilkin.—Steph. Catal. No. 43.*

Similar to the preceding, but less, and more depressed. Antennæ fuscous: head black: thorax black, immaculate, rounded behind, with a central channel: elytra black, very smooth, glossy, but with a lens a trifle striated and punctated.

This species appears to have been accidentally introduced into the British list, in a printed list of the rare insects contained in Mr. Wilkins's collection, by mistake, for the insect described above. I have never seen a reputed indigenous specimen.

GENUS XII.—OXYGNATHUS? *De Jean.*

Labrum short, indistinct: *mandibles* porrected, bent, very acute, not dentate internally: *labial palpi* with the terminal joint nearly cylindric: *mentum* trilobate: *antennæ* moniliform; the basal joint long, the others less, rounded, gradually thickened towards the extremity: *body* oblong, cylindric: *thorax* quadrate: *anterior tibiæ* palmated.

† Sp. 1. *anglicanus*. Plate III. f. 2. *Niger, nitidus; antennis, palpis, tarsisque nigro-piceis.*—(Long. corp. $5\frac{1}{2}$ lin.)



GENUS XIII.—CLIVINA, *Latreille*.

Labrum a little advanced, quadrate, transverse: *mandibles* short, acute, denticulated from their base to the apex: *labium* transverse, gibbous: *labial palpi* with the terminal joint nearly cylindric: *antennæ* moniliform, with the basal joint stout, the following very long: *body* elongate, subdepressed: *thorax* quadrate: *wings* two or none: *anterior tibiæ* palmated externally and at the tip.

The Clivinæ are usually found beneath stones, on the borders of rivers and lakes, or in banks in damp places; they are distinguished from the Dyschirii by the form of the thorax, and from the other genera of this family by their small size.

Sp. 1. Fossor. *Nigro-piceo vel brunnea, ore, antennis, pedibusque rufis, elytris concoloribus profundè punctato-striatis*.—(Long. corp. 3—3½ lin.)

Te. Fossor. *Linné*.—Cl. Fossor. *Steph. Catal. No. 45*.

Head nigro-piceous, subpunctated; the mouth and palpi pale testaceous: eyes globose, with an elongate arched impression between them: thorax truncate anteriorly, a little convex, shining pitchy-black, obsoletely strigated, and rather deeply channelled in the middle: elytra rather convex, punctato-striate, shining pitchy-black, with four distant impressed dots on the third striæ from the suture: body beneath pitchy-black, glossy, smooth, convex: legs short, stout, and, with the antennæ, totally rusty-red.—This species varies according to its maturity in being entirely pale testaceous, brown, or chesnut, with the legs and antennæ paler.

Far from an uncommon insect in the south of England.

Ar. anglicanus. *Hope's MSS.*—Ox? anglicanus. *Steph. Catal. No. 44*.

Deep glossy black, with the antennæ, palpi, and tarsi? * ferruginous: the head depressed with an impressed dot on the forehead, and an irregular impression on each side above the eyes: thorax rather elongated, slightly emarginated in front, with a straight longitudinal line, and a subflexuous one on each side, central between it and the margin: elytra linear, subconvex, deeply striated, the striæ rather deeply punctated: legs black: the anterior tibiæ tridentate externally, and bidentate internally.

The only specimen of this curious insect which I have seen, and which is evidently of a form otherwise peculiar to South America, was picked up in a dead and mutilated state in the fields eastward of Peckham, about five years since: and from the circumstance of that spot being annually occupied by booths, &c., for the sale of merchandize, the exhibition of animals, and so forth, I presume that it may have been accidentally dropped therefrom, and has thus found its way into our Fauna. From the singularity of its form I have introduced a figure, through the kindness of the Rev. F. W. Hope, to whom the specimen belongs.

* One of the anterior tarsi alone remains.



Sp. 2. *collaris*. PLATE III. f. 3.—*Nigro-castaneus, elytris pallidioribus punctato-striatis, ore, antennis, pedibusque rufis*. (Long. corp. $2\frac{1}{2}$ —3 lin.)

Ca. *collaris*. *Herbst*.—Cl. *collaris*. *Steph. Catal. No. 46*.

Closely allied to Cl. *Fossor*, but evidently distinct, although reputed by modern continental entomologists as a simple variety of that species: it is usually smaller, and it is of a deep chesnut-black, with the mouth, antennæ, and legs rufous, or pale in some specimens; the elytra reddish-chesnut, with the suture sometimes dusky: they are rather deeply punctate-striated, with deeper impressed dots on the third stria from the suture, as in many of the Carabidæ: and in general this species is winged, while Cl. *collaris* is generally destitute of wings, or has them merely rudimentary or imperfect.

I have no hesitation in referring this species to the Ca. *collaris* of *Herbst*, although it must be confessed his description is rather laconic and general, and his figure not very good. Dr. Leach has denominated it by the MSS. name of Cl. *sanguinea*: it is not uncommon in hedges in many places near London, particularly in Battersea fields, and on the banks of the Thames.

GENUS XIV.—DYSCHIRIUS, *Panzer*.

Labrum gibbous, obtusely rounded in front: *mandibles* stout, very acute, denticulated at the base: *labium* transverse, trifid: *labial palpi* with the terminal joint nearly cylindric: *antennæ* filiform, the basal joint stoutest, the second longest: *body* elongated, subcylindric: *thorax* globose: *wings* two: *anterior tibiæ* palmated externally, rarely at the tip.

Being unable satisfactorily to determine the species of this genus by experience, from their rarity near London, and having consequently been obliged to depend upon the collation of the few "dried specimens," which I possess with De Jean's *Coleoptères*, &c. I have adopted his descriptions in preference to working them anew, in order to guard against error; and I here take the opportunity of remarking that from the utter impossibility of deciding, with the requisite accuracy, upon the identity of other specimens of minute insects, than such as I have an opportunity of thoroughly examining and comparing, minutely, with those which are in my own possession, it is probable that more species may be at present contained in collections than I can possibly detect.

Sp. 1. *nitidus*. *Supra æneus nitidus, tibiis anticis apice bispinosus, extrorsum obsolete bidenticulatis; elytris oblongo-oratis, striato-punctatis*. (Long. corp. 2 lin.)

Cl. *nitida*. *De Jean*.—Dy. *nitidus*. *Steph. Catal. No. 47*.

Brilliant bronze: head smooth, with a deep longitudinal line on each side, above the eyes; the anterior part, with the mandibles, palpi, and antennæ brown, the latter with the apical joint obscure: eyes dusky: thorax broader than the head, very convex and globular, very smooth, with a deep longitudinal line, and an obsolete transverse one on the anterior margin: the elytra are rather broader than the thorax, oblong-oval, quadrate at the base, much rounded at the tip, and very convex; they are strongly striated, the striæ being deeply punctured with three distinct impressions on the third stria from the suture: the body beneath is dusky brown, with a bronzed tinge: the legs are somewhat ferruginous; a little tinted with bronze on the thighs: the anterior tibiæ are furnished with two strong spines of equal length, and a smaller one towards the tibial notch.

My specimens of this species—which are probably synonymous with the *Cl. elloughtonensis* of Spence's MSS.—were obtained from the collection of the late Mr. Marsham.

Sp. 2. *thoracicus*. *Supra æneus, nitidus; tibiis anticis apice bispinosis, extrorsum bidenticulatis; elytris ovatis, tenuiter striato-punctatis; antennis pedibusque rufo-piceis.* (Long. corp. $1\frac{3}{4}$ —2 lin.)

Ca. *thoracicus*. *Paykul.*—Dy. *thoracicus*. *Steph. Catal. No. 48.*

Of a brilliant bronze, and similar to Dy. *nitidus*, but smaller: the thorax rather shorter, more globose, the longitudinal line less evident: the elytra are rather shorter, broader, more oval, and somewhat more convex, with the striæ more obsolete, and the impressed dots less distinct: the antennæ and legs are similar: the anterior tibiæ have on their external side two teeth, which are more produced than in Dy. *nitidus*.

Found on the coast of Norfolk.

Sp. 3. *politus*. *Supra æneus, nitidus; tibiis anticis apice bispinosis, extrorsum obsolete bidenticulatis; elytris oblongo-ovatis, tenuiter striato-punctatis.* (Long. corp. 2 lin.)

Cl. *polita*. *De Jean.*—Dy. *politus*. *Steph. Catal. No. 49.*

Similar to Dy. *nitidus*: rather smaller, narrower, and more cylindric: the thorax less globular, rather elongated, with the longitudinal line less distinct: the elytra narrower, more elongated, and less convex; the striæ less evident, and the impressed dots very indistinct.

I possess a pair of this species, but I am unacquainted with their locality.

Sp. 4. *cylindricus*. *Supra æneus; tibiis anticis apice bispinosis, extrorsum bidenticulatis; elytris oblongis, parallelis, striato-punctatis.* (Long. corp. $2\frac{1}{4}$ lin.)



Cl. cylindrica. *De Jean*.—Dy. cylindricus. *Steph. Catal. No. 50.*

Also allied to Dy. nitidus, but narrower and more cylindric than politus: it is of a deeper but less brilliant bronze above: the thorax is, as in the last species, a little less globose, more elongate, with the longitudinal line less evident: the elytra are more elongated and nearly parallel; and their striæ are deeply impressed, and very strongly punctate: the anterior tibiæ are more strongly bidenticulated than in Dy. nitidus.

I have one specimen agreeing with the above, which was found at Swansea.

Sp. 5. arenosus. *Supra ferrugineo-æneus, tibiis anticis apice bispinosis, extrorsum obsolete bidenticulatis; elytris ovatis, striato-punctatis.* (Long. corp. 2 lin.)

Dy. arenosus? *Leach MSS.—Steph. Catal. No. 51.*

This approaches in form to the following, but it is considerably larger: its colour (which may probably arise from immaturity) is of a ferruginous-bronze, with the legs, antennæ, and palpi pale: the thorax is larger, less globular than in the preceding species, and the elytra are more deeply punctato-striated.

There is a specimen in the British Museum bearing the above MSS. name, which appears to correspond with one which is in my collection, and from which the above characters are drawn. My specimen was obtained from an unknown source.

Sp. 6. digitatus? *Supra æneus, tibiis anticis apice bispinosis (spina internâ arcuatâ) extrorsum valde bidenticulatis; elytris ovatis punctato-striatis.* (Long. corp. 2 lin.)

Cl. digitata? *De Jean*.—Dy. digitatus. *Steph. Catal. No. 52.*

The form and size of Dy. thoracicus, but of a less brilliant bronze: the longitudinal line on the thorax is rather deeper: the striæ on the elytra are more evident and deeply punctated: the interior spine, which terminates the anterior tibiæ, is recurved at its extremity, and the other denticulations of the tibiæ are more distinct than in the other species.

Of this insect I possess a single specimen, which accords with De Jean's description, excepting that the recurved spine is less evident. It may probably be a monstrosity of some other species; but I know not to which it can be referred.

Sp. 7. æneus. *Supra æneus, tibiis anticis apice bispinosis, extrorsum bidenticulatis; elytris oblongo-ovatis, striato-punctatis.* (Long. corp. $1\frac{1}{2}$ — $1\frac{3}{4}$ lin.)



Cl. ænea. Ziegler.—Dy. æneus. Steph. Catal. No. 53.

Very similar to Dy. nitidus, but generally much smaller: it is of a deeper and less brilliant bronze: the longitudinal thoracic line is less impressed, and the two denticulations on the anterior tibiæ are more evident.

This appears to be a London species: it was found abundantly in a dry bank near Walham-green, in June last, by Mr. Westwood.

Sp. 8. tristis. *Piceo-niger, tibiis anticis apice bispinosis, extrorsum obsolete bidenticulatis, elytris ovatis, tenuiter striato-punctatis.* (Long. corp. $1\frac{1}{2}$ lin.)

Dy. tristis. —? MSS.—Steph. Catal. No. 54.

Closely allied to the last, but of a deep, not very glossy, black: the impressed longitudinal line on the thorax is very obsolete, and the striations on the elytra are less evident than in the other species, and become very indistinct towards the tip: the elytra are somewhat piceous at the extremity, and are scarcely shining: the anterior tibiæ are very obsoletely denticulated externally, and the legs are browner than in the other species.

I have noticed an insect, which from the colour appears to be the same as the present, in collections by the MSS. name which is employed above: it is the only species of the genus, exclusive of Dy. gibbus, which I have ever captured, having once taken a pair near Hertford. Mr. Ingpen found one on Wimbledon-common.

Sp. 9. gibbus. *Supra nigro-æneus; tibiis anticis apice bispinosis, extrorsum obsolete bidenticulatis; elytris ovatis, subglobosis, striato-punctatis, striis apice obsoletis.* (Long. corp. $1\frac{1}{4}$ — $1\frac{1}{2}$ lin.)

Sc. gibbus. Fabricius.—Dy. gibbus. Steph. Catal. No. 55.

The smallest species of the genus: entirely of a bronzed black: the thorax is shorter, more globose, and has a less evident longitudinal line than Dy. thoracicus: the elytra are stouter, broader, more oval and convex; the striæ are strongly marked and deeply punctate, but are nearly obliterated on the outer margin and towards the extremity of the elytra: the under parts of the body resemble those of Dy. thoracicus; but the external denticulations on the tibiæ are more distinct.

This is a very common species in the neighbourhood of London, especially in Battersea-fields.

GENUS XV.—DISTOMUS, Leach.

Labrum slightly notched: *labial palpi* rather short, the terminal joints cylindrical: *mandibles* conic, a little curved, slightly dentate; *antennæ* filiform, the



joints elongate, nearly cylindric: *thorax* heart-shaped: *head* unarmed: *body* depressed: *anterior tibiæ* not palmate.

This genus stands in the foreign collection at the British Museum as *Distomus* of Dr. Leach, who appears to have separated it from *Ditomus* of Bonelli, though its characters have not yet been laid down. I have therefore endeavoured to supply them; but as the examination of the specimens in the Museum is necessarily confined to an external view, I fear that I may not have seized upon all the characters which distinguish this from the congenerous groups of *Ditomus* and *Aristus*,—from the former of which it may readily be known, by the absence of the tubercles, or horns, on the head and jaws, in both sexes,—and from the latter by the more depressed form and smaller head and thorax.

Sp. 1. Leachii. PLATE III. f. 4. *Piceo-niger, punctatissimus, elytris saturationibus, antennis pedibusque rufo-piceis, thorace lineâ longitudinali obsoleta impressa.* (Long. corp. 5 lin.)

Di. Leachii. *Samonelle, MSS.—Steph. Catal. No. 56.*

Allied to, if not the same as, *Dit. fulvipes* of De Jean—at least from his description;—it is pitchy-black, very much punctate, the thorax rufo-piceous, with an obsolete longitudinal impressed line: the elytra are striated, the interstices deeply and thickly punctated: the legs and antennæ are totally pitchy-red.

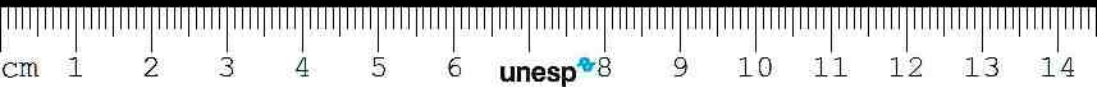
The only specimen I have seen of this species was taken by Dr. Leach about three years since, on the borders of Dartmoor, in Devonshire; it is now in the British Museum.

FAMILY IV.—CARABIDÆ, *Mac-Leay.*

Elytra entire, covering the abdomen: the anterior tibiæ not emarginated.

Antennæ linear, or setaceous: *labrum* trilobate, or bilobate, sometimes simple: *mandibles* simple, or unidentate, rarely tridentate: *maxillæ* ciliated internally, with a claw at the tip: *labium* generally with a tooth on its upper margin: *labial palpi* with four joints: *mentum* large, broad, generally produced in the centre: *anterior tarsi* greatly dilated in the males.

The Carabidæ are generally large and showy insects, and are usually adorned with splendid colours; they are mostly apterous; when irritated they have the property of ejecting a highly acrid and volatile fluid; the species found in Britain may be subdivided into eight genera, thus cursorily discriminated:—



<i>Elytra deflexa,</i>	latera abdominis amplectentia :		16. CYCHRUS.
<i>Elytra haud</i>	<i>trilobatum :</i>		17. PROCRUSTES.
latera abdo-			
minis am-	bilobatum :	<i>Antennæ</i> { cylindrico :	18. CARABUS.
plectentia :		articulo tertio {	
<i>Labrum</i>		compresso :	19. CALOSOMA.
		duæ : <i>Palpi</i> {	articulis æqua-
		maxillares {	libus : 20. NEBRIA.
		interni {	
	simplex : {		articulo ultimo
	<i>Palpi</i> {		longissimo : 21. HELOBIA.
		nullæ :	22. ALPÆUS.
	elongati,	articulo tertio longissimo :	23. LEISTUS.

GENUS XVI.—CYCHRUS, *Fabricius*.

Labrum strongly bilobate: *mandibles* porrect, rather slender, internally bidentate at the tip: *maxillary palpi*, internal with the terminal joint depressed, suboval, acuminate; *external* with the basal joint minute, second elongated, third and fourth of equal length, the latter spoon-shaped: *labial palpi* with the basal joint or scape elongated, second short, third long and spinose, the terminal spoon-shaped: *labium* tripartite: *mentum* quadrate, not toothed. *Antennæ* setaceous: *thorax* subcordate, truncated behind: *elytra* deflexed, embracing the sides of the abdomen: *wings* none: *anterior tarsi* simple in both sexes: *palpi* of male more dilated than in the female.

The genus *Cychnus* is readily known by its slender attenuated head and thorax, and by its projecting mandibles and expansive broad elytra, which are reflected over the sides of the abdomen: it has also two peculiar labial appendages, being slender processes, arising at either side of the labium, and denticulated externally at the base.

Sp. 1. *rostratus*. *Niger, immaculatus, capite elongato-angusto, punctulato, elytris granulato-rugosis, carinato-angulatis*. (Long, corp. 8—10 lin.)

Te. *rostratus*. *Linne*. Ca. *rostratus*. *Don*, xiv. pl. 504, f. 2.—*Cy. rostratus*. *Steph. Catal. No. 57*.

Head projecting, much elongated, narrow, black, slightly rugose-punctate, with an impression near the eyes, and an elevated line above the base of the antennæ: *thorax* small, oblong, anteriorly broader than the head, truncate, its sides and base rounded and elevated; above depressed, thickly rugose-punctate, with a slight longitudinal channel: *elytra* ovate, much broader than the thorax, dilated in the middle, attenuated towards the tips, and a trifle acuminate; acutely keeled on the sides with a broad inflexed margin; they are very convex, entirely black, slightly shining, and very thickly granulated: the body beneath is smooth glossy black: the legs are long and black: the antennæ very slender, black at the base, and brownish at the tip: the mandibles are rust-coloured at the tip.

Far from an uncommon species near London, and I believe fre-

quently taken in other parts: at Coombe-wood I have repeatedly found several specimens by searching in the early spring months amongst the dead leaves in the water-courses, or under the refuse materials of faggot stacks. Dr. Leach has captured it in Devonshire; and on the borders of Loch Lomond in Scotland, and other parts of that country, he found it abundantly.

† Sp. 2. *elongatus*. *Niger*, *capite lævi*; *thorace postice subexcavato*, *angulis posticis reflexis*, *subrotundatis*; *elytris utrinque carinatis*, *granulato-punctatis*, *lineisque tribus elevatis obsoletis*. De Jean. (Long. corp. 8— $9\frac{1}{2}$ lin.)

Cy. *elongatus*. De Jean.—*Lit. Gaz.*—*Steph. Catal.* No. 58.

Very similar to the preceding, but more elongated and attenuated, and somewhat larger: it is found in most parts of Europe, and De Jean is of opinion that it is merely a variety of Cy. *rostratus*.

In the Literary Gazette of the 11th of March last, this insect (alluded to in page 18) is mentioned as a native of Britain; but the specimen referred to, which was taken near Charlton in Kent, having been since brought to me for inspection, I at once perceived that it was merely the female of Cy. *rostratus*, and was surprised to find that it had been pronounced a new species to this country!

† Sp. 3. *attenuatus*. *Niger*, *elytris subcupreis*, *punctis elevatis triplici serie*, *capite angustissimo*. (Long. corp. 8 lin.)

Cy. *attenuatus*. Fabricius.—*Steph. Catal.* No. 59.

Allied to the last; but less, the thorax much narrower and more rounded behind: the elytra shining copper with a triple series of elevated striae and spots: the thighs black; the tibiae, tarsi, and antennae pale.

This species I unfortunately introduced into my prospectus as a British insect, from erroneous information given to me respecting the individual specimen mentioned under Cy. *elongatus*: at present, therefore, the existence of Cy. *attenuatus* as an indigenous insect has not been ascertained.

GENUS XVII.—PROCRUSTES, Bonelli.

Labrum trilobate: mandibles arcuate, with two teeth in the middle: *maxillary palpi*, *internal* with the basal joint very short, terminal bent; *external* with first joint short, second longest, third and fourth equal, the latter truncated obliquely: *labial palpi* with the two first joints short, third long, dilated at the apex, fourth subtrigonal, obliquely truncated: *labium* short, tridentate: *mentum* ovate, rounded at the sides, and bilobate in the middle. *Antennae* linear, fourth joint shortest: *thorax* nearly quadrate, truncate behind: *elytra* united: *wings* none: *anterior tarsi* dilated in the male.

† Sp. 1. *coriaceus*. *Ater*, *thorace obsolete subrugoso opaco*, *elytris connatis*, *profundè rugoso-punctatis*. (Long. corp. 1 unc. 6 lin.)

Ca. *coriaceus*. Linné.—Turton.—*Steph. Catal.* No. 60.

GENUS XVIII.—CARABUS *Auctorum*.

Labrum bilobate: *mandibles* arcuate, with a small tooth in the middle: *internal maxillary palpi* with both joints of equal length, and filiform; *external* with the first joint very short, second elongate, third and fourth equal, the latter obliquely truncated: *labial palpi* with the two basal joints short, third elongate, fourth securiform, obliquely truncate: *labium* short, tridentate: *mentum* linear, rounded laterally, unidentate in the middle. *Antennæ* linear, second joint shortest, third cylindric: *thorax* subcordate, emarginate behind, with the posterior angles prominent: *abdomen* oval, wings none, or rudimentary: *anterior tarsi* of males dilated.

These conspicuous insects fully illustrate the difficulty we labour under in our attempts to subdivide natural objects into groups of similar rank and importance, as a transient inspection of the genus *Carabus*, in its present restricted sense, will manifestly render evident; the structure of *Ca. intricatus* and *auratus* (figured in Plate III.) being more dissimilar than that of other insects, e. g., *Nebria* and *Helobia*, which are usually placed in different genera, or, as some persons designate them, subgenera. Yet, as I do not choose to increase the number of generic names, I shall content myself with merely subdividing the indigenous species into two sections, as, from the paucity of them in Britain, no great advantage would be derived from descending to the consideration of minute sectional characters, however desirable when applied to all the known species: it may be remarked that the majority have the elytra united, while *C. cancellatus* has them capable of motion, and is furnished with long rudimentary wings.

A. Elytra not sulcated.

Sp. 1. *intricatus*. PLATE III. f. 5.—*Elongatus, niger, supra cyaneus, thoracis angulis posticis acuminatis, elytris striis tuberculato-rugosis*. (Long. corp. 1 unc.—1 unc. 3 lin.)

Carabus intricatus. *Linne*.—*Don*, xv. pl. 526. fig. inf.—*Steph. Catal.* No. 61.

Head black, glossed with violet, with a deep impression on each side, the fore-

Head black, rugose: thorax black, opaque, sub-cordate, truncate anteriorly, emarginate posteriorly; obsoletely transversely striated, with a slender impressed longitudinal line: the elytra are black, opaque, convex, much broader than the thorax, thickly and deeply rugose-punctate, without distinct striæ: body beneath convex, black, smooth, shining: legs elongate, black: antennæ black at the base, pubescent and brownish at the tip.

This magnificent insect is marked as a native of Britain by Dr. Turton, but I believe without any authority, as I have never seen a specimen in any collection which has passed under my observation, neither have I ever met with any individual who has; but as I have pledged myself to insert all the species which have been introduced into our list by my predecessors, it is clearly incumbent on me to notice this insect.



head rugose: thorax longer than broad, attenuated behind, depressed above, with a deep longitudinal groove: it is transversely rugose throughout, of a deep violet, often tinged with green, with the margin itself black: the elytra are oblong-ovate, the base rather broader than the thorax, the shoulders obliquely rounded, a little dilated beyond the middle, and the apex obliquely truncate: in colour they are deep shining violet; the suture is a trifle elevated, and on each elytron are three series of oblong olivaceous or bronzed tubercles; the rest of the surface is very rugose, with elevated, irregular, glossy, intricate striæ, especially towards the sides: the under parts of the body are deep glossy blue-black; the legs are long, black; the four basal joints of the antennæ are black and glabrous, the rest brownish and pubescent.

Few specimens of this noble insect (which is one of the largest indigenous Coleoptera) have hitherto been captured in Britain: the first was taken by Dr. Leach, about sixteen years ago, near Tavistock, and is in the British Museum: about four years since three or four more were taken, I believe, by Mr. Tucker, in the neighbourhood of Ashburton; and last year a fine and perfect male was found by J. Abraham, Esq. in some dried wood brought from the vicinity of that place, and by him kindly presented to my cabinet. One of the above specimens is in the collection of Mr. Samouelle.

Sp. 3. *catenulatus*. *Oblongus, supra nigro-cyaneus, elytris striis elevatis scabris interstitiis subrugosis, punctisque impressis triplici serie, marginibus cyaneis.* (Long. corp. 10—13 lin.)

Carabus catenulatus. *Fabricius.—Steph. Catal. No. 63.*

Head black, glossed with violet, obsoletely striated and dotted, with a deeply impressed spot between the antennæ: thorax subcordate, thickly and roughly punctate; of a deep violet tinge; with a slight longitudinal groove; the margin much elevated, especially behind; anteriorly a little emarginate, posteriorly deeply so: the elytra are oblong-ovate; convex above, black, the margin deep cyaneous or purplish, with about fifteen elevated lines on each, much interrupted and crenated, with the third, seventh, and eleventh from the

‡ Sp. 2. *purpurascens*. *Ater, thoracis elytrorumque margine violaceo, elytris striatis.* (Long. corp. 1 unc. 1 lin.)

Carabus purpurascens. *Fabricius.—Stewart, v. ii. p. 80.—Steph. Catal. No. 62.*

Head black; thorax black, its margin acutely elevated, violet; elytra black, convex, ruggedly punctate, with the margin purplish violet: body beneath smooth, shining black: legs glossy black: antennæ black, with the tips brownish.

I have not seen an indigenous specimen of this insect: its admission into our Fauna originated with Stewart, who has introduced it as above quoted, probably by mistake, for *C. catenulatus*.



suture more raised than the rest, and interrupted with remote and larger impressed dots: the body beneath is shining black, with the sides of the abdomen a little punctate: the legs are totally black; the four basal joints of the antennæ black and naked; the remainder brownish and pubescent.

A very common and not inelegant species, found on heaths, in gardens, &c. throughout England, Scotland, and Ireland; being most abundant in the two last countries. I have two curious specimens, one of which has the 8th and 9th joints of the antennæ implanted on the apex of the 7th, and forming a fork: the other has the anterior and posterior tarsi on the right side considerably abbreviated, and the ungues totally obliterated.

† Sp. 4. *agrestis*. *Niger, thorace subcordato, elytris tenuissimè elevato substriatis: striis imbricato-scabrosis.* (Long. corp. 9 lin.)

Carabus agrestis. *Creutzer?*—*Steph. Catal. No. 64.*

Above metallic black, opaque: head obsoletely and loosely punctate: thorax subcordate, scarcely attenuated behind, margined; the margin reflexed at the base and angles; it is slightly emarginate anteriorly, and has an obsolete longitudinal line, and is thickly sprinkled with impressed dots, especially on the sides and base: the elytra are oblong, entire, a little convex, margined; the margin slightly reflexed; with a lens they are thickly striated, the striæ are composed of oblong elevated dots, broad towards the base of the elytra and acute at the tips; between them are other impressions which give the surface an imbricated appearance; and in some specimens there exists a triple series of deeply impressed dots: the legs and base of the antennæ are black, the tip brownish: the body beneath shining black.

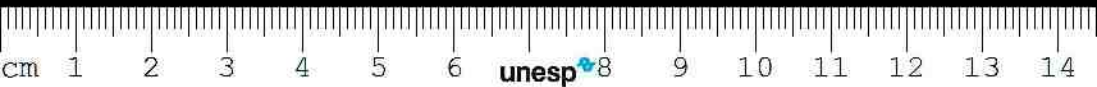
The above description, which is abridged from that of Creutzer *, apparently characterises an insect which is unnamed and unique in the British Museum, to which collection it was presented by Dr. Leach, who received the specimen from Lincolnshire; but as there are many approximating species, I will not positively affirm that this is the *agrestis* of Creutzer, my usual avocations not permitting me to give the requisite examination to the specimen in question.

Sp. 5. *monilis*. *Ater, thorace cupreo, elytris striatis, viridi-cupreis aut cyaneis; striis tribus punctorum elevatorum lineis ternis elevatis interpositis.* (Long. corp. 10 lin.—1 unc. 1 lin.)

Carabus monilis. *Fabricius.*—*Steph. Catal. No. 65.*

An elegant species: the head is deep black, bronzed or greenish; it is rugose in front, with a deep impression on each side, between the antennæ: behind slightly punctate: the thorax is subcordate, rather convex, with an impressed

* Entomologische Versuche von C. Creutzer. Wien, 1799.



longitudinal line: the surface is thickly granulated, and rugose behind and at the hinder angles; the margin is rounded, a little elevated, the posterior angle a trifle produced and obtuse: the thorax is truncate in front, and deeply notched behind: the elytra are oblong-ovate, of a rich green, brassy, or violet tinge, with three interrupted elevated striæ, having three lines of equal size between each; the suture and elevated margin are usually deep black; the under parts of the body and the legs are deep black; the basal joints of the antennæ are bronzed black, the terminal joints brownish and pubescent.

Var. β . More elongated; the posterior angle of the thorax shorter; the elytra with the central line of each series much elevated, the external ones being rather obsolete.

Var. γ . With the elytra green, striated anteriorly, with the apex and margin very rugose.

One of the most variable and elegantly sculptured species of Carabi; not uncommon in the neighbourhood of London and other places, and particularly abundant near Dover. From the very dissimilar aspect of var. β , I think it highly probable that it will prove to be a distinct species. It appears to be the *Ca. consitus* of Panzer, fas. cviii. f. 3.

Sp. 6. cancellatus. *Depressus, supra fusco-æneus aut niger, antennæ basi nigris, elytris striis tribus interruptis elevatis, lineâ unicâ elevatâ interpositâ.* (Long. corp. 9—11 lin.)

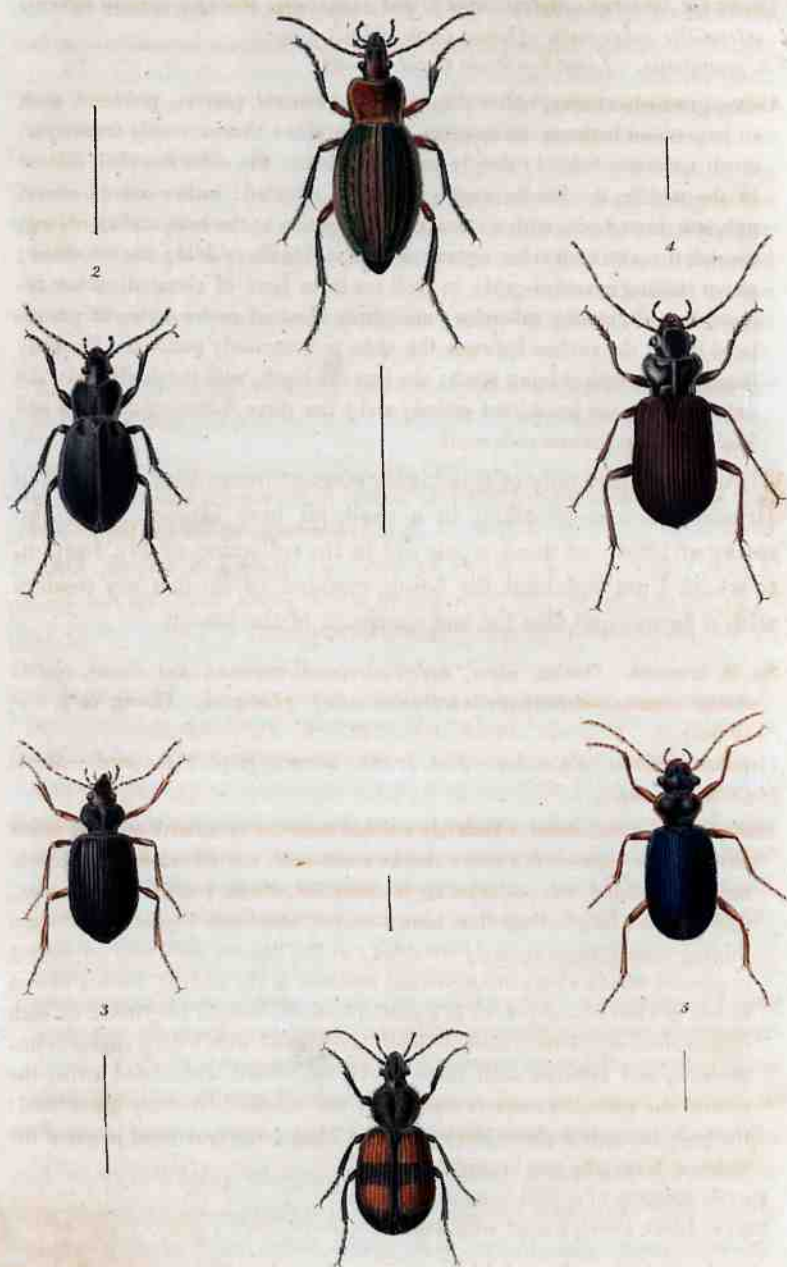
Car. cancellatus. *Fabricius.—Steph. Catal. No. 66.—Ca. granulatus. Don, vii. pl. 222. f. 3.*

Above dull brassy; sometimes greenish or deep black: head projecting, thickly punctate, with an impression between the antennæ: thorax transversely quadrate, rather narrower behind, and slightly notched posteriorly; its surface is thickly punctate, with an impressed longitudinal line, and a deep and rather large impression or fovea near the hinder angle on each side: elytra oblong-ovate, dilated beyond the middle; rather convex above, with three catenulated lines on each, composed of oblong, elevated, smooth tubercles, and between each a single, elevated, smooth, uninterrupted line; the entire surface is thickly punctate: the body is smooth, glossy black beneath: the legs and four basal joints of the antennæ are black; the rest brownish and pubescent. It has generally the rudiments of wings.

This species varies much in colour, but the black varieties are rare near London; whereas the æneous ones are not unfrequent, and are found in profusion in rotten willows, especially in the early spring months; at other times they are usually taken beneath mosses, dead leaves, stones, &c. Dr. Leach has observed that the specimens taken in mountainous districts were mostly very dark-coloured, and vice versa.







Sp. 7. *granulatus*. PLATE IV. f. 1.—*Subconvexus, supra virescente æneus, antennis basi rufis, elytris striis tribus granulatis, striisque lævibus alternis interstitiis subrugosis.* (Long. corp. 10 lin.)

Ca. *granulatus*. Linne ?—*Steph. Catal. No. 67.*

Above, greenish-æneous, rather shining: head æneous, porrect, punctate, with an impression between the antennæ on each side: thorax nearly transverse, much narrower behind; deeply notched behind: the sides rounded, dilated in the middle, the hinder angles produced, rounded: rather convex above, punctate throughout, with a transverse impression at the base, and an oblong, obsolete fovea on each side: elytra ovate, dilated in the middle; convex above; rather shining greenish-gold; in each are three lines of elevated, rather remote, smooth, oblong tubercles; and three elevated entire series of granulated lines; the surface between the striæ is irregularly punctate: the body beneath is smooth shining black: the legs are black, with the thighs red: the antennæ have the basal joint entirely red; the three following glabrous and black, the rest fuscous pubescent.

Four examples only of this highly elegant insect have occurred in Britain; they were taken in a chalk-pit near Gravesend in the spring of 1826; of these, a pair are in the collection of Mr. Ingpen, to whom I am indebted for being enabled to furnish my readers with a figure, and also for one specimen of the insect.

Sp. 8. *arvensis*. *Ovatus, niger, supra virescenti-cupreus, aut æneus, elytris obsolete punctato-striatis, striis tribus elevatis triplici serie.* (Long. corp. 8—10 lin.)

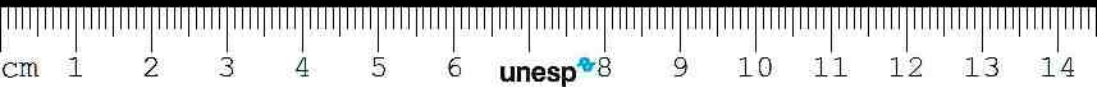
Carabus *arvensis*. Fabricius.—*Ent. Trans. (Sowerby) i. pl. 7. fig. med.*—*Steph. Catal. No. 68.*

Head brassy, punctulated, obsoletely striated near the eyes, with an impression on each side between the eyes: thorax transverse, the sides rounded, a little narrowed behind, the posterior angles rounded, obtuse; disc rather convex, with a slight longitudinal line, brown-copper, obsoletely rugose, the margin shining copper, more strongly wrinkled; at the base on each side an oblong impressed fovea: elytra oblong-ovate, broadest in the middle, convex above, brown or greenish-copper, or of a golden hue, the margin brightest: on each elytron three equidistant elevated lines, interrupted with a deep cupreous impression, and between each three thickly punctated, crenulated striæ, the central one generally most conspicuous; the margin is strongly granulated: the body beneath is glossy black: the legs black; the four basal joints of the antennæ black, the rest brownish.

Var. β . Entirely of a violaceous tinge above.

Var. γ . Black above, tinged with æneous.

A beautiful and variable species, occurring not uncommonly at the roots of trees in the spring on Epping Forest; it is also taken, but sparingly, on Wimbledon-common; but it is more abundant in



the New Forest. Dr. Leach took several in the Isle of Arran, and near Tavistock, in Devon; and Mr. Dale has recently found it on the mountains of Cumberland and Westmoreland.

Sp. 9. violaceus. *Elongatus convexus niger, thoracis elytrorumque marginibus purpureo-violaceis, elytris granulatis.* (Long. corp. 10—13 lin.)

Ca. violaceus. Linné. Don, vii. pl. 222. f. 1.—Steph. Catal. No. 69.

Head projecting, black, finely punctated and striated, with a small impression on each side between the antennæ: the thorax subquadrate, a little emarginate anteriorly, deeply so posteriorly, a trifle dilated before the middle, and narrowed towards the base; the basal angles deflexed, and rather acuminate; the disc is slightly convex, with a longitudinal line in the middle; it is thickly but ruggedly punctate, black, with the lateral margins depressed and glossy violet, and a transverse impression and two foveæ at the base: the elytra are oblong-ovate, broader than the thorax, dilated in the middle, rather convex, black, opaque, and thickly but irregularly granulate; the margin is broad, slightly punctate, and of a deep shining golden, coppery, or purple-violet: the body beneath is smooth and black; the legs and basal joints of the antennæ are black; the tips of the antennæ brownish.

One of the commonest species of *Carabus*, occurring in most places in the south of England during the spring and early summer months, in sand and gravel pits, gardens, orchards, heaths, &c.

Sp. 10. glabratus. *Oblongus cærulescente-niger immaculatus, elytris convexis subtilissimè granulatis.* (Long. corp. 10—12 lin.)

Ca. glabratus. Fabricius.—Ent. Trans. (Haworth) i. pl. 2. fig. inf.—Steph. Catal. No. 70.

Head convex, slightly punctate and striated, with a short fovea on each side between the antennæ: thorax subquadrate, broader than long, slightly notched in front, with the angles rounded, deeply notched behind, with deflexed obtuse angles, the sides anteriorly dilated, the margin elevated; disc convex, depressed on each side towards the base, with a slight longitudinal line; the surface entirely varied with flexuous impressed dots: elytra oblong-ovate, very convex, blue-black, with the margin concolorous; they are entirely and very finely sprinkled with oblong granulations, disposed longitudinally, with a larger series of impressions towards the margin: the body beneath shining black, with the sides punctate: the legs entirely, and the four basal joints of the antennæ are black; the rest of the antennæ brownish.

This appears to be a mountain species; but the first recorded specimen was taken by the Rev. J. Bale, in Surrey, though I have not heard of a second being found so far south: it was captured by Professor Hooker, in plenty, among the Highlands of Scotland, and subsequently by Dr. Leach, who also captured many on the Monovollough mountains, in Ireland: it likewise occurs on the mountains



and hills of Westmoreland and Cumberland, where several were taken by Messrs. Dale, Curtis, and Weaver, last June and July.

‡ Sp. 11. *convexus*. PLATE IV. f. 2. *Ovatus niger, violaceo-marginatus, elytris confertissime striatis punctisque parvis impressis concoloribus triplici serie.* (Long. corp. 8—9 lin.)

Ca. *convexus*. *Fabricius—Steph. Catal. No. 71.*

The smallest indigenous species of this genus: head black, a little punctate, with an impression on each side between the antennæ: thorax nearly quadrangular, deeply notched behind, with the posterior angles rounded: disc black, much punctate, and a little rugose; with a slender longitudinal channel; the edges bluish-black: the elytra ovate, broader in the middle than the thorax, the tip rounded; above convex, black, rather shining, with the margin bluish; closely striated: the striæ obsoletely punctate, with narrow, elevated, crenulated interstices; and three series of larger impressed dots: body beneath nearly smooth, glossy, black: legs black: antennæ with the basal joints black, the rest bluish.

A rare British insect;—in the British Museum are two specimens; another is in the collection of Mr. MacLeay, and a fourth in that of Mr. Vigors; but I am not aware of the locality of either. However, several specimens were taken a few years since by the Rev. F. W. Hope in Longmont Forest, Shropshire.

Sp. 12. *hortensis*. *Ovatus niger, aut fusco-ceneus, thorace subquadrato, elytris obsolete rugosis, punctis excavatis triplici serie.* (Long. corp. 9—12 lin.)

Ca. *hortensis*. *Fabricius—Steph. Catal. No. 72.* Ca. *gemmatus—Don, vii. pl. 222, f. 2.*

Head black, rugose in front, with an impression on each side near the eyes: thorax somewhat square, a little notched anteriorly, and rather deeply so posteriorly: sides rounded, margin slightly elevated; above convex, the disc obsoletely punctate-rugose, shining purplish, brassy or dusky; towards the hinder angles, which are rather elongated and acuminate, very rugose and

† Sp. 13. *gemmaus*. *Elongatus niger, elytris striatis margine purpureis, foveolisque cordatis cupreis triplici serie.* (Long. corp. 1 unc.)

Ca. *gemmaus*. *Fabricius—Stew. ii. 79.—Steph. Catal. No. 73.*

Head black: thorax subcordate, thickly punctate, black, the edges coppery-brown, with obsolete basal foveæ: elytra oblong-ovate, broader than the thorax, black, inclining to purple, the entire margin purple-copper, with about twenty-six regular striæ on each, the interstices crenated, and three series of large, deeply impressed, somewhat heart-shaped, glossy golden-copper foveæ: body beneath and legs black.

I have never seen a British specimen of this insect, which was first introduced into the list by Stewart, probably in consequence of Donovan having given the name *gemmaus* to the preceding species as there referred to.

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H



deep purple, or brassy-copper: elytra rather broader than the thorax, ovate, slightly convex above, generally of a brown-brass, with the margin purplish-copper or greenish, and on each a triple series of impressed dots, which in some specimens are bright æneous; the rest of the elytra is irregularly punctate, the puncta sometimes disposed longitudinally: the body beneath is shining black: the legs black: the four basal joints of the antennæ glabrous and black, the rest pubescent and brownish.

This species varies very much in colour, some specimens having the elytra greenish, with the margin brassy-green, concolorous, or purplish; others have the elytra and thorax cupreous, with brighter margins; others again are nearly black above.

Common in the south of England, beneath stones, dead leaves, &c.

B Elytra sulcated.

Sp. 14. *clathratus*. *Oblongus subconvexus supra æneo-virescens, elytris lincis tribus elevatis, interjectis foveis aureis triplici serie.* (Long. corp. 11—13 lin.)

Ca. *clathratus*. Linné.—Don, xv. pl. 526. fig. sup.—Steph. Catal. No. 74.

Distinguished at first sight by three rows of deeply impressed foveæ on each elytron: head glossy-black, with an elongate impression on each side near the eyes: thorax quadrangular, transverse, a little notched anteriorly, and slightly emarginate posteriorly, the hinder angles rounded: the disc brassy-black, rather convex, slightly, but thickly punctulated, with a deep longitudinal groove, and a large bilobate impression on each side, towards the posterior angles: elytra elongate, convex above, greenish or brownish-brass; each with three equidistant elevated ribs, the inner one at the suture, the interstices finely granulated, and adorned with a single row of round, deeply impressed, shining golden-coppery foveæ: on the margin is a row of smaller impressions of a copper colour: the body beneath is shining black, with the sides a little punctate: the legs black: the four basal joints of the antennæ the same and glabrous, the remainder pubescent and brownish.

Var. β . The upper surface of the insect deep virescent, with cupreous foveæ.

The first indigenous specimen of this striking and elegant insect was taken by Mr. Haworth at Halvergate, in Norfolk, in the year 1809; subsequently to that period others were taken there, and it was afterwards found by Mr. MacLeay at Caithness (the most northern part of Scotland); it is also found in the island of Colunsa; and by the entomologists of Dublin in great plenty on the coast of Ireland: I am indebted to the Rev. J. Bulwer, F. L. S., &c. for a beautiful series of the insect captured near the Irish metropolis.

† Sp. 15. *auronitens*. *Oblongo-ovatus, supra aureo-viridis, antennarum basi pedibusque rubris, elytris costis tribus nigro-violaceis, interstitiis scabris.* (Long. corp. 10 lin.)



Ca. auronitens. *Fabricius.*—*Steph. Catal. No. 75.*

Head glossy golden-green, thickly punctate; with an elongate foveæ on each side near the eyes: thorax cordate, slightly notched anteriorly, deeply so posteriorly, the hinder angles prominent, deflexed, rather acuminate; above rather convex, brilliant golden-green, thickly and somewhat deeply punctulated, with a slight longitudinal line, and an obsolete rounded foveola on each side at the base: elytra ovate, dilated in the middle, very convex, shining green-gold; each with three elevated bluish-black ribs, and one on the suture; the interstices thickly and deeply ruggedly punctate, and of a silken gloss: body beneath smooth, shining blue-black: thighs rufous: tibiæ pitchy red: tarsi black: antennæ, with the basal joints, entirely red, the three following black, glabrous, pitchy at the tip; the remainder pubescent, black-brown: mandibles and palpi pitchy-red, outwardly dusky.

This splendidly brilliant species has long been traditionally reputed a native of Britain; and I have recently been informed that Mr. H. Griesbach has a specimen, which was lately taken near Dover, but I have not seen it.

Sp. 16. *auratus.* PLATE III. f. 6.—*Oblongus, aureo-viridis, antennarum articulis quatuor baseos, ore pedibusque rufis, clytris costis tribus lævibus, interstitiis subtilissimè punctulatis.* (Long. corp. 1 unc.)

Ca. auratus. *Linné.*—*Steph. Catal. No. 76.*

Head glossy green-gold, slightly punctate, with a short impression on each side between the eyes: thorax heart-shaped, a little emarginate in front, but more deeply notched behind, the hinder angles deflexed, acuminate, rather convex above, glossy green-gold, thickly transversely wrinkled, with a longitudinal impression, and an oblong foveola on each side at the base; elytra oblong-ovate, convex above, shining green-gold, with the margin cupreous or purplish, each with three elevated smooth ribs, the interstices finely granulated; the suture also elevated; and the margin rather rough: the body beneath glossy blue-black, with the pleuræ and lateral base of the abdomen greenish: the legs red; the tarsi pitchy-brown: the four basal joints of the antennæ rufous and bald, the rest brown and pubescent: the mandibles and palpi rufous, with black tips.

A rare British species; I have hitherto seen but three indigenous specimens: one in the British Museum taken near Exmouth, Devon; a second in the collection of Mr. Raddon, taken by Mr. Gibbs, in the same county; and the third (from which the accompanying figure was taken) in my own cabinet.

According to Latreille this insect is particularly destructive to the common cockchafer (*Melolontha vulgaris*), by attacking and killing the females at the moment of oviposition, and thus preventing the birth of thousands of young larvæ.



Sp. 17. *nitens*. *Ovatus, viridis, elytris aureo aut cupreo marginatis, costis tribus elevatis atris, interstitiis transversim rugosis*. (Long. corp. 8—10 lin.)

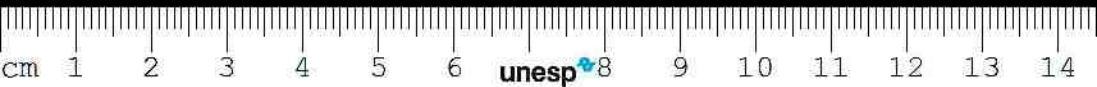
Ca. *nitens*. Linné.—Sowerby, *Brit. Misc.* i. pl. 27.—Steph. *Catal.* No. 77.

Head shining green-gold, thickly punctulated, with an impression on each side between the eyes: thorax subquadrate, a little emarginate in front, and deeply so behind: the posterior angles rounded; above glossy greenish-copper, or golden, thickly rugose, punctate, slightly channelled in the middle, and at the base on each side an obsolete impressed foveola: elytra ovate, convex above, silken-green, with the margin splendid red-copper; on each three equidistant, stout, smooth, much elevated, blue-black ribs, and one on the suture, giving the appearance of seven ribs only; these ribs are very frequently more or less intercepted, and the interstices are always strongly rugose transversely: the body beneath is shining black: the legs, mouth, and palpi are black: the four basal joints of the antennæ are glabrous and black, the rest pubescent and brownish.

This brilliant insect notably evinces the advancement of our knowledge of the localities of insects within these few years; so recently as the year 1816, the more extensive collections only possessed merely a single specimen of *Ca. nitens*, and now every small collection may literally be said to abound with specimens. At that period a few had been taken in the New Forest by the late Mr. Bingley, and Sowerby had announced that the insect was to be found on heaths near Durham:—now, through the zeal and industry of Mr. Dale, it is found to be extremely common on Parley and Pools heaths, Hants and Dorsetshire. It also occurs not unfrequently on heaths in the mountainous districts of Westmoreland and North Wales. Mr. Backhouse, of York, informs me that it is found on Stockton common, within four miles of that city; and the Rev. G. T. Rudd has received it from Eston Nab, in the same county.

GENUS XIX.—*CALOSOMA*, *Fabricius*.

Labrum deeply emarginate: *mandibles* arcuate, with a tooth at the base: *maxillæ* incrassated at the tip: *internal maxillary palpi* projecting beyond the apex of the maxilla, composed of two equal joints, *external* with the basal joint minute, second elongate, clavate, third and fourth equal, the latter subsecuriform, truncate: *labial palpi* with the two basal joints short, third elongate, fourth securiform, truncate: *labium* short, broad, the upper margin setose, acuminate: *mentum* sublinear, rounded laterally, unidentate in the middle. *Antennæ* linear, second joint shortest, third longest, compressed: *thorax* transverse, suborbiculate: *abdomen* subquadrate, convex: *wings* two: *anterior tarsi* of males dilated.



These large insects are pre-eminently distinguished by the superior splendour and brilliancy of their colours, whence their name is derived; and they may be known from the Carabi by their transverse suborbiculate thorax, the convexity and rotundity of their body, the compressed third joint of the antennæ, the deep emargination of the labrum, and the dissimilar form of the maxillæ: they are also furnished with perfect wings, and, contrary to the manners of the Carabi, they usually seek their prey upon trees; their larvæ feeding almost exclusively on those of the Lepidoptera. I have hitherto seen but two indigenous species; but Mr. Dale informs me that, during a late tour through the north of England, he observed a species allied to, but distinct from, *Ca. inquisitor* in one of the collections he inspected.

Sp. 1. *Sycophanta. Nigro-violaceum, antennis pedibusque nigris, elytris viridicupreis punctato-striatis, punctisque majoribus triplici serie impressis.* (Long. corp. $9\frac{1}{2}$ lin.—1 unc. 2 lin.)

Car. *Sycophanta. Linne.*—Cal. *Sycophanta. Kirby and Spence, i. pl. 1. f. 1.*—*Steph. Catal. No. 78.*

Head and thorax deep blue-black, the margin of the latter a little greenish: elytra brilliant golden-green, externally glossed with bright copper, the margin itself bluish; they are finely punctate-striated, and each is adorned with three rows of impressed dots, placed between the fourth, eighth, and twelfth striæ from the suture: the antennæ and legs are black: the body beneath deep blue-black.

+ Sp. 2. *scrutator. Violaceum; thorace viridi-aureo marginato; elytris sub-aureo-viridibus cupreo marginatis, punctato-striatis, punctisque majoribus triplici serie; abdomine cupreo viridique vario.* (Long. corp. 1 unc. 2 lin.)

Cal. *scrutator. Fabricius.*—*Leach, Zool. Misc. ii. pl. 93.*—*Steph. Catal. No. 79.*

Head black anteriorly, bluish posteriorly, with two golden spots near the eyes: thorax blue, with the margin golden-green: elytra deep green, with a splendid coppery-purple border; they are striated, and each adorned with three rows of impressed dots: the body beneath is brilliant blue-green with golden spots: antennæ black: legs black, with the femora violet; sometimes red, with dusky tibiæ and tarsi.

Dr. Leach obtained a pair of this species from the British collection of the late Dr. Lettsom, and I procured one from an old cabinet reputed to contain indigenous insects only; but I presume that all these specimens were of exotic origin, as the proper locality of the insect appears to be North America; I am therefore of opinion that *Ca. Sycophanta* had been formerly found in Britain, and, in accordance with the bad taste of the day, specimens of this insect were introduced into collections in lieu of that which was unattainable from its rarity, and the state of entomological knowledge at the time being such that the difference of the species was not observed.



The larva is deep black, and it feeds most voraciously on the larvæ of lepidopterous insects, devouring at a single meal one as big as one's little finger, when it becomes so bloated, that its skin readily gives way to the slightest touch, and the animal is at such times perfectly inactive.

Few indigenous insects vie with this in brilliancy and splendour of colouring, and few are of so gigantic a stature; its rarity also adds to the value of its acquisition. The first recorded specimen was taken several years since by Crabbe, the poet, at Aldborough, on the Suffolk coast; it was subsequently found near Southwold, and one was shortly afterwards taken by a boy, crawling in the cloisters of Norwich cathedral; since then it has been found on the Welsh and Devonshire coasts; and in the year 1818 many specimens, all remarkably brilliant, were sent to Dr. Leach, which were captured near Dartmouth. It is reputed to have been once found in Coombe-wood, and I believe it occurs near Oxford, and has been occasionally taken in Ireland.

Sp. 3. inquisitor. *Suprà cupreo aut æneo-nigrum; elytris viridi marginatis, reticulato striatis, punctisque majoribus triplici serie; corpore infra virescente; antennis pedibusque nigris.* (Long. corp. 8—10 lin.)

Car. inquisitor. Linné.—Don, xiv. pl. 504. f. 1.—Cal. inquisitor. Steph. Catal. No. 80.

Head, thorax, and elytra deep coppery or brassy bronzed-black, the latter with a green margin, and about sixteen reticulated striæ, each elytron bearing three rows of deep concolorous impressions, placed between the fourth, eighth, and twelfth striæ from the suture: the body beneath is shining green, glossed with violet: the antennæ and legs are black: the thorax is finely punctulated, and bears a deep impression near the hinder angle on each side.

Rather an uncommon species, but found in several parts of the country: near London it occurs at Norwood, Epping Forest, Darenth and Coombe woods; and it was once found in profusion by Mr. W. Griesbach near Windsor. Dr. Leach took it near Tavistock in Devonshire.

GENUS XX.—NEBRIA, Latreille.

Palpi moderately long: *labial* with the two basal joints short, third and fourth equal, the latter obliquely truncate: *internal maxillary palpi* with the basal joint shortest; *external* with the basal joint short, second longest, third and fourth nearly equal, the latter truncate: *labrum* subquadrate, slightly emarginate: *mandibles* porrect, toothed near the base: *labium* rounded: *mentum* linear, trilobate, the centre lobe bifid. *Antennæ* linear: *abdomen* elongate: *body* depressed: *thorax* transverse, cordate, truncate, the basal angle straight: *wings* two: *anterior tarsi* of male with three basal joints dilated.



This and the two following genera are very closely allied to each other in structure, but there appears sufficient diversity of habit to justify their separation, as proposed by my friends Dr. Leach and Professor Bonelli, although De Jean has reunited them under the genus *Nebria*, and others admit them to be subgenera only; but as the names by which the divisions of natural objects are called will ever be subject to the capricious views of individuals, I shall not here attempt to discuss the question whether the genera, above alluded to, ought to be so termed.

The *Nebriæ* usually frequent the sea-coasts, and may be readily known from the congenerous groups by their pallid hues, more or less varied with black; the most evident differences in structure consist in the superior length of the terminal joint of the internal maxillary palpi compared with that of the basal, the length of the third joint of the maxillary palpi, the rotundity of the labium, and the absence of an emargination on the anterior tibia.

Sp. 1. *complanata*. *Pallide flavescens, elytris pallidioribus, striatis, fasciis duabus irregularibus nigricantibus.* (Long. corp. 8—9½ lin.)

Ca. complanatus. *Linne.*—*Don*, xiv. *pl.* 488.—*Ne. complanata.* *Steph. Catal.* No. 81.

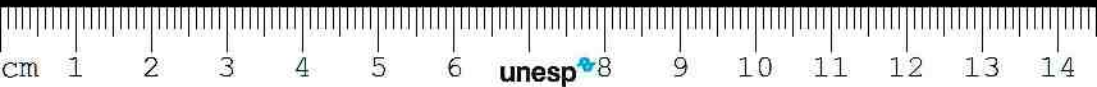
Pale yellowish, with the elytra paler, striated, and adorned with two very irregular transverse dusky or black bands, united by longitudinal lines, and formed of small elongate confluent spots: suture black, except towards the apex of the elytra: legs and antennæ pale yellowish or testaceous: eyes black. It varies in having the black fasciæ more or less obliterated, and occasionally the spots of which they are composed are so thickly confluent as nearly to cover the entire disc of the elytra, leaving a pale margin only.

Originally taken by Sir Joseph Banks near Swansea, and subsequently found in profusion by Dr. Leach at the same place. It

‡ Sp. 2. *collaris.* *Nigra, ore, antennis, pedibus, thoracis medio, elytrorumque limbo lato pallide testaceis.* (Long. corp. 7 lin.)

Ca. collaris. *Thunburg.*—*Ca. lateralis.* *Turton.*—*Ne. collaris.* *Steph. Catal.* No. 82.

Black, with the mouth, antennæ totally, the thorax (except a narrow black margin in front and behind), the legs, and a broad margin to the elytra pale testaceous: the latter striated. I am at a loss to account for the introduction of this species into our Fauna, unless it has been mistaken for *Ne. livida*, of which Gyllenhal and other continental entomologists assert that it is merely a variety; but as that insect has lately been taken in plenty, as hereafter mentioned, and all the specimens correspond with each other, I cannot assent to that opinion.



also occurs on the opposite shores of the Bristol Channel, having been found in plenty at Barnstaple and Bideford by my friends Mr. Raddon and Capt. Blomer; on the shores of the Taw, near Braunton Burrows, North Devon, by Mr. Curtis; and at Weston-super-Mare, in Somersetshire. It is likewise found on the coast of Lincolnshire.

Sp. 3. livida. *Nigra, ore, antennarum basi, pedibus, thoracis medio, elytrorumque margine anguste pallidis.* (Long. corp. 7—8 lin.)

Ca. lividus. *Linne.*—*Ne. livida.* *Curtis, i. pl. 6.—Steph. Catal. No. 83.*

Shining black; the mouth, base of the antennæ, legs, and a narrow margin to the elytra pale yellow: thorax the same, with a deep transverse impression in front and behind, between which and the edge is black: elytra striated: antennæ externally fuscous.

Ne. livida was first discovered many years ago by Wm. Spence, Esq. F. L. S., on the shores of the Humber, a short distance from Hull, near which spot a second specimen was afterwards taken by Mr. Wilkin; those were the only specimens known, until last year, when three were forwarded to London from Scarborough, one pair of which came into my possession; and Mr. Backhouse informs me that he has lately taken the insect in plenty beneath stones, &c. on the coast near that place.

Sp. 4. picicornis. *PLATE IV. f. 3.—Niger, ore antennis pedibusque piceo-ferrugineis, capite piceo-rufo.* (Long. corp. $6\frac{1}{2}$ — $7\frac{1}{2}$ lin.)

Ca. picicornis. *Fabricius.*—*Ne. picicornis.* *Steph. Catal. No. 84.*

Pitchy-black: head reddish, dusky behind: eyes dusky: thorax and elytra deep black; the latter striated: mouth, antennæ, and legs pitchy-ferruginous: thorax with a strong impressed longitudinal line; a deep fovea on each side at the base, and a punctulated depression behind and in front.

Of this insect most cabinets are deficient. The first indigenous specimen which came under my notice was taken by Dr. Leach, near Ashburton, in Devonshire, and is in the British Museum: it was afterwards found by the Rev. F. W. Hope (who supplied me with a pair), in Longmont Forest, Shropshire.

GENUS XXI.—HELOBIA, *Leach.*

Palpi moderately long: *labial* with the two basal joints short, third long, pilose, fourth longer, truncate: *internal maxillary palpi* with the joints nearly equal*; *external* with the basal joint minute, second long, stout; third short, clavate;

* In the tabular view, p. 45, the characters of the genera *Nebria* and *Helobia* are accidentally reversed.



fourth nearly as long as the second, clavate-truncate: *labrum* transverse: *mandibles* small, denticulated at the base: *labium* quadrate, with a spine in the centre. *Antennæ* linear: *body* depressed: *thorax* transverse, cordate-truncate, the margin rugose, the basal angle straight: *wings* two: *legs* rather elongate: *anterior tibiæ* with an obsolete notch: *anterior tarsi* of males slightly dilated.

Helobia differs from *Alpæus* in possessing wings, and from *Nebria* by the joints of the internal maxillary palpi being nearly equal in length, by the quadrate labium, and in other less important characters: the species chiefly abound in inland and alpine districts, under stones, at the roots of trees, and in loose gravelly or clayey banks. There are many species allied to *H. Gyllenhalii* found on the continent; and were persons residing in the mountainous districts of Britain to search diligently, they would no doubt be rewarded by the discovery of some of them.

Sp. 1. *brevicollis*. *Niger, palpis, antennis, tibiis tarsisque rufo-piceis, elytris punctato-striatis*. (Long. corp. $4\frac{1}{2}$ —6 lin.)

Ca. *brevicollis*. *Fabricius*.—He. *brevicollis*. *Steph. Catal. No. 85*.

Glossy black: antennæ, palpi, tibiæ, and tarsi pitchy-red: elytra deeply striated, the striæ strongly punctate, with three or four larger impressed dots on the third stria from the suture, and a few slight impressions on the margin: sides of the thorax very rugose.

Var. β . Rusty-black, with the legs entirely rufous.

One of the most abundant carabideous insects throughout Great Britain, and, I believe, equally common in Ireland; being found, especially in the spring, in dry gravelly banks, and beneath stones, at the roots of trees, &c., on the loftiest mountains of this country, as well as in the lowlands.

Sp. 2. *Marshallana*. PLATE IV. f. 4.—*Nigro-piceus, depressus, antennarum apice tarsisque rufo-piceis, elytris striatis, striis obsoletissime punctatis*. (Long. corp. $4\frac{1}{2}$ lin.)

He. *Marshallana*. *Steph. Catal. No. 86*.

Shining pitchy-black: the tip of the antennæ and the tarsi pitchy-red: elytra striated, the striæ with very obsolete impressed puncta; three or four larger impressed dots on the third stria from the suture; and a few impressions on the external stria: legs pitchy-black, with the tarsi rufous.

Var. β . Above piceous, with the legs deeper, the tibiæ and tarsi rufous.

This and the following are very closely allied to *Ca. nivalis* of Paykul, but they nevertheless appear to be distinct, as that insect is said by him to want the impressions on the marginal striæ of the elytra. This species differs from the next by being consider-

ably broader and more depressed, and by having the striæ on the elytra more punctated. My friend J. Marshall, Esq. took this insect some years back in the north of England, and recently forwarded to me a series of varieties. It was also taken by Messrs. Curtis, Dale, and Weaver, during the past season, I believe on the summit of Skiddaw, in Cumberland. It is probably the *Ne. arctica* of De Jean, v. ii. p. 235.

Sp. 3. Gyllenhalii. *Nigra, subdepressa, antennarum apice tarsisque rufo-piccis, elytris striatis, striis sublævibus.* (Long. corp. $4\frac{1}{2}$ lin.)

Ca. Gyllenhalii. *Schonher.*—He. Gyllenhalii. *Curtis.*—*Steph. Catal.* No. 87.

Slightly depressed: black: tips of the palpi and antennæ piceous: tarsi and sometimes the tibiæ rufous: elytra striated, the striæ subpunctate, with two or three foveæ near the third stria from the suture; the margin of the elytra with remote impressed dots.

+ Var. β . Pitchy-black: trochanters and legs ferruginous, apex of the thighs and the tibiæ fuscous. *Curtis*, iii. pl. 103.

Rare in England, a few specimens only having been recently found in the mountainous districts of Westmoreland, but very abundant in several parts of Scotland in the spring: in the latter country it was first taken in 1810, by the late R. Rawlins, Esq. near Edinburgh, and shortly afterwards by Dr. Leach on Ben Lomond: the Rev. F. W. Hope also took it in plenty in Lanarkshire; and two years since it was found by Messrs. Curtis and Dale. It also occurs in the mountainous districts of Ireland.

GENUS XXII.—ALPÆUS, Bonelli.

Palpi moderately long: their proportions similar to those of *Helobia*, but the terminal joint less truncate at the apex: *labrum* transverse: *mandibles* small, denticulated at the base: *labium* a little rounded anteriorly, with a small spine in the centre. *Antennæ* linear: *body* depressed, elongated: *thorax* cordate, longer than broad, slightly margined, straight behind: *body* sub-depressed, elongate: *wings* none: *legs* slender: *anterior tibiæ* with a slight emargination; *anterior tarsi* of males a little dilated.

Distinguished from the two preceding genera by being apterous, by the rotundity of the terminal joints of the palpi, the form of the labium, and of the thorax, which is rather longer than broad, which characters I have drawn out from an injured Helvetic specimen of *Al. castaneus*; the antennæ and legs are rather more slender and longer than in *Helobia*. It is an alpine genus, and De Jean considers that its characters are not sufficiently distinct to detach it from *Nebria*.



† Sp. 1. castaneus. *Piceo-castaneus*, ore, *antennis pedibusque rufo-ferrugineis, elytris punctato-striatis*. (Long. corp. $4\frac{1}{2}$ lin.)

Al. castaneus. *Bonelli*.—*Steph. Catal. No. 88*.

Piceous-chesnut, with the mouth, antennæ, and legs rusty-red. the elytra striated, the striæ with distinct rather remote impressed dots.

I have seen but one indigenous specimen of this insect, which agrees with a specimen I received from M. Lefebure by the name above adopted, and which was taken by Dr. Leach near Ashburton, Devon, and by him given to the British Museum.

GENUS XXIII.—LEISTUS, *Frolich*.

Palpi much elongated, slender; *labial* with the two basal joints very short, the following very long, slender, the terminal externally clavate, and obliquely truncated; *external maxillary palpi* with the basal joint minute, second elongated, rather stout, following abbreviated, terminal shorter than the second, a little clavate, obliquely truncate: *mandibles* acute, externally dilated; *maxillæ* with the outer edge at the base armed with strong spinous processes: *mentum* transverse, emarginate, with a slight notch in the middle: *labium* elongated, attenuated at the apex, which is furnished with a strong spine on each side. *Antennæ* long, setaceous, four basal joints naked, second and fourth shortest, fifth longest: *thorax* short, cordate: *eyes* prominent: *body* oblong: *wings* two: *legs* rather elongate: *anterior tarsi* of males a little dilated.

This curious genus is easily known by the singular spinous processes at the base of the maxillæ, and by the dilatation of the base of the mandibles externally: the structure of the lip also furnishes a good character, as well as the elongated palpi. The species are generally very beautiful, very lively, and active: they usually occur beneath the bark of trees, stones, and moss, or among dead leaves; and are frequently taken in hedges while prowling after their prey.

Sp. 1. spinibarbis. *Cyaneus*, ore, *antennis pedibusque rufo-testaceis, aut brunneis*. (Long. corp. $3\frac{1}{2}$ — $4\frac{1}{2}$ lin.)

Ca. spinibarbis. *Fabricius*.—*Steph. Catal. No. 89*.

Depressed, rather broad; the mouth, antennæ, and legs testaceous-red: head, thorax, and elytra cyaneous, or blue-green, the latter rather deeply striated, the striæ with impressed dots, ten in number, the sutural one abbreviated, and the marginal deeply punctate: the thorax is shining, slightly convex, with a longitudinal channel, the base and anterior margin punctate, the sides punctulated, and sometimes reddish: the body beneath black.

Var. β . With the legs pale ochraceous, and the margin of the thorax testaceous.

Frequently met with, not only in the metropolitan district, but



throughout the kingdom, during the summer months, beneath stones, dry leaves, &c., and often found on quickset hedges during the day. The Rev. F. W. Hope informs me that he observed it in prodigious numbers in the cave of Caractacus, on the Caradoc, Shropshire, in 1825.

Sp. 2. *fulvibarbis*. *Atro-cæruleus, ore, antennis pedibusque rufis, elytris punctato-striatis*. (Long. corp. 3—3½ lin.)

Le. fulvibarbis. *Hoffmansegg*.—*Curtis*, iv. pl. 176.—*Steph. Catal.* No. 90.

A trifle elongated, rather convex: mouth, antennæ, and legs ferruginous-red: head, thorax, and elytra deep bluish black or violaceous, sometimes virescent; the thorax convex, deeply punctured at the anterior margin and the base, with a deep longitudinal channel, and much attenuated at the base: the elytra with nine punctate striæ, the sutural one abbreviated, the marginal punctured; body beneath piceous.

Discovered many years since in the neighbourhood of Edinburgh by the late R. Rawlins, Esq., and by Dr. Leach named in remembrance of him. It, however, has recently been described by De Jean by the name I have adopted, in conformity with the usual custom of employing that which is first published with characters; though if it be the *rufibarbis* of Fabricius, with which it agrees, except in having rufous instead of black mandibles, the name above used must be changed. It has been subsequently taken in plenty in Kensington-gardens; also near Netley, Salop, Ipswich, Carlisle, Battersea-fields, and Glanville's Wootton, Dorsets.; and my friend the Rev. L. Jenyns, F. L. S., &c. informs me, that it is abundant throughout the year, especially in the winter and spring, at Bottisham, Cambs.

Sp. 3. *montanus*. PLATE IV. F. 5.—*Cæruleus, margine laterali thoracis, ore, antennis pedibusque rufis*. (Long. corp. 3½ lin.)

Le. montanus. *Dale MSS.*—*Steph. Catal.* No. 91.

Similar to the preceding, but known at once by its more elongate structure, and especially by the form of the thorax: its upper surface is fine blue tinted with greenish on the head and thorax: the head is narrower, and the eyes less prominent than in *Le. fulvibarbis*: the thorax is narrower, more depressed and elongated; it is divided by an impressed longitudinal line, the disc on each side being smooth: in front of the impression is a triangular space thickly sprinkled with impressed dots, and a similar space covered with impressed dots behind; the margin is also punctated, and the sides are rufo-ferruginous: the elytra are blue, with eight striæ composed of impressed dots; and in the specimens which I have examined, they are destitute of any impressions between the third and fourth striæ: the mouth, antennæ, and legs are rufo-ferruginous, the latter dusky at the tips of the femora: beneath pitchy-blue, with the plura and sides of the abdomen deeply punctate.



Mr. Dale communicated to me the discovery of this beautiful insect during a late excursion in the north of England, he and Mr. Curtis having each taken a specimen from under the slate at the summit of Skiddaw. Three other specimens have been found since by Mr. Marshall, one of which is in my collection. My readers are indebted to Mr. Westwood for a figure of this insect, he having kindly presented me with a drawing of it.

Sp. 4. spinilabris. *Oblongus, rufo-ferrugineus; antennis pedibusque pallidioribus.* (Long. corp. $2\frac{2}{3}$ — $3\frac{1}{2}$ lin.)

Ca. spinilabris. *Fabricius.*—*Le. spinilabris.* *Steph. Catal. No. 92.*

Above entirely ferruginous, more or less deep: the thorax is very convex and glossy, the anterior and posterior margins are very thickly punctate, the lateral smooth: the elytra are somewhat oval, punctato-striated; the lateral striæ rather obsolete: on the third stria are three or four more deeply impressed dots: the body is rather paler beneath: the mouth, antennæ, and legs are very pale ferruginous.

A very common insect in the neighbourhood of London, found also throughout the country.

Sp. 5. rufescens. *Oblongus, ferrugineus, vertice anoque nigris, elytris apice fuscis.* (Long. corp. 3— $3\frac{1}{2}$ lin.)

Ca. rufescens. *Fabricius.*—*Le. rufescens.* *Steph. Catal. No. 93.*

Very similar to the preceding, but differs in having the head dusky-brown behind, and the tips of the elytra and of the abdomen of the same colour: the thorax is rather wider, and less attenuated posteriorly: the antennæ and legs are somewhat paler than in *Le. spinilabris*.

Var. β . With the apex of the elytra ferruginous.

Var. γ . With a small pale ferruginous sublunar spot on each elytron near the apex.

Apparently a local insect, which I have hitherto only found in Coombe and Darenth woods. It, however, occurs near Carlisle—as I am informed by J. C. Heysham, Esq., who obligingly communicated to me the northern habitats of the *Leisti*, and the notice of var. γ .—and also near Netley, and Berkeley Castle, Glouc.

FAMILY V.—HARPALIDÆ, *Mac Leay.*

Elytra covering the abdomen, entire, or slightly sinuate-truncate behind: *anterior tibiæ* emarginated, not palmated. *Antennæ* filiform: *labrum* generally quadrate, sometimes emarginated anteriorly, rarely bilobate: *mandibles* pointed, or truncate at the tip, generally with one or more denticulations internally: *maxillæ* ciliated internally, with a claw at the tip: *labium* quadrate, the anterior margin straight, without a tooth in the middle; furnished with



a process on each side: *labial palpi* with four joints, the basal fixed: *mentum* deeply emarginate anteriorly, the notch simple or furnished with a tooth in the middle, which is frequently bifid: *body* elongate: *neck* rarely distinct: *anterior tarsi* more or less dilated in the males.

The Harpalidæ are less voracious than the Carabidæ. Some of the species are of brilliant metallic colours, but the prevalent hue is black and sombre,—whence they have been termed Amaurona by Kirby; and from the similitude of their colouring to our notions of that of the “fell demon of darkness,” they have received in several parts of the country the name of *imps* *. They run with celerity, and many of the species fly well; whereas the majority of certain groups are perfectly apterous. The larvæ reside, in common with the imago, beneath stones, feeding voraciously on other larvæ and small insects; they are generally elongate, cylindric, or a little depressed; the body is composed of twelve scaly rings, exclusive of the head, which are slightly sericeous; the terminal joint is rough, with tubercles on the sides, and the tip armed with two small emarginate processes: the head is small, and furnished with several little shining eminences, which occupy the situation of the eyes; the mouth nearly resembles that of the perfect insects, and the body is less scaly beneath than above.

Latreille justly remarks that the study of this family is attended with great difficulty, as the species are so numerous and similar in their general form and colours, that it is nearly impossible to fix the limits of the various natural groups of which the Harpalidæ evidently consist. It is, therefore, with diffidence that I venture to propose the following tabular view of the indigenous genera:

A. *Mentum* anticè emarginatum; dente medio nullo.

Mandibulæ	{ obtusæ: Palpi labiales	{ articulo ultimo ovale: .	27. LICINUS.
			26. BADISTER.
	{ acutæ: .	{ articulo ultimo securiforme .	28. REMBUS.

* Many of the species are greatly infested with Gordii, a fact so generally known to the “companions of my youth,” that whenever an “imp” was seen basking in the sun, it was immediately subjected to the ordeal of a pool of water, for the purpose of ejecting the *serpent* (thus called) from his lurking place: an incident I record with pleasure, as it is not only the oldest entomological fact that is imprinted on my memory, but is associated with my earliest impressions.



Obs.—In the construction of the foregoing table *, I have endeavoured as far as possible to select such characters, chiefly external, as are constant in both sexes; it being manifestly impossible to detect the genera to which the females of this family belong, by those which are laid down as primary divisions by M. Latreille and De Jean; though after their and Mr. Mac Leay's candid admission of their inability, from our present knowledge, either to frame such discriminative characters as will positively embrace, or separate, all the groups, and exhibit their natural affinities throughout, I cannot presume to assert that I have been more successful in my attempts: on the contrary, a transient inspection of the above table will readily show that the genera are not all placed with reference to their actual affinities, although it may satisfactorily connect one or two that have hitherto been separated: and as examples of the difficulties with which we are assailed, in our investigations of the affinities of this extensive family, I shall direct the attention of the student to the genera *Omasus*, *Steropus*, and *Harpalus*, from the two former having been recently ably illustrated by Mr. Curtis, with reference to their generic characters, and the latter from its extent, and the variation of form among the species: and upon inspection of the trophi of *Omasus* and *Steropus*, the difference will be found not greater than usually occurs among the species of any extensive genus, the chief distinctions being drawn from subsidiary characters, viz. the form of the thorax and elytra; characters which are far too unsatisfactory in this family, although the above genera are sufficiently distinct in, what is technically called, habit; the form of the thorax in the first genus being very dissimilar in the different species, that of *O. aterrimus* being rounded behind, while *O. nigrita* has acute basal angles: and if the condition of being apterous enter into the generic character, *O. melanarius* must be formed into a new genus, as its habit and depressed body will not allow of its being associated with *Steropus*. Again in *Harpalus* as above restricted (of which genus I possess above fifty indigenous species), there is the most conspicuous difference in the form of the thorax, as well as in the convexity of the body, and termination of the elytra: in by far the greatest number of the species the former has the base nearly straight, as broad or broader than the body, to which it is closely applied, with the hinder angles in one division very acute, and in a second very obtuse; others again have the thorax rather narrower at the base than the body, the hinder angles distinctly rounded, and the thorax itself somewhat remote from the body, as in the *Scaritidæ*:—this division of the genus is evidently rare in Britain, as I have hitherto seen but the three species which are in my own cabinet. Again, the bodies of *H. serripes* and its affinities are almost as convex as in *Zabrus*, while *H. thoracicus*, Leach MS. (which is congeneric with *H. crassus*, &c. Sturm), has the body as much depressed as in *Oodes*, and the thorax itself is much broader than the elytra, as in that insect. Other instances might be cited; but enough has been adduced for the present; I shall therefore merely add, that in *Harpalus*, *Ophonus*, *Stenolophus*, *Trechus*, and

* Vide *Haustellata*, vol. i. p. 5, note, in allusion to conterminous forms.



Blemus, the four anterior tarsi of the males are dilated; in the remaining genera the two anterior only: amongst the latter, *Sphodrus* has four dilated joints, *Licinus* and *Panagæus* two, and the rest three—which are quadrate in *Epomis*, *Chlænus*, *Oodes*, *Calathus*, and *Synuchus*; more or less orbicular in *Loricera*, *Panagæus*, *Callistus*, *Anchomenus*, *Platynus*, *Agonum*, and *Odontonyx*; and heart-shaped or triangular in the other genera:—that the tooth or lobe, in the centre of the mentum, varies considerably in form; in some genera, above placed in division B, it is sometimes so very slightly notched as to appear truncate, varying even in individuals of the same species*; while in others, placed in division C, it is swollen into an obtuse knob, or occasionally consists of a mere angular projection, gradually produced from the margin of the lateral lobes of the mentum itself; thus approximating towards that construction of the mentum in which the emargination becomes perfectly straight anteriorly, as in *Licinus*, &c. The characters of the two last sections may therefore be expressed thus:—B. The mentum furnished with a subtruncate lobe in the centre of its notch, which is usually more or less emarginated;—and C. The mentum generally bearing a central lobe which is more frequently acute than obtuse, but never emarginated. I shall conclude by stating, that by some accident in altering the disposition of the tables during the printing, the words *Licinus* and *Badister*, in the table, page 66, were unfortunately transposed.

GENUS XXIV.—LORICERA, Latreille.

Palpi moderate: the terminal joint elongate, nearly oval and truncate at the tip: *labrum* short and rounded: *mandibles* very acute, denticulated at the base: *mentum* with a notch anteriorly, in which is a simple tooth. *labium* with a central rounded protuberance on its anterior edge: *head* rounded, triangular: *neck* distinct: *antennæ* slightly curved, pilose, with the five basal joints irregularly globose-clavate, armed with long rigid hairs or bristles: *thorax* obcordate, sessile: *wings* two: *claws* simple: *anterior tarsi* in the males with the three basal joints dilated.

Loricera differs from all the other *Geodephaga* by the structure of the antennæ; the basal joint is very large, stout, elongate-cylindric, the three following unequal, nodose, furnished with long rigid bristles, the rest a little elongate, subcylindric, pilose: the neck is distinct. This genus has considerable resemblance to the *Leisti*, but the suborbicular thorax and emarginate anterior tibiæ readily distinguish it from those insects.

Sp. 1. *pilicornis*. *Virescente-ænea, elytris punctato-striatis, foveisque tribus disci impressis, tibiis tarsisque testaceis.* (Long. corp. 3—3½ lin.)

Ca. *pilicornis*. *Fabricius*.—*Don*, xi. pl. 367, f. 1.—*Lo. pilicornis*. *Steph. Catal.* No. 94.

* Especially in *Poecilus cupreus*, which has the lobe more frequently truncate than emarginate; whereas in *P. assimilis* the contrary appears to prevail.

Greenish-brass above: head very obsoletely strigose: eyes prominent, dusky: thorax broader than the head, very convex, smooth, with the hinder margin punctate, and an oblique impressed line near the basal angles: elytra broader than the thorax, elongate, rounded at the tip, punctate-striated, with three very deep impressions between the third and fourth striae: body beneath black; the thighs bronzed-green; the shanks and tarsi yellowish-testaceous: palpi rusty brown: antennae with the basal joint black-bronze, the three following reddish-black, the rest dull brown.

Donovan, by accident, I presume, asserts that this species is particularly rare; on the contrary, I have ever found it very common, especially near Ripley, where several dozens may readily be obtained in the course of a single day, during the spring; and in the winter it hybernates copiously beneath mosses. Mr. Dale found it in Scotland, and it is abundant in Wales.

GENUS XXV.—PANAGÆUS, Latreille.

Palpi elongate; *labial* with the two basal joints short, the second as long as the fourth, rather clavate, the terminal securiform; *internal maxillary* filiform, with the basal joint the longest; *external* with the basal joint minute, the second elongate-clavate, the third short, conic, the last strongly securiform: *labrum* transverse, very slightly notched anteriorly: *mandibles* short, bent, simple: *mentum* notched anteriorly, with a bifid tooth in the middle: *head* small: *neck* distinct: *thorax* suborbiculate: *wings* two. *Antennae* filiform: *claws* simple: *anterior tarsi* in the males with the two first joints dilated.

This genus is known by its orbicular thorax, combined with the securiform terminal joint of the palpi, the bifid tooth in the centre of the notch of the mentum, and the deeply punctate and pubescent body.

Sp. 1. quadripustulatus. PLATE IV. f. 6.—*Ater, elytris anticè rufis, basi, suturâ et posticè nigris, maculis duabus rotundis rufis.* (Long. corp. 3—3½ lin.)

Pa. quadripustulatus. Sturm.—*Steph. Catal.* No. 95.

Similar to the next, but less, and narrower: it is black, the thorax is nearly orbicular, rather convex, thickly punctate, with an impression on each side at the base near the posterior angle; it is clothed with yellowish down: the elytra pubescent, rather coarsely punctate-striate, rufous anteriorly, with a spot at the base, and the suture black; the posterior half is also black, with one large round rufous spot on each elytron: body beneath and legs black, slightly pubescent.

Not a very common insect: the first specimen which came to my knowledge was caught by myself flying in a gravel-pit in Coombe-wood, in May, 1812, since which period several have been



there taken during that and the following month. In July, 1822, I found it in abundance beneath stones and clods of earth in a corn-field near Hertford; but I have subsequently sought for it there in vain. It has been found by the Rev. F. W. Hope at Southend.

Sp. 2. crux-major. *Ater, elytris rufis, basi, suturâ, fasciâ mediâ apiceque nigris* (Long. corp. $3\frac{1}{2}$ —4 lin.)

Ca. crux-major. *Linneë*.—*Don*, v. xiv. pl. 477, f. 2.—Pa. crux-major. *Steph. Catal. No. 96.*

At once distinguished from the last-described insect by its superior breadth and the form of the thorax: it is rather larger, deep black; thorax pubescent, transversely ovate, deeply punctulated, with a more obvious impression near the basal angle than in Pa. quadripustulatus: elytra also pubescent, coarsely punctate-striate, rufous, with the base, suture, a transverse bar in the middle, and the apex black: body beneath, and legs, black and pubescent.

Var. β . With the central fascia on the elytra interrupted.

Var. γ . With the elytra rufous anteriorly, with a triangular spot at the base, the suture and the posterior half black; the latter with a large round rufous spot, as in Pa. quadrimaculatus.

Occasionally found near London, about Shooter's-hill, Norwood, Cobham, &c. and on the northern verge of the metropolis itself. It appears to be more common in the fenny counties of Cambridge and Huntingdonshire, occurring beneath stones and at the roots of trees near large sheets of water. The Rev. L. Jenyns takes it beneath the bark and at the roots of willow-trees, in February and March, in Cow-fen, near Cambridge, and at Bottisham: it has also been taken by Mr. Hanson at Lawrence Waltham, in Berkshire.

GENUS XXVI.—BADISTER, *Clairville*.

Palpi moderately long, the last joint elongate-ovate, somewhat acute at the tip*: *labrum* short, narrow, deeply notched: *mandibles* short, rounded, very obtuse, and slightly notched at the tip: *mentum* very narrow, deeply emarginate, without a central tooth: *head* rounded, anteriorly depressed, and a little notched: *antennæ* filiform: *eyes* slightly prominent: *thorax* more or less heart-shaped, deeply notched in front and behind: *elytra* entire: *wings* two: *anterior tarsi* of the male with three dilated joints, the basal somewhat trapeziform, the others quadrate.

Sufficiently known from *Licinus* by the bilobed labrum, ovate terminal joint of the palpi, and lively colouring; and from the other Harpalidæ by the obtuseness of its mandibles. The species usually

* See observation, page 69.

reside in damp places, beneath stones, dead leaves, or the decaying bark of trees.

Sp. 1. cephalotes. *Niger, thorace capitis latitudine, elytris anticæ rufis, apice nigris, suturâ maculâque transversâ sublinatâ communi, scutello pedibusque rufis.* (Long. corp. 3—3½ lin.)

Ba. cephalotes. *De Jean.*—*Curtis*, iii. pl. 139.—*Steph. Catal.* No. 97.

Generally rather larger than the next: head large, almost as broad, or broader, than the thorax, black: thorax short, pale rufous, slightly notched anteriorly, attenuated behind, with a slight longitudinal line and an impression at each posterior angle: scutellum and elytra also pale rufous, the latter with the hinder half blue-black, the suture, a transverse lunule, and the outer margin pale rufous: body and head beneath black, thorax rufous, legs and palpi ochraceous, antennæ the same, with the basal joints piceous at the tips.

This insect, until recently, was preserved in the collections of the Rev. W. Kirby and Mr. Haworth only: it is, however, now in many cabinets, having been found in several places in the neighbourhood of the metropolis, at Darent, Birch, and Coombe woods, Shooter's-hill, Battersea-fields, &c.; so that it is apparently less rare than presumed, and illustrates the positions laid down in page 17*.

Sp. 2. bipustulatus. *Niger, thorace capite latiore, elytris anticæ rufis, apice nigris, suturâ maculâque rotundatâ aut triangulatâ communi thorace pedibusque rufis.* (Long. corp. 2½—3½ lin.)

Ca. bipustulatus. *Fabricius*—*Don*, xv. pl. 516.—*Pa. bipustulatus.* *Steph. Catal.* No. 98.

Varies considerably in size: head rounded, black, narrower than the thorax, which is rufous, slightly attenuated behind, and deeply notched anteriorly; with a strong longitudinal line, and a rounded impression at the basal angles; it is obsoletely wrinkled transversely: scutellum black: the elytra rufous anteriorly, with the suture and margin paler; on each a broad semilunar cyaneous-black mark, leaving a round or triangular rufous spot within towards the suture: body and head beneath black: thorax and legs rufous:

* I may here observe, with reference to my observations in the above page, as an instance of the facility with which novelties may be obtained by individual exertion, that in the short space of forty days, between the middle of June and beginning of August last, I captured, in the vicinity of Ripley, above 2400 species of insects, exclusively of larvæ, &c. or nearly one-fourth of our ascertained entomological productions, amongst which, although upon *old* explored ground, were about 100 *new* species, not before in any collection, so far as I have inspected, including several perfectly novel genera, many of considerable size; and amongst the known insects, several reputed scarce were in considerable plenty, as hereafter detailed.



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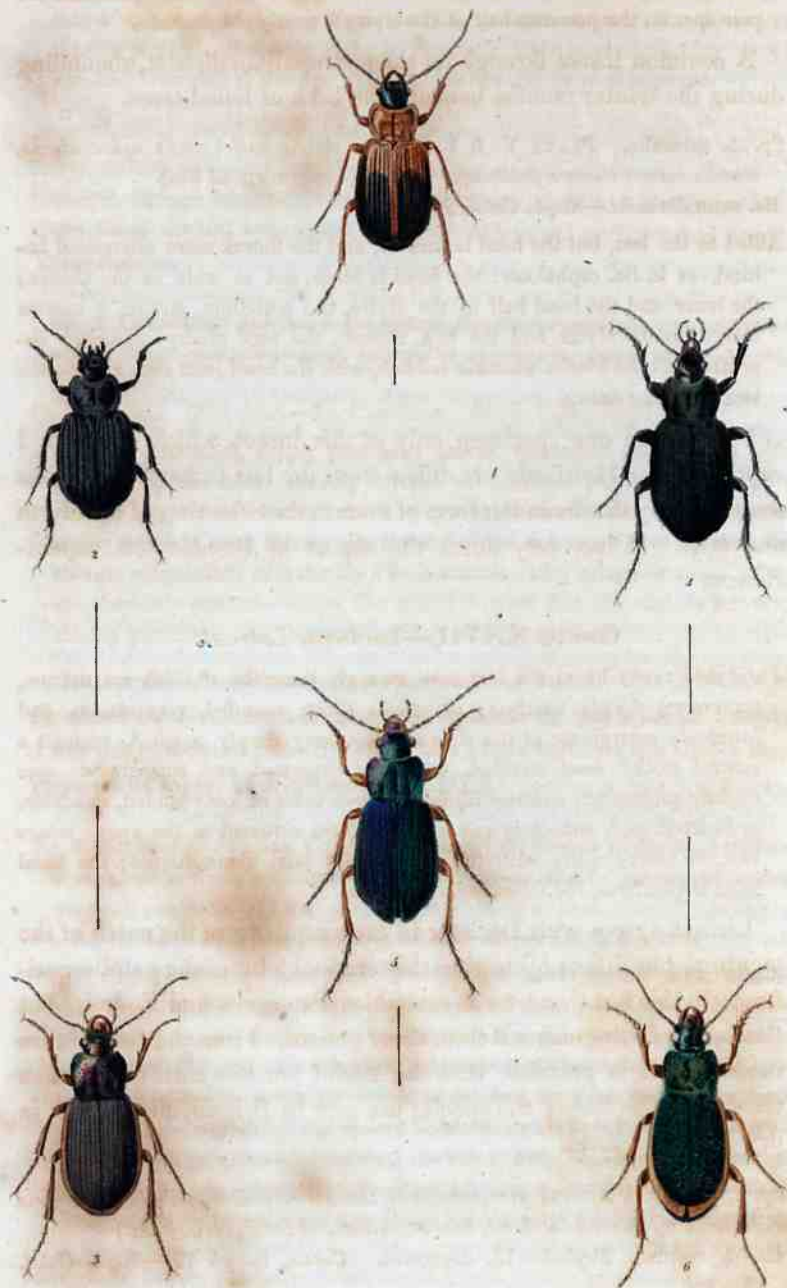
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C. M. Curas Del.

C. Wagstaff Sc.

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palpi rufous, with terminal joints piceous; antennæ pale ochraceous, with the basal joint rufous, the following more or less pitchy. In some specimens the pale spot on the posterior half of the elytra is nearly obliterated.

A common insect throughout the metropolitan district, abounding during the winter months beneath the bark of felled trees.

Sp. 3. suturalis. PLATE V. f. i.—*Niger, elytris anticè rufis apice nigris, scutello suturâ thorace pedibusque rufis.* (Long. corp. $2\frac{1}{2}$ lin.)

Ba. suturalis mihi.—*Steph. Catal. No. 99.*

Allied to the last, but the head is smaller, and the thorax more attenuated behind, as in Ba. cephalotes: the head is black, not so wide as the thorax; the latter and the basal half of the elytra, the scutellum, suture, a narrow margin to the elytra, and the legs, rufous; the tarsi pitchy: abdomen beneath and head black: antennæ reddish, with the basal joint clear rufous, the two following dusky.

I have seen one specimen only of this insect, which I believe I captured near Hertford. It differs from the last in having a rufous scutellum, by the dissimilar form of thorax, the colouring of the elytra and tarsi. It has very much the aspect of *Stenolophus vaporariorum*.

GENUS XXVII.—LICINUS, Latreill².

Palpi moderately long; the last joint strongly securiform*: *labrum* narrow, transverse, deeply notched; *mandibles* short, rounded, very obtuse, and interiorly emarginate at the tip: *mentum* very deeply notched, without a central tooth: *head* rounded, anteriorly depressed and emarginate: *eyes* slightly projecting: *antennæ* filiform: *thorax* more or less rounded, quadrate, or heart-shaped, anteriorly emarginate: *elytra* sinuated at the apex: *wings* two, or more: *males* with the two anterior tarsi alone dilated; the basal joint trapeziform, the following oblong-oval.

Licinus agrees with *Badister* in the simplicity of the notch of the mentum, but differs by having the terminal joint of the palpi securiform: in this last character it resembles *Panagæus* and *Epomis*, but the former distinguishes it from those genera. From the very obtuse mandibles it is probable that the *Licini* are less carnivorous than the other *Adephaga*: the species are rare in Britain, and delight in dry hilly situations.

Sp. 1. depressus. *Apterus, ater, subopacus, thorace rotundato, punctulato, elytris subtilissimè punctato-striatis, basi subretusis.* (Long. corp. 5 lin.)

Ca. depressus. *Paykul.*—*Li. depressus.* *Curtis, ii. pl. 75.—Steph. Catal. No. 100.*

* See observation, p. 69.

Deep glossy black: head orbicular, punctulate: thorax closely sprinkled with impressed dots, with a slight longitudinal line, and a small depression on each side of the basal angle: elytra subparallel, punctate-striated, the interstices thickly punctate, the striæ eight in number: body beneath shining black: antennæ brownish at the tip. The female has the elytra subopaque.

/ This insect appears to be sparingly scattered over the country, a few specimens having been formerly captured in Norfolk and Suffolk, and in 1826, near Aberystwith; and last August several were taken in the neighbourhood of Dorking by Messrs. Chant and Waterhouse.

‡ Sp. 2. Cassideus. *Apterus, niger opacus, thorace subquadrato, punctatissimo, elytris tenuè punctato-striatis, interstitiis subtilissimè punctulatis.* (Long. corp. 6. lin.)

Ca. Cassideus. *Fabricius.*—Li. Cassideus. *Steph. Catal. No. 101.*

Head large, rounded, deeply punctate: thorax somewhat quadrate, a trifle rounded on the sides; entirely covered with distinct punctulations, with a slender longitudinal channel, and a minute fovea on each side at the posterior angle, which is more thickly punctated: elytra not much broader than the thorax, subparallel, with the tip a little sinuate and quadrate-truncate: they are obsoletely punctate-striate, the spaces between flat, and slightly but very thickly punctate: body beneath and legs of a glossy black.

In the British Museum is a specimen of this insect, which was obtained by Dr. Leach from an old collection, but with its locality I am unacquainted: the Rev. F. W. Hope informs me that a specimen was taken at Aldborough in 1824.

Sp. 3. Silphoides. *PLATE V. f. 2. Alatus, niger, thorace rotundato, punctato, elytris ovatis; lineis tribus subelevatis, punctato-striatis, interstitiis subelevatis, profundè punctatis.* (Long. corp. 6½ lin.)

Ca. Silphoides. *Fabricius.*—Li. Silphoides. *Steph. Catal. No. 102.*

Black, slightly shining: head large, broad, punctulated: thorax rather broader than long, thickly covered with deep impressed dots, especially on the sides, where they become confluent; the middle is less punctate, and has a slight longitudinal channel; the sides and posterior angle are much rounded, and the base is deeply notched: elytra ovate, broader than the thorax, with strongly punctate striæ, the spaces between which are thickly and deeply marked with granular impressions; the third, fifth, and seventh (from the suture) being somewhat elevated and smooth, the tips of the elytra are deeply sinuated: body beneath and legs glossy black: palpi pitchy: the tips of the antennæ brownish.

This insect affords another proof of the irregular appearance, or locality, of certain species: previous to the present year seven spe-



cimens only were preserved: four in the collection at the British Museum, one in that of the late Mr. Swainson, and two in that of Mr. Curtis; one of the latter, as well as one of those in the Museum, was taken at Dover,—the other of Mr. Curtis's, near Chelsea or Fulham, in August 1826. On the 18th August last, Mr. Cooper found one slowly crawling on the mud in Brunswick-square, London; and at the end of the same month many specimens were captured near Dorking, in company with *L. depressus*, by Messrs. Chant and Waterhouse, the former of whom supplied me with a pair.

GENUS XXIX.—EPOMIS, *Bonelli*.

Palpi with the terminal joint elongate, compressed, securiform, obliquely truncate: *labrum* transverse, slightly notched: *mandibles* short, slightly bent: *mentum* with an anterior emargination, having a bifid tooth in the middle. *Antennæ* filiform: *head* nearly triangular, slightly narrowed behind: *thorax* truncate-cordate: *males* with the three basal joints of the anterior tarsi dilated.

Bonelli proposed this genus; which is distinguished from the following by the elongate securiform terminal joint of the palpi,

GENUS XXVIII.—REMBUS, *Latreille*.

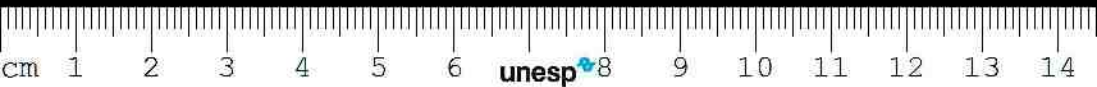
Palpi with the last joint elongate, subovate, truncate: *labrum* very deeply notched: *mandibles* short, bent, acute: *mentum* small, no tooth in the centre: *antennæ* short, filiform: *head* triangular: *thorax* nearly heart-shaped, rather narrower than the elytra: *elytra* elongate: *legs* moderate: *anterior tarsi* of males with three dilated joints.

Sp. 1. impressus. *Niger*, *elytris obsolete striatis*, *thorace basi utrinque impresso*. (Long. corp. 10 lin.)

Ca. impressus. *Fabricius*.—Re. impressus. *Steph. Catal. No. 103*.

Black, small, not punctate: thorax anteriorly narrowed, posteriorly nearly as broad as the elytra, rounded at the sides, with a faint stria down the middle, and a deep longitudinal impression on each side near the hinder angle: the base a trifle notched in the middle, the hinder angles obliquely truncate: elytra striated, the striæ parallel, not punctate, and no abbreviated stria near the scutellum (so general in the Harpalidæ); the spaces between a little convex, smooth; the external stria is carried round to the inner apex of the elytra; and an elevated line accompanies it, to which all the striæ are prolonged, without being united to each other: body beneath and legs black.

How to account for the introduction of this large insect into our Fauna I am at a loss to conjecture; it is a native of India, and is the *Ca. inæqualis* of Marsham, from whose cabinet I obtained one specimen, and another is in the collection of the Rev. W. Kirby.



and from *Licinus* and *Rembus* by the emargination of the mentum being furnished with a bifid tooth.

Sp. 1. *circumscriptus*. PLATE V. f. 3. *Capite thoraceque obscuro-viridi-æneis, punctis sparsis impressis, elytris nigricantibus, striatis, margine, antennis pedibusque flavis.* (Long. corp. 7—9 lin.)

Ca. circumscriptus. *Dufschmid.*—*Ep. circumscriptus.* *Steph. Catal. No. 104.*

Ca. cinctus. *Martyn Col. pl. 38. f. 39.*

Head and thorax obscure-green-brass, sprinkled with distinct deep impressed dots; the latter nearly quadrate, a little attenuated behind, the base slightly emarginate: down the middle a slight channel, and on each side, near the posterior angle, a longitudinal impression: elytra greenish-dusky, with the margin reddish-yellow; they are deeply striated, the intervals being smooth and elevated: body dull brown beneath, with the margin of the abdomen yellowish: antennæ and legs also yellowish.

This insect is decidedly rare in England; I have hitherto seen only three specimens, one in the collection of the late T. Swainson, Esq., and the other two in my own; one of the latter I obtained from the cabinet of the late Mr. Francillon, and the other from that of the author of *Entomologia Britannica*; but I am unable to give the habitats of either. I must observe, however, that the Marshamian specimen appears to be distinct from my other, and agrees with De Jean's *Ep. nigricans*, in being less, more brilliant on the head and thorax, the latter more attenuated behind, and in having the intervals between the striæ of the elytra irregularly and deeply punctate; but as that insect is said by him to be a native of India, it is possible that Marsham may inadvertently have yielded to the bad taste of his day by placing a foreign specimen in his collection in lieu of the insect described by him as *Ca. cinctus*, as he assured me that *every* specimen in his cabinet was truly indigenous.

GENUS XXX.—CHLÆNIUS, *Bonelli*.

Palpi with the terminal joint ovate-truncate: *labrum* transverse, slightly notched: *mandibles* slightly curved, acute, denticulated at the base: *mentum* anteriorly emarginate, with a bifid tooth in the centre. *Antennæ* filiform: *head* subtriangular, more or less attenuated behind: *thorax* truncate-cordate, or subquadrate: *elytra* slightly sinuated at the extremity: *wings* two: *anterior tarsi* of males with three dilated joints.

An extensive genus, containing about seventy described species. It is distinguished from *Epomis* by the ovate terminal joint of the palpi, and from *Licinus* by the bifid dentation of the notch of the mentum. All the British species have the thorax and elytra more

or less pubescent, and are usually of beautiful tints of green and cupreous; they usually reside in marshy places, on the margins of rivers and ponds, or beneath stones in damp hedges.

A. With the thorax broader behind than before.

† Sp. 1. sulcicollis. *Niger, thorace antice sparse punctato, postice trisulcato, punctatissimo, elytris obsolete punctato-striatis, interstitiis rugoso-granulatis.* (Long. corp. 6 lin.)

Ca. sulcicollis. *Paykul.*—Ch. sulcicollis. *Curtis*, ii. pl. 83.—*Steph. Catal. No. 105.*

“Black: antennæ, excepting the three first joints, covered with fuscous hair: head smooth, shining: thorax narrowed and sparingly punctured before, scabrose behind, where it is covered with short brown hair, sides scabrose, slightly reflexed, a channel down to the centre, with four longitudinal elevated shining lines, the exterior one furcate, and large punctures between them: scutellum smooth: elytra scabrose, thickly covered with short brown hairs, interspersed with a few aureous ones, an abbreviated stria next the scutellum, and eight others extending the whole length on each elytron.”

Being unable to examine the only specimen of this insect which has been captured in England, I have transcribed the possessor's description. The specimen in question was found (dead) at Covehithe, in Suffolk.

Sp. 2. holosericeus. *PLATE V. f. 4.—Obscuræ-æneus, thorace rugoso, elytris striatis, interstitiis rugoso-granulatis, antennis pedibusque nigris.* (Long. corp. 6 lin.)

Ca. holosericeus. *Fabricius.*—Ch. holosericeus. *Steph. Catal. No. 106.*

Black: head shining brass; slightly punctulate, with a transverse impression between the antennæ: thorax short, transverse, above rather depressed, dusky, black, clothed with a glossy yellowish-brown down, thickly rugose-punctate; with a slight channel in the middle, and an obsolete oblong fovea on each side near the hinder angle: elytra ovate, rather convex, dusky-black, with yellowish-brown pubescence, obsoletely striated, the interstices transversely granulated, the second stria from the margin with several deep foveæ: labrum, mouth, and palpi pitchy-black: legs and body beneath glossy black.

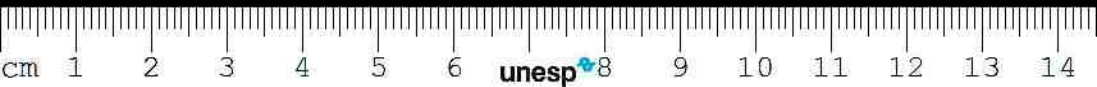
A local insect, found in marshy places; it was formerly in three or four collections only; but in August, 1826, several specimens were taken by Mr. Weaver, on the borders of Whittlesea Mere; and Mr. S. Hanson found one at Fen Ditton, Berks.

Sp. 3. mgricornis. *Capite sublævi, thorace punctato cupreo-æneo, elytris viridibus subpunctato-striatis subtilissimè granulatis, antennarum articulo primo pedibusque piceis.* (Long. corp. $4\frac{1}{2}$ -5 lin.)

Ca. nigricornis. *Fabricius.*—Ch. nigricornis. *Steph. Catal. No. 107.*

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L



Bluish-black : head shining green-brass, or bluish, delicately punctulate : thorax short transverse, depressed above, very glossy coppery-brass, thickly punctate, with a slight channel down the centre, and an oblong impression on each side near the hinder angle : elytra ovate, above a little convex, deep green, greenish or cupreous, sometimes tinted with violaceous, obsoletely punctate-striate, the interstices closely granulated ; the marginal stria with a series of bluish impressions : body beneath pitchy-black, tinged with violaceous : legs, palpi, labrum, and antennæ pitchy-black, the basal joint of the latter reddish.

Var. β . With the legs and basal joint of the antennæ rufo-ferruginous.

Abundant towards the autumn, and in the spring, in Battersea and Copenhagen Fields, near London ; also on the borders of Whittlesea Mere, and in the fens of Cambridgeshire.

Sp. 4. *melanocornis*. *Capite sublævi, thorace punctatissimo cupreo-æneo, elytris viridibus punctato-striatis, interstitiis confertissimè granulatis, antennarum articulo primo pedibusque rufo-ferrugineis.* (Long corp. $5\frac{1}{2}$ lin.)

Ch. *melanocornis*. Ziegler. Steph. Catal. No. 108.

Greenish-black : head shining green or copper bronze, slightly punctate : thorax rather broader than in Ch. *nigricornis*, thickly punctate, cupreous, with a deep longitudinal impression, and an obsolete one on each side at the base : elytra green-blue, oval-oblong : obsoletely punctate-striate, the interstices slightly granulated : pubescence yellowish ; body beneath greenish-black ; abdomen dull black : legs ferruginous ; tarsi, with the tip of each joint, dusky : labrum and palpi reddish : antennæ with the basal joint ferruginous, the two following reddish, with the tip brown ; the rest obscure brown, and pubescent.

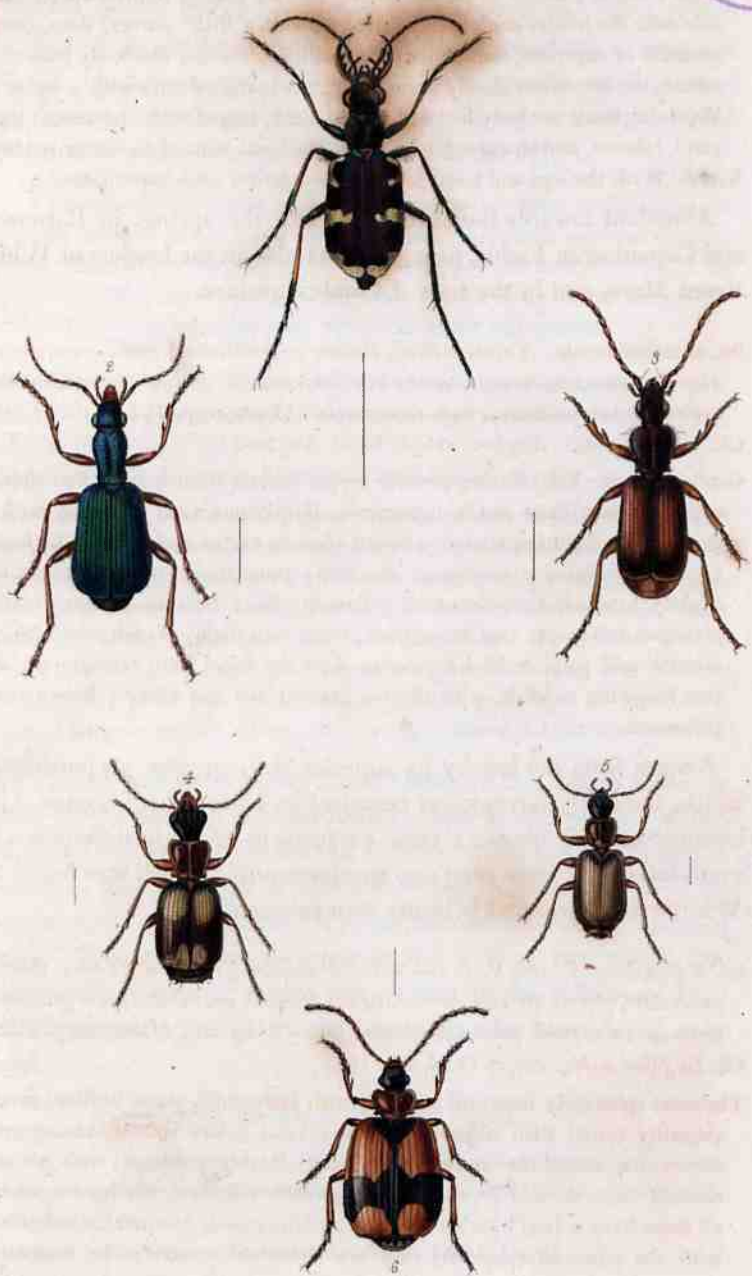
Known from the last by its superior size, greater proportionate width, the lively ferruginous colour of its legs, the rufescence of its labrum, and its obtuse elytra, exclusively of slight differences in granulation. I have seen one specimen only, which was found at Whittlesea Mere, and is in my own cabinet.

Sp. 5. *fulgidus*. PLATE V. f. 5.—*Splendidè cyaneo-viridis, capite lævi, thorace punctulato, elytris striatis, interstitiis subtilissimè granulatis, apice producto ; antennarum articulo primo, pedibusque flavo-ferrugineis.* (Long. corp. 5 lin.)

Ch. *fulgidus mihi*. Steph. Catal. No. 109.

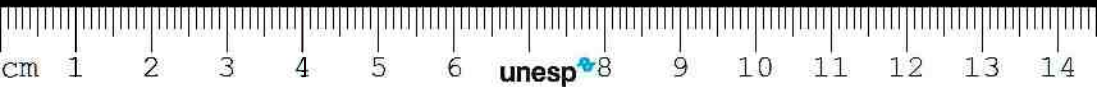
The most splendidly beautiful of the British Harpalidæ, above brilliant green, elegantly tinted with ultramarine blue : head glossy smooth blue-green ; thorax the same, the green predominant, thickly punctate ; with a deep channel down the middle, and another on each side near the hinder angle ; all these have a deep blue ground : elytra blue-green, beautifully iridescent, with the pubescence golden ; they are obsoletely striated ; the interstices depressed and transversely granulated : the apex much produced and punctulated : body beneath blue-black, pubescent : legs pale ferruginous, with the





R. Acory

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tips of the tibiæ and tarsi fuscous: palpi ochraceous, with the tips of the joints dusky: basal joint of antennæ ochraceous red, the remainder dusky.

Of this elegant insect I have also seen but one specimen, which was taken at the same time and place with the preceding, in company with *Ch. nigricornis* and *holosericeus*: it is readily distinguished from either of the foregoing by its more elongate and depressed make, and by the prolongation of the tip of the elytra.

Obs. I recommend the lovers of fine specimens to set them while recent, if possible, as some colours are so evanescent that the slightest moisture destroys them. Since the drawing of this lovely insect was executed, I relaxed the specimen with the greatest care; the result was the almost total destruction of the vivid ultramarine tint with which the insect was adorned.

Sp. 6. *Agrorum*. PLATE V. f. 6.—*Viridis, thorace elytrisq̄ue subtilissimè granulatis, elytris striatis, margine, antennarum basi pedibusq̄ue flavis.* (Long. corp. $5\frac{1}{2}$ lin.)

Ca. *Agrorum*. *Olivier.*—*Ch. Agrorum.* *Steph. Catal. No. 110.*

Fine green above: head a little rugose: thorax thickly dotted with yellowish down, and closely punctulate, or shagreened: a slight channel down the middle, and a longitudinal impression on each side between it and the hinder angle: scutellum sometimes yellowish: elytra a little broader than the thorax, rather obsoletely striated; the interstices finely granulated, the exterior margin yellow: beneath, the thorax and breast are greenish-bronze, the abdomen dusky, with a broad pale yellow margin: labrum, palpi, legs, and three basal joints of the antennæ pale yellow; the terminal joints of the antennæ brownish.

This pretty and conspicuous insect stands in the British Museum cabinet by the name of *Epomis festivus*, and in *Samouelle's Entomologist's Compendium* its habitat is given under the appellation of *E. cinctus*; and although it was placed in the Museum collection upwards of eleven years since, it is still unrecorded as an indigenous species. The specimens in question (as well as two which Dr. Leach kindly presented to me) were taken in the vicinity of Plymouth in the spring of 1816: the insect has also been found near Bristol.

B. With the thorax attenuated behind.

Sp. 7. *vestitus.* *Viridi-æneus, elytris punctato-striatis creberrimè granulatis, limbo postice latiori sinuato, antennarum basi pedibusq̄ue flavis.* (Long. corp. $5-5\frac{1}{2}$ lin.)

Ca. *vestitus.* *Fabricius.*—*Ch. vestitus.* *Steph. Catal. No. 111.*

Above brassy-green: head and thorax shining, the former obsoletely wrinkled; the latter punctate, slightly pubescent, with a distinct longitudinal channel,



and an oblong impression on each side near the posterior angle: the margin itself pale: elytra pubescent, dull brassy-green, punctate-striated; the interstices convex, ruggedly punctate; the margin testaceous-yellow, broadest at the tip: body beneath pitchy-black, pubescent, thickly punctulated: mouth, antennæ, and legs pale yellowish, the tarsi ferruginous.

A very common species, especially near London; occurring in damp banks, beneath stones, in gravel and clay-pits, &c. in the spring. The Rev. L. Jenyns informs me that he has only once observed it near Bottisham.

† Sp. 8. xanthopus. *Obscuræ æneus, capite thoraceque subnitidis, thorace punctis impressis, elytris striatis, striis punctatis, antennis pedibusque rufo-ferrugineis.* (Long. corp. $8\frac{1}{2}$ lin.)

Ch. xanthopus. *Steph. Catal. No. 112.*

Head and thorax of a slightly glossy æneous; the former smooth, and clothed with black down: the latter longer than broad, and thickly punctate, with a somewhat obsolete channel down the centre, and an elongate longitudinal impression on each side near the hinder angle, the latter greenish: elytra a little convex, obscure dusky æneous, with rather obsolete striæ, the latter distantly punctated; the interstices nearly smooth: body beneath dusky-black: legs ferruginous: labrum, palpi, and three basal joints of the antennæ also ferruginous, the rest of the antennæ dusky.

This large species is unique in the cabinet of W. Swainson, Esq., F. L. S., &c., who obtained it from his father's collection, but he is unable to furnish me with its habitat. It differs from the other indigenous species by having the second joint of the antennæ remarkably short, and the following above three times the length of the second; the head is clothed with down, and the body more convex than usual in this genus: it agrees in a few particulars with Ch. orientalis of De Jean, but differs in many important characters, particularly in having the thorax longer than broad.

GENUS XXXI.—CALLISTUS, *Bonelli*.

Palpi with the terminal joint elongate-ovate, attenuated at the tip; *internal maxillary* unarticulate: *labrum* transverse, obsoletely emarginate: *mandibles* very narrow, acute, a little bent, denticulated at the base: *mentum* emarginate anteriorly, with a simple tooth in the centre. *Antennæ* pubescent, slightly compressed: *head* subtrigonal: *thorax* punctate, convex, truncate-cordate: *elytra* entire, pubescent: *wings* two: *anterior tarsi* of the males with three dilated joints.

Entomologists are also indebted to the perseverance of Bonelli for the characters and name of this genus, of which a detailed ac-



count has been recently given, in which the uniarticulate structure of the internal maxillary palpus is, I believe, first noticed: this character, combined with the punctate thorax, distinguishes this genus from *Platynus* and *Anchomenus*, which latter it is frequently associated with by the continental entomologists; and the simple lobe in the centre of the notch of the mentum discriminates it from *Epomis* and *Chlænus*, with which it agrees in having a punctate thorax and pubescent elytra.

Sp. 1. *lunatus*. *Nigro-cyaneus, thorace rufo, elytris flavis maculis tribus nigris.* (Long. corp. $3\frac{1}{2}$ lin.)

Car. *lunatus*. *Fabricius*.—Cal. *lunatus*. *Curtis*, iv. pl. 180.—*Steph. Catal.* No. 113.

Bluish-black: head dusky-blue or greenish, strongly punctate: thorax ferruginous, a little convex and pubescent, finely punctate; a deep channel down the middle, and a slight impression on each side near the hinder angle: the scutellum and elytra yellow, the latter slightly pubescent, very obsoletely striated, reddish towards the suture, with a small roundish spot at the basal angle, a second larger, and transverse, towards the middle, reaching nearly to the suture, and a third at the tip, united externally to the central one: beneath the body is bluish-black; the thighs and tibiæ are yellowish at the base, and dusky at the tip, the tarsi brownish: the mouth, palpi, and two basal joints of the antennæ are ferruginous, the rest of the antennæ dusky.

Kent seems to be the principal habitat of this beautiful and delicately formed species, most of the specimens contained in our cabinets having been captured in that county, chiefly in the eastern division, near Dover, whence I have received two. In the British Museum are others from the same locality. A specimen was picked up by a lady last October, at Petrixbourne, near Canterbury.

GENUS XXXII.—ANCHOMENUS, *Bonelli*.

Palpi with the terminal joint ovate, attenuated at the tip, slightly truncate: *labrum* quadrate, transverse, entire: *mandibles* denticulated at the base, acute: *mentum* anteriorly emarginate, with an acute simple tooth in the centre. *Antennæ* linear, the third joint twice as long as the second: *head* subovate: *thorax* truncate-cordate, slightly convex, scarcely margined: *elytra* rather sinuated at the apex: *body* a little convex: *wings* two or none: *anterior tarsi* of males with three dilated joints.

Anchomenus is readily known from *Callistus* by the form of the thorax, which is rather elongate and not punctate throughout; and from *Platynus* by having an acute simple notch in the centre of the mentum, and the body rather convex.



Sp. 1. *prasinus*. *Nigro-cyaneus, capite thoraceque virescentibus, pedibus elytrisque rufescentibus, elytris posticè maculâ communi nigro-cyanedâ.* (Long. corp. 3—3½ lin.)

Ca. *prasinus*. *Fabricius*.—*Martyn, pl. 37, f. 25*.—An. *prasinus*. *Steph. Catal. No. 114.*

Head and thorax greenish; elytra depressed, pale ferruginous, with a large dorsal blue-black spot behind, reaching nearly to the apex, striated, the striæ impunctate, the interstices flat, smooth; body beneath glossy-black: legs, palpi, and antennæ pale rufous, the terminal joints of the latter dusky.

A very abundant species, particularly near London; and Dr. Leach took it plentifully in Scotland. Like the *Brachini*, this species wards off the attacks of its enemies by repeated discharges of smoke and noise.

Sp. 2. *albipes*. *Nigro-piceus, antennis, pedibus, elytrorumque margine pallidis.* (Long. corp. 3—3½ lin.)

Ca. *albipes*. *Illiger*.—An. *albipes*. *Steph. Catal. No. 115.*

Pitchy-black, slightly shining: head smooth: thorax a little convex, smooth, with a slight central channel, or transverse impression, near the base, which is thickly punctate: elytra striated, the striæ impunctate, with a series of remote impressions near the margin of the elytra; the margin itself, and legs, pale testaceous: body beneath pitchy black, pallid at the apex: palpi pale ochraceous; antennæ pale at the base, ferruginous at the tip.

Var. *β*. Pale ferruginous, eyes black, legs pale testaceous.

Extremely common in damp banks throughout the metropolitan district.

Sp. 3. *sordidus*. *Niger, elytris obscure piceis striatis, striis immunibus; elytrorum marginibus pedibusque testaceis.* (Long. corp. 3½ lin.)

Ca. *sordidus*. *Marsham*.—An. *sordidus*. *Steph. Catal. No. 116.*

Head pitchy-black: thorax black, glabrous, with an impressed, abbreviated, obsolete, longitudinal, central line; the base ruggedly-punctate: elytra obscure, piceous, striated, the striæ impunctate; the margin testaceous: body beneath black: palpi, antennæ, and legs, testaceous.

Var. *β*. With the elytra reddish-testaceous.

I obtained a pair of this species from the collection of Mr. Marsham, captured near Usk, in Cumberland; but I do not think them sufficiently distinct from the preceding. The colour of the palpi and antennæ is rather darker, and the insect appears rather more slender.

Sp. 4. *oblongus*. *Apterus, piceus, nitidus, elytris crenato-striatis, fusco-testaceis, antennis pedibusque pallidis.* (Long. corp. 2—2½ lin.)

Ca. *oblongus*. *Fabricius*.—An. *oblongus*. *Steph. Catal. No. 117.*

Glossy black: head smooth, large: thorax elongate, scarcely broader than the

head, rather convex, shining, with a slight central line, and a deep arcuate, elongate, punctate fovea at the base, near the hinder angle: elytra broad, fusco-testaceous, or brown, shining, deeply punctate-striate, the striæ somewhat crenate; at the margin a series of larger foveæ: body beneath smooth, glossy, piceous, the apex rather pale: legs elongate, pale-testaceous: antennæ pale-ferruginous: palpi piceous.

Var. β . With the elytra pale testaceous.

Rather a scarce species, occurring in marshy situations. It has been taken in Bottisham-fen, under the bark of a tree, by the Rev. L. Jenyns; at Waltham-marsh, by Mr. Hanson; in the marshes near Norwich, by the late Mr. Griffin; and once by myself in Battersea-fields.

GENUS XXXIII.—PLATYNUS, *Bonelli*.

Palpi with the terminal joint ovate, subtruncate: *labrum* quadrate, transverse, entire: *mandibles* denticulated at the base, acute, rather suddenly bent internally at the tip: *mentum* anteriorly emarginate, with a bifid tooth in the centre. *Antennæ* linear, the third joint about twice as long as the second: *head* subovate: *thorax* strongly margined, truncate-cordate, depressed: *elytra* sinuated at the tip: *body* depressed: *wings* two, or none: *anterior tarsi* of males with three dilated joints.

Distinguished from *Anchomenus* and *Callistus* by having a bifid central lobe in the notch of the mentum; from *Sphodrus* by the comparative brevity of the third joint of the antennæ; and from *Agonum*, by the form of the thorax, the hinder angles being acute, and not rounded, as in that genus.

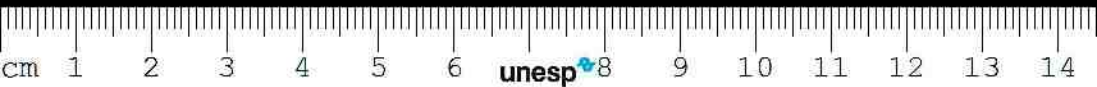
Sp. 1. *angusticollis*. *Niger nitidus, thorace glaberrimo, elytris striatis, apice sinuato-emarginatis*. (Long. corp. 5—6 lin.)

Ca. *angusticollis*. *Fabricius*.—Pl. *angusticollis*. *Steph. Catal. No. 118*.

Shining black: head smooth: thorax very glossy, rather convex, transversely but obsoletely strigose, with a deep transverse abbreviated line on the anterior part, a strong longitudinal impression, and a fovea on each side near the hinder angle: elytra broad, depressed, shining black, striated, the striæ, under a powerful lens, very obsoletely punctulate, a marginal series of remote impressions, and three larger impressed dots on the disc; the interstices convex: body beneath smooth, glossy black: legs, mouth, and palpi piceous: antennæ rufo-piceous at the base, brown at the tip.

Frequently taken at the roots of trees in the spring, especially on Epping-forest: it likewise occurs at Coombe-wood, in Kensington-gardens, and in Devonshire.

† Sp. 2. *scrobiculatus*. *Apterus, ater, antennis pedibusque rufis; capite punctis duobus sanguineis*. (Long. corp. 6 lin.)



Ca. scrobiculatus. Fabricius.—Pl. scrobiculatus. Steph. Catal. No. 119.

Head black, with two light red spots: antennæ and palpi rufous: thorax with three impressed lines, the central one reaching to the base, the others not: elytra striated, the striæ smooth, narrow at the tip; three impressed dots towards the centre: legs rufous.

There is a specimen of this insect in the collection at the British Museum, taken by Dr. Leach, near Ashburton, in Devonshire.

GENUS XXXIV.—SPHODRUS, *Clairville*.

Palpi rather elongate, filiform, terminal joint oblong-ovate, truncate, shorter than the third: *labrum* quadrate, transverse, entire: *mandibles* slender, elongate, denticulated at the base: *mentum* with a bifid tooth in the centre of its anterior notch: *labium* with elongate lateral appendages. *Antennæ* linear, the third joint about three times as long as the second: *head* porrect: *thorax* obcordate-truncate, depressed, margined: *elytra* entire: *wings* two, or rudimentary: *anterior tarsi* of the males with four dilated joints.

The genus *Sphodrus* is readily known by the great length of the third joint of the antennæ, which, in one of the species, is upwards of three times as long as the second; and by its elongated, filiform, palpi. The males are further discriminated by having four dilated joints to their anterior tarsi. The genus appears to be allied to *Platynus*, but the transition from it to *Agonum* is less natural than could be wished. Both species frequent cellars and close subterranean passages.

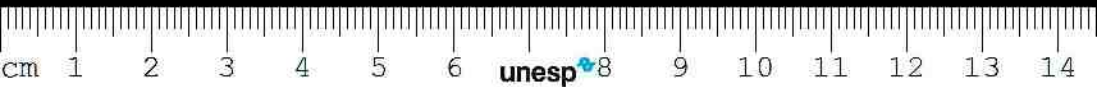
Sp. 1. *leucophthalmus. Nigro-piceus, lævis, subdepressus, elytris subtiliter punctato-striatis.* (Long. corp. 10—12 lin.)

Ca. leucophthalmus. Linné.—Sp. leucophthalmus. Steph. Catal. No. 120.

Pitchy-black, slightly shining, head black, smooth: thorax above depressed, the margin sometimes rufescent, the disc obsoletely strigose, with a slight longitudinal channel, an arcuated transverse impression, and a large fovea at the base on each side near the hinder angle: elytra oblong-ovate; depressed, rather dull pitchy-black, slightly striated, the striæ very obsoletely punctate, the second from the margin with a series of large impressions: body beneath black, or pitchy: legs, mouth, and palpi pitchy: basal joints of the antennæ black, the rest brownish.

The posterior legs of the male are furnished with a long spine, arising from the trochanters.

Not an uncommon species in several parts of the outskirts of the metropolis, frequenting cellars, outhouses, and stables, subsisting probably upon the hosts of *Blattæ* with which the subterranean apartments of London abound.



Sp. 2. *Terricola*. *Apterus, nigro-piceus subdepressus, elytris obscure cyaneis subtiliter punctato-striatis*. (Long corp. 6—8½ lin.)

Ca. *Terricola*. *Paykul*.—Sp. *Terricola*. *Steph. Catal. No. 121*.

Head pitchy-black, smooth, glossy: thorax depressed above, shining, smooth, pitchy, or blue-black, slightly channelled in the middle, and a deep, oblong, bent fovea on each side at the base: the elytra broad, oblong-ovate, rather depressed, blue-black, or bluish, rather shining, regularly though obsoletely striated, the striæ very slightly punctate; interstices rather convex, subcoriaceous; a marginal series of subocellated foveæ: body beneath and legs pitchy-black: tarsi reddish: antennæ rusty-brown: palpi, mouth, and labrum pitchy-red.

Like the last insect, Sp. *Terricola* frequents cellars, outhouses, and confined places among the “busy haunts of men,” throughout the metropolitan district. It is also very common near Bottisham.

GENUS XXXV.—AGONUM, *Bonelli*.

Palpi with the terminal joint fusiform, truncate, of the same length with the third: *labrum* quadrate, transverse, obsoletely emarginate: *mandibles* acute, denticulated at the base: *mentum* with an acute triangular tooth in the centre of its notch. *Antennæ* linear; the third joint about twice as long as the second, which is shortest, the terminal one longest: *head* elongate: *thorax* depressed, smooth, the posterior angles rounded: *body* depressed: *elytra* slightly emarginate at the tip: *wings* two: *claws* simple: *anterior tarsi* of males with three dilated joints.

The genus *Agonum* may be known from the preceding by the form of its thorax, which is either suborbicular or subovate, with the hinder angles rounded, and by the *mentum*, which is furnished with a simple acute tooth: from *Odontonyx* and *Synuchus* it is discriminated by the want of denticulations to the claws. The species resemble each other so closely, that it is extremely difficult to unite some of the varieties with their legitimate partners; and were it not for their different localities and habit, I should be induced to expunge three or four of them from the list. However, most of them are acknowledged by the continental writers: they usually frequent damp and marshy places.

A. With the thorax nearly orbicular.

Sp. 1. *marginatum*. *Viride aut cupreum, antennarum basi tibiisque testaceis; elytris tenuè striatis, disco tripunctatis, margine flavo*. (Long. corp. 4—5 lin.)

Ca. *marginatus*. *Linn. F.—Mart. C. pl. 36. f. 19.—Steph. Catal. No. 122*.

Head green, shining: mouth and palpi pitchy: antennæ black, the first joint dusky testaceous: thorax acutely margined, the margin itself obscure testa-

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ceous, rather convex, shining, green-brass, obsoletely strigose, a slight channel down the centre, a large bent impunctate fovea on each side at the base: elytra oblong-ovate, rather convex above, green-brass or coppery, very delicately striated, and obsoletely granulated, the striae with very minute impressed dots, but with three larger ones on each elytron, the first near the third stria from the suture, the other two near the second; the margin has an interrupted row of impressed dots, and is entirely of a bright pale yellow: the body beneath is brassy-green, smooth, and shining: the thighs are stout, pitchy-black; the tibiae, and sometimes the base of the thighs, pale testaceous, the former fuscous at the tip: the tarsi brownish. The male has the elytra shining, the female obscure.

Ag. marginatum used to be esteemed a scarce species, but it occurs plentifully in several places. The Rev. L. Jenyns finds it common in the fens near Ely; and I have taken it abundantly in Battersea-fields, and in other parts near London.

Sp. 2. *sexpunctatum*. *Capite thoraceque viridi-aureis, elytris tenuè punctato-striatis rubro-cupreis, aut nigro-aeneis, punctis sex serie impressis.* (Long. corp. $3\frac{1}{2}$ — $4\frac{1}{2}$ lin.)

Ca. *sexpunctatus*. *Linne*.—*Ag. sexpunctatum*. *Samou.* 150. pl. 3. f. 20.—*Steph. Catal.* No. 123.

A splendid insect: head obsoletely striated, shining, green, or green-gold: mouth pitchy-black: palpi and antennae black, the latter brassy at the base: thorax with its disc slightly convex, brassy-green, or golden, slightly but thickly strigose transversely, with a punctate impression on each side at the base: elytra ovate, above moderately convex, shining red-copper, with the margin green-brass, slightly punctate-striate, the interstices obsoletely granulated, and the third from the suture usually adorned with six rather deeply impressed dots, two of which are placed near the base of the third stria, and the other four adjoining the second; the margin is also furnished with a series of subocellated dots: the body beneath shining greenish-brass, the sides sub-punctate: the thighs greenish-brass: the tibiae and tarsi black.

The colour of the upper surface varies extremely, from every shade of brilliant red-copper to splendid hues of green, gold, purple, and violet; it is sometimes found nearly black; and the number of impressed dots between the second and third stria from the suture varies from five to eight.

Previous to the year 1812, few cabinets could boast the possession of this beautiful species. In July of that year I took a single female in a water-course in the hollow of Coombe-wood, and the following year I met with the insect by dozens in the same place; also in Battersea-fields and near Hertford I found a few; and in the same season it was taken, I believe plentifully, in Norfolk, and sparingly in Epping-forest, and in several places near London; but it has subsequently disappeared.



‡ Sp. 3. austriacum. *Nigrum, thorace viridi-cupreo, elytris viridibus, striatis, ad suturam cupreis; pedibus nigris.* (Long. corp. 4 lin.)

Ca. austriacus. *Fabricius*.—Ag. austriacum. *Curtis*, iv. pl. 183.—*Steph. Catal.* No. 124.

Head smooth green: palpi and three basal joints of the antennæ black, the rest of the latter brown: thorax coppery-green, with a central channel, obsoletely strigose transversely, with a thickly punctured fovea on each side at the base: elytra green-copper near the suture, slightly convex, striated, the interstices smooth, the second from the suture with a row of impressed dots, and the marginal stria also with a series of impressions: body beneath and legs black.

Two specimens of this elegant species are in the British Museum cabinet, captured by the late Mr. Cranch, near Kingsbridge, in Devonshire; and the Rev. F. W. Hope has a specimen which he took at Clengre, near Berkeley Castle, Gloucestershire.

Sp. 4. parumpunctatum. *Oblongo-ovatum versicolore, elytris striatis disco tripunctatis, tibiis testaceis.* (Long. corp. 3—4 lin.)

Ca. parumpunctatum. *Fabricius*.—Ag. parumpunctatum. *Steph. Catal.* No. 125.—Ca. cærulescens. *Mart. C. pl.* 35. f. 1.

Head smooth glossy-green: mouth pitchy: palpi black: antennæ black, with the basal joint testaceous beneath: thorax above slightly convex, green, tinged with coppery or brass, very obsoletely strigose, slightly channelled in the centre; with an obsoletely punctate fovea at the base near the posterior angles: elytra slightly convex, of a shining coppery or brassy-green, slightly striated, the striæ very obsoletely punctated, with three or four impressed dots between the second and third from the suture, and a series of impressions on the margin: the body beneath obscure-green, shining, slightly punctate: thighs greenish-black, the base sometimes pitchy: tibiæ and tarsi dull testaceous.

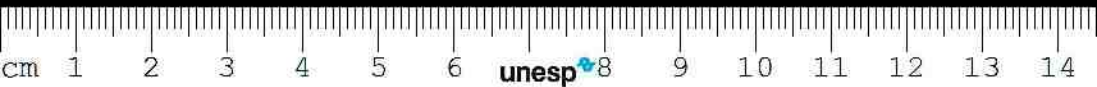
Like Ag. sexpunctatum this species varies much in colour above, being occasionally found of beautiful tints of blue, purple, azure, and violet, or fine coppery green, and sometimes black.

Not an uncommon insect, occurring beneath stones and moss in damp places: the varieties are, however, rare.

Sp. 5. plicicolle. *Viridi-æneum, antennis pedibusque piccis, thorace transversim rugoso, elytris striatis striâ marginali punctis majusculis distantibus notatâ.* (Long. corp. 4 lin.)

Ag. plicicolle. *Nicolai*.—*Steph. Catal.* No. 126.

Head brassy-green, ruggedly punctate: mouth piceous: antennæ piceous, the first joint palest: thorax convex, transversely rugose, green-brassy, smoothly impressed on each side, with a central channel: scutellum obtuse, smooth, obscure æneous: elytra oblong, broader than the thorax: shoulders rounded, rather depressed, green-brass, simply striated, with three large impressed dots near the second stria from the suture, and a series of distant spots on



the marginal striæ, which are placed closer together near the apex: body beneath shining black: legs pitchy, slender: the hinder tibiæ curved externally.

I have seen one specimen only of this insect (which is very distinct from any of the following). It was taken in the north of England during the past season by Mr. Weaver, from whom I obtained it.

Sp. 6. viduum. *Ovatum nigrum, supra obscure virescens, elytris profundius striatis, punctis tribus disci impressis.* (Long. corp. $3\frac{1}{2}$ —4 lin.)

Ca. viduus. Illiger.—Ag. viduum. Steph. Catal. No. 127.

Head black, smooth, shining: palpi and antennæ black: thorax convex above, smooth glossy green-black, obsoletely strigose, with a slight central channel, and a large fovea on each side at the base: elytra oblong-ovate, much broader than the thorax: shoulders rounded, rather convex, blackish-brass or greenish, rather deeply striated, the striæ delicately punctated; between the second and third striæ from the suture three impressed dots, and an interrupted series on the margin: body beneath glossy black, rather smooth: legs elongate, black.

There is the greatest imaginable affinity between this species and the four following; but the beautiful figures of Sturm point out the distinctions of some of them, and others are discriminated by characters that may be easier seen than expressed. This species occurs near London, in Battersea and Copenhagen-fields, and in Shropshire.

Sp. 7. versutum. *Nigrum, aut nigro-æneum, nitidum, thorace convexo, elytris parum dilatatis, tenuè striato-punctatis.* (Long. corp. 4 lin.)

Ag. versutum. Sturm.—Steph. Catal. No. 128.

Allied to the last, but somewhat less and narrower: glossy black, or tinged with æneous: thorax with the sides rounded: the disc convex anteriorly, very smooth and shining, depressed posteriorly, with a large subpunctate fovea on each side at the base, and a slight longitudinal channel: elytra emarginate at the base, a little convex, striated, the striæ punctate, with two deep impressions on the second stria, and one on the third, from the base, as in the last described insect: body beneath and legs glossy black, the latter sometimes piceous.

Occasionally found in the metropolitan district.

Sp. 8. læve. *Nigrum, nitidum, thorace breviorè, latitudine fere elytrorum, elytris minus dilatatis.* (Long. corp. $3\frac{1}{2}$ —4 lin.)

Ag. lævis. De Jean.—Steph. Catal. No. 129.

Similar to the next, but the elytra less broad; deep glossy black: the thorax very wide, with an impressed longitudinal channel, and an elongate fovea on each side at the base: the elytra scarcely broader than the thorax, rather convex, striated, the striæ obsoletely punctate; the base slightly emarginated; the disc with three deeper impressions.

Taken near London, and at Swansea.

Sp. 9. emarginatum. *Ovatum atrum, thorace brevi, lato, elytris anticæ emarginatis angulis humeralibus productis.* (Long. corp. $3\frac{1}{2}$ —4 lin.)

Ha. emarginatus. Gyllenhal.—Ag. emarginatum. Steph. Catal. No. 130.

Closely allied to Ag. moestum, but known by its prominent shoulders; entirely of a deep glossy black: thorax slightly strigose transversely, with a deep longitudinal channel and basal fovea on each side; elytra rather convex, striated, with an impressed dot near the base of the third stria from the suture, and two on the second, at equal distances between it and the apex of the elytra: the humeral angle very prominent, and slightly acuminate: the region of the scutellum depressed: body beneath and legs glossy black; the latter sometimes piceous.

Not uncommon in Battersea-fields, and on the borders of Whit-tlesea-mere; also near Netley, Salop.

Sp. 10. moestum. *Atrum aut nigro-cærulescens, thorace brevior, lato, lateribus rotundatis, elytris latis, striatis.* (Long. corp. $3\frac{1}{2}$ —4 lin.)

Ag. moestum. Sturm.—Steph. Catal. No. 131.

Shorter and broader than the last; entirely deep black, or delicately glossed with bluish, shining: mouth pitchy: thorax nearly transverse, the sides regularly rounded, with an impressed dorsal line, and a fovea at the base on each side: elytra shorter and broader than in Ag. viduum, rather convex, deeply striated, the striæ slightly punctate, with two large impressed dots on the anterior half of the third stria from the suture, and one on the second stria, midway between the last and the apex of the elytra: basal joint of antennæ pitchy.

Found in Coombe-wood and Battersea-fields; also near Bristol, and in Shropshire, not uncommonly.

Sp. 11. afrum. *Angustior, nigrum, nitidum, thorace sublongiore, lato, elytris striatis, striis impunctatis.* (Long. corp. $3\frac{1}{2}$ lin.)

Ca. afer. Duftschmidt.—Ag. afrum. Steph. Catal. No. 132.

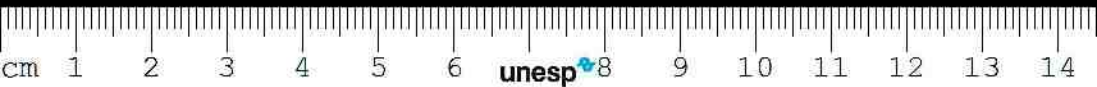
Head black, glossy, smooth: thorax a little elongate, rather distant from the base of the elytra, slightly convex, with a slender abbreviated longitudinal line, and a fovea on each side at the base: elytra glossy-black, a little convex, oblong-ovate, slightly striated, the striæ impunctate; between the second and third from the suture two deep impressed dots, towards the apex, and one near the base on the third: body beneath and legs entirely black.

Known from the preceding by its more elongate form. It occurs near London and Bristol, and is said to be common in Norfolk.

† Sp. 12. Bogemanni. *Nigro-piceum depressum, subtilius dilutius, thorace breviori cordato, elytris obsolete inæqualiter striatis, interstitiis subtilissimè strigosis.*

Ha. Bogemanni. Gyllenhal.—Ag. Bogemanni. Steph. Catal. No. 133.

Of the depressed form of Ag. livens, which it is allied to, but is only about half the size: head glossy black, oblong, smooth: mouth pitchy: palpi reddish-



pitchy: antennæ piceous at the base, fuscous at the tip: thorax cordate, a little convex, shining black, very delicately and transversely strigose, with a slender longitudinal channel, and a rather deep rounded foveola on each side at the base; the lateral margin much elevated: elytra ample, rounded at the shoulders, the sides not dilated; depressed, black, slightly glossy, and obsoletely striated, the striæ scarcely punctulated, and approximating in pairs; the interstices under a deep lens very delicately and thickly transversely strigose; the margin with remote, subocellated impressed dots: body beneath pale piceous, smooth, glossy: legs elongated, slender, pitchy, the base pale rufescent.

Taken by Dr. Leach? but I know not its locality.

B. With the thorax suboblong-ovate, the posterior angles sometimes rather acute.

Sp. 13. *quadripunctatum*. PLATE VI f. 1.—*Oblongum, nigrum, subdepressum, supra violaceum, elytris tenuè striatis, foveis disci quatuor serie impressis.* (Long. corp. 3 lin.)

Ca. *quadripunctatus*. De Geer.—Ag. 4—*punctatum*. Steph. Catal. No. 134.

Head glossy violet-black: mouth, palpi, and antennæ black: thorax deep violet-black, subcordate, a little convex, strigose throughout, the strigæ obsolete, an oblique punctate impression near the posterior angles, which are somewhat acute, and a slight dorsal channel: elytra oblong, subdepressed, deep violet-black, tinged with bluish, very slightly striated; the striæ impunctate, and between the second and third from the suture several deep impressions, and some rather obsolete on the marginal stria: body beneath shining black, smooth: legs elongate, entirely black.

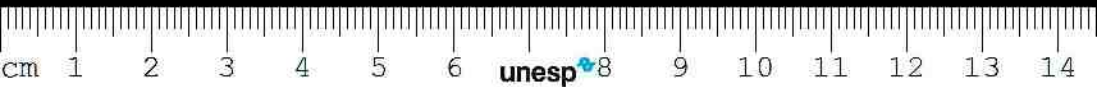
I have hitherto seen but one specimen only of this pretty insect, which was taken by Mr. Weaver in Cumberland last season, and is in my cabinet.

Sp. 14. *consimile*. *Oblongum, subconvexum, nigro-cærulescens, mandibulis rufopiceis, elytris fusco-virescentibus striatis, punctis tribus disci minutis.* (Long. corp. $2\frac{1}{2}$ –3 lin.)

Ha. *consimilis*. Gyllenhal.—Ag. *consimile*. Steph. Catal. No. 135.

Similar to the last: head blue-black, shining, smooth: mandibles pitchy-red: palpi and antennæ black: thorax short, transverse, slightly convex, entirely blue-black; closely and obsoletely strigose, with a slight dorsal channel, and an oblique, oblong, impression near the basal angles, which are somewhat evident: elytra oblong, glossy, fuscous, tinged with greenish, a little convex, slightly striated, the striæ impunctate, with three or four very minute dots between the second and third from the suture, and about the same number towards the tip on the margin, which has a few wrinkles at its base: the body beneath is glossy blue-black, subpunctate: legs elongate black, the thighs bluish.

I am indebted to A. Cooper, Esq. R. A. for a series of this rather

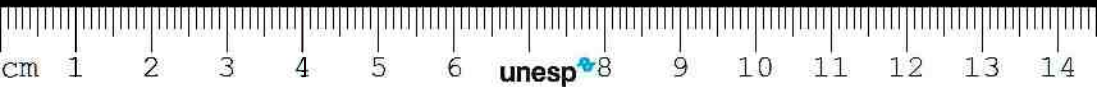




C.M. Curtis del.

London. Pub. by L.E. Stephens, 1, Mark Lane, 1828.

C. Wingstaff sc.



elegant insect, which he finds somewhat plentifully in Plaistow-marshes. I had previously taken a single specimen in Battersea-fields; and the Rev. F. W. Hope has several from Shropshire.

Sp. 15. *atratum*. *Nigrum, thorace breviori angustiore, elytris cupreo-atris, tenuè striatis, punctis tribus disci minutis, striâ marginali punctis approximatis notatâ.* (Long. corp. 3 lin.)

Ca. *atratus*. *Dahl?*—Ag. *atratum*. *Steph. Catal. No. 136.*

Rather larger than the last, and more elongate than the two following: head glossy black: thorax narrow, glossy black, very obsoletely strigose, with a smooth impression on each side at the base: elytra oblong-ovate, slightly striated with three or more impressed dots on the second and third from the suture; and a continuous series on the margin, deep black obscurely tinged, in some specimens, with copper: body beneath, legs, antennæ, palpi, and mandibles deep black.

Found occasionally near London.

Sp. 16. *cursitor*. *Æneo-piceum, antennis fuscis basi piceis, thorace breviori, elytris æneo-fuscis tenuè striatis, striis immunibus, pedibus testaceis.* (Long. corp. 3 lin.)

Ag. *cursitor*. *Kirby MSS. Steph. Catal. No. 137.*

Allied to the next, of which it may prove to be merely an immature variety: it differs in being of a deeper metallic tinge above, and in having the legs and antennæ of a paler colour, the former especially, which are sometimes pale testaceous: the thorax appears to have a deeper longitudinal channel: the elytra broader and shorter, and the marginal series of impressed dots is interrupted in the middle.

Taken near Ipswich and London, but rarely.

Sp. 17. *micans*. *Obscure-æneum, subtus nigrum, antennis pedibusque piceis, thorace lævi, elytris striatis, striâ marginali punctis majusculis distantibus notatâ.* (Long. corp. 3 lin.)

Ag. *micans*. *Nicolai.*—*Steph. Catal. No. 138.*

Head smooth, dull brassy: antennæ piceous: thorax smooth, but very finely and transversely wrinkled in the middle, with a slight dorsal channel, and a longitudinal impression on each side near the posterior angle, which is obtuse: scutellum smooth obscure æneous: elytra oblong-ovate, rather convex, dull æneous, simply striated, with large distant impressed dots on the marginal stria, which approximate at the apex: body beneath pitchy, shining: legs slender, piceous.

I have one specimen of this insect, captured by myself in the neighbourhood of London, and another taken near Swansea.

Sp. 18. *piceum*. *Nigrum, elytris convexis, nitidis, substriatis fusco-piceis late-ribus dilutioribus, pedibus rufo-piceis.* (Long. corp. $3\frac{1}{4}$ lin.)



Ca. piceus. *Linne.*—Ag. piceum. *Steph. Catal. No. 139.*

Body black: antennæ shorter than the body, black: thorax narrow, somewhat rounded behind, with a central dorsal channel: elytra convex, shining, somewhat striated, pitchy-brown, palest at the margins: much broader than the thorax: legs pitchy-red.

The above description, kindly furnished me by the Rev. W. Kirby, from the original Linnean specimen, well characterizes an insect that is far from uncommon in the vicinity of London. It also occurs in Shropshire and Norfolk.

Sp. 19. Simpsoni. *Nigrum, elytris fusco-piceis, subconvexis, tenuè striatis, pedibus piceis, thorace breviorè, latiorè.* (Long. corp. $3\frac{1}{2}$ lin.)

Ag. Simpsoni? *Spence MSS. Steph. Catal. No. 140.*

Allied to the last, but rather larger; the thorax broader and shorter: head and thorax smooth glossy black, the last obsoletely strigose, with a deep arcuated and obsoletely punctate impression near the basal angles: the elytra deep pitchy-brown, or black, slightly convex, a little glossy, with simple striæ, the margin with an interrupted series of impressed dots: the body beneath black: legs pitchy.

Taken in Battersea-fields, at Netley, Salop; and common at Bottisham, hybernating beneath the bark and roots of trees.

Sp. 20. pullum. *Nigro-piceum, elytris subconvexis nigro-castaneis, striatis, thorace obsolete canaliculato, pedibus piceis.* (Long. corp. 3 lin.)

Ag. pullum. *Hoffmann. MSS.—Steph. Catal. No. 141.*

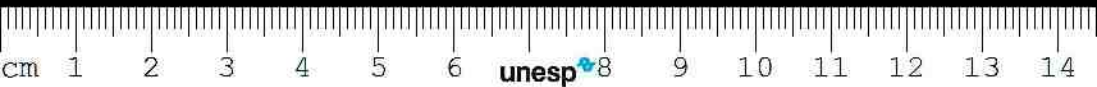
Rather less than the last, which it greatly resembles: it differs in being more slender and glossy: the head and thorax are smooth, the latter with the disc convex, with a shallow impunctate arcuate impression at the base on each side: elytra ovate, rather moderately convex, of a chesnut-black, striated, the striæ impunctate, with three or four rather obsolete impressions on the third from the suture, and an interrupted marginal series: body beneath smooth glossy black: legs rufo-piceous, with the base of the thighs, the tibiæ, and tarsi palest: antennæ and palpi black.

Found in Devonshire, near Netley, Salop, and near London.

Sp. 21. striatum. *Piceum, subtus dilutiorè, thorace subrugoso, nigro, marginibus piceis, elytris castaneis profundè striatis, striis obsoletissimè punctulatis, pedibus testaceis.* (Long. corp. 3 lin.)

Ag. striatum mihi.—*Steph. Catal. No. 142.*

Also allied to the three or four preceding species, but distinguished by its rugose thorax and deeply striated elytra: the head and thorax are pitchy-black, the latter ruggedly-strigose throughout, with an arcuate impression on each side at the base, and the margin piceous: elytra pale chesnut, rather depressed, with very deep obsoletely punctulated striæ, and an obscure series



of interrupted marginal dots: body beneath of a rufous-pitchy colour, with the legs testaceous: the antennæ are dusky, with the base piceous.

This species occurs, but very rarely, in the metropolitan district.

Sp. 22. fuscipenne. *Nigrum nitidum, antennis pedibusque piceis, elytris oblongo-obovatis, converiusculis, fuscis, striatis, striâ marginali punctis distantibus notatâ.* (Long. corp. 3—3½ lin.)

Ag. fuscipenne. *Nicolai.* Steph. Catal. p. 19. No. 143.

Head smooth, shining black: antennæ piceous: thorax oblong, subquadrate, the sides slightly rounded, rather narrowed behind, somewhat flat, smooth, shining black, with a channel in the middle, and an impression on each side at the base: scutellum obtuse, shining black: elytra oblong-ovate, twice as broad as the thorax; above rather convex, fuscous, with simple striæ, the marginal stria with distant impressed dots, which are approximating at the apex: body beneath glossy black: legs slender, piceous.

Two specimens only of this insect have come under my inspection; they were taken during the last season in the north of England, by Mr. Weaver.

Sp. 23. fuliginosum. *Nigro-piceum, antennarum basi pedibusque piceo-ferrugineis, thorace oblongo, posticè angustiore, utrinque foveolato, elytris brevioribus castaneis striatis.* (Long. corp. 3—3½ lin.)

Ca. fuliginosum. *Knoch.*—Ag. fuliginosus. Steph. Catal. p. 19. No. 144.

Head smooth, shining, black: antennæ dusky, with the base piceous: thorax glossy, pitchy-black, with a deep arcuated impression on each side at the base: elytra much broader than the thorax, obtuse, subconvex, chesnut-red, shining, regularly and simply striated, with three impressions between the second and third striæ, and some remote ones on the margin: body beneath pitchy-black, shining, nearly smooth: legs elongate, pitchy-red.

Differs from the last in having the thorax rather more elongate, and broader behind; and from the next by the width and colour of the elytra, and in several other particulars.

I have occasionally taken this species in Battersea-fields and Coombe-wood.

Sp. 24. picipes. *Oblongum nigrum nitidum, thorace subovali utrinque foveolato, elytris tenuè striatis, pedibusque fusco-testaceis.* (Long. corp. 3—3½ lin.)

Ca. picipes. *Fabricius.*—Ag. picipes. Steph. Catal. p. 19. No. 145.

Head very smooth, shining black: mouth pitchy-red: palpi piceous: antennæ fuscous-black, the base pitchy: thorax scarcely rounded at the sides, rather narrowed behind, the angles obtusely rounded, above convex, smooth, glossy black, or lead-coloured, very slightly channelled down the centre, with a broad, somewhat deep fovea at the base: scutellum smooth, black: elytra oblong-ovate, rather convex, fuscous-brown, livid, or testaceous, glossy,

slightly striated, the striae impunctate, the interstices smooth, with two or three impressed dots near the base of the third stria, and one or two on the second posteriorly; the margin with an interrupted row of impressions: body beneath shining black, smooth: legs testaceous.

Found in marshy places near London and Norfolk, also on the borders of Whittlesea-mere, and near Netley and Longmont, Salop.

Sp. 25. *gracile*. *Oblongum, nigrum, nitidum, thorace brevior postice parum angustato, utrinque foveâ basi impresso, elytris laeviter striatis*. (Long. corp. $3\frac{1}{2}$ lin.)

Ag. *gracile*. Sturm.—*Steph. Catal. p. 19. No. 146.*

Head smooth, glossy black: thorax rather shorter, and the sides more rounded than in the preceding insect, posteriorly less narrowed, and with a shorter impressed fovea near the posterior angles: elytra simply striated, rather convex, with several impressions between the second and third striae from the suture, and an interrupted series on the margin: body beneath black, tibiae and tarsi dull ferruginous, sometimes black or dusky.

Found occasionally near London. I have taken three specimens only.

Sp. 26. *pelidnum*. *Oblongum, nigro-piceum, antennis pedibusque rufo-piceis, thorace obovato laevi, foveis nullis, elytrorum striis laevibus*. (Long. corp. $3-3\frac{1}{2}$ lin.)

Ca. *pelidnum*. Paykul.—Ag. *pelidnum*. *Steph. Catal. p. 19. No. 147.*

Head as in the last: mouth and palpi pitchy: antennae dusky, with the base rufo-piceous: thorax obovate, narrowest behind, the base truncated and without foveae; rather convex, glossy black, or piceous, very obsoletely strigose, and delicately channelled: elytra oblong-ovate, rather acuminate, a little convex, glossy pitchy-black, slightly striated, the striae very obsoletely crenulated; near the third from the suture are two impressed dots before the middle, and annexed to the second is a third placed posteriorly; the margin (as in several others of the genus) has an interrupted series of impressions: body beneath rather smooth, pitchy-black: legs rufescent, sometimes pitchy. Some specimens have a very slight impression near the posterior angle of the thorax, and the colour of the elytra varies, being occasionally nearly testaceous.

This appears a rare species near London, but is rather common on the borders of Whittlesea-mere; and the Rev. L. Jenyns has taken two specimens under dead bark in the winter, at Bottisham.

Sp. 27. *affine*. *Oblongum, nigro-piceum, antennis pedibusque pallidioribus, thorace laevi striolâ utrinque postice impressâ, elytris tenuè striatis*. (Long. corp. $3\frac{1}{2}$ lin.)

Ag. *affine mihi*.—*Steph. Catal. p. 19. No. 148.*



Allied to the preceding but discriminated by its uniform colour above, and by the deep impressed line near each basal angle of the thorax, the last species being usually destitute of any impression on that part: the entire insect is of a deep metallic black, with the exception of the antennæ and legs, which are of a pale ochraceous-pitchy hue: the disc of the thorax is convex, and the elytra are rather slightly striated, with an obsolete interrupted marginal series of dots, which become stronger towards the tip.

This, which is probably the *Ag. pelidnum* of Sturm, seems rare, as I have hitherto seen one specimen only, which I caught near London.

Sp. 28. pusillum. *Atrum nitidum, thorace brevior, postice utrinque foveâ impresso, elytris striatis, striâ marginalis obsolete punctatâ.* (Long. corp. $2\frac{1}{4}$ lin.)

Ag. pusillum mihi.—*Steph. Catal. p. 19. No. 149.*

The smallest indigenous species of the genus: the entire body, with the legs, antennæ, mouth, and palpi, is of a deep black, obsoletely tinted with violet: the thorax approaches in form to that of the insects of the first division, being short, and apparently more orbicular than oblong; it has some obsolete transverse wrinkles and an impunctate fovea on each side near the basal angles: the elytra are simply striated, the margin having a very obsolete series of impressed dots.

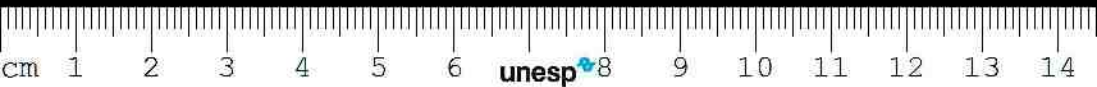
The smallest species of the genus, and very distinct from all. It might probably arrange more advantageously near *Ag. consimile* and its congeners: one specimen only has been seen by me, which was taken near London.

Sp. 29. livens. *Oblongum, depressum, nigrum, ore antennis pedibusque rufo-ferrugineis, elytris striatis, fronte rufo-bimaculatâ.* (Long. corp. $3\frac{1}{2}$ —4 lin.)

Ha. livens. Gyllenhal.—*Ag. livens. Steph. Catal. p. 19. No. 150.*

Head smooth, glossy black, with two ferruginous spots between the eyes: mouth pitchy-red: palpi reddish: antennæ ferruginous, the second, third, and fourth joints pitchy at the base: thorax glossy shining black, cordate, the disc sub-convex, channelled, slightly strigose, the margin smooth, with a deep, elongate, punctulated impression at the base on each side: scutellum smooth, black: elytra oblong, above depressed, black, shining, slightly striated, the striæ and interstices impunctate, the margin with a nearly continuous series of impressions, which approximate towards the apex: body beneath smooth, pitchy-black, with the apex testaceous: legs totally rusty-red.

Apparently a maritime species. It has been captured at Bognor and Hastings; and I have an immature specimen, which was found in the vicinity of Brighton: it has also been taken in Norfolk.



GENUS XXXVI.—ODONTONYX * *miki*.

Palpi rather elongated, the terminal joint fusiform, acuminate at the tip, scarcely truncate: *labrum* quadrate, transverse, entire: *mandibles* acute, bent, denticulate at the base: *mentum* emarginate anteriorly, with an acute triangular tooth in the centre. *Antennæ* filiform, the third, fourth, and terminal joints nearly equal: *head* elongate: *thorax* nearly orbicular, deeply emarginate anteriorly, the posterior angles rounded: *body* slightly convex: *elytra* with the apex a little obliquely truncated: *wings* two or none: *claws* denticulated: *anterior tarsi* of males with three dilated joints.

Odontonyx, *Synuchus*, and *Calathus* are distinguished from the other indigenous *Harpalidæ* by having the claws denticulated, as in several of the *Brachinidæ*: the former genus is discriminated from the two last by the attenuated terminal joint of the maxillary palpi, and from *Calathus*, in addition, by having the central lobe of the *mentum* unindentate.

Sp. 1. *rotundatus*? PLATE VI. f. 2.—*Fusco-æneus*, *subtus rufo-piceus*, *antennis pedibusque flavescens*. (Long. corp. 3—3½ lin.)

Ca. *rotundatus*. *Paykul*?—*Od. rotundatus*. *Steph. Catal.* p. 19. No. 151.

Head very glossy, smooth, dusky-bronze: *thorax* with the disc convex, pitchy metallic-black, obsoletely wrinkled transversely, with a deep longitudinal channel; the lateral and posterior margins thickly punctated, with an obsolete depression towards the hinder angle: *elytra* oblong-ovate, a little convex, glossy metallic-brown, striated, the striæ impunctate, with three impressed dots between the second and third from the suture, and a slightly interrupted series on the margin: *body* beneath reddish-brown, rather glossy: *legs* yellowish: *antennæ* the same at the base, dusky at the tip: *mouth* pitchy-red: *palpi* pale at the base, dusky towards the apex. It varies a little in size and colour.

Occasionally found in corn-fields, under stones and dead leaves throughout the metropolitan district; I have also found it near Barham, Suffolk: it likewise occurs in Shropshire and Norfolk.

Sp. 2. *rotundicollis*. *Apterus*, *piceo-ferrugineus*, *elytris dilutioribus*, *antennis pedibusque testaceo-pallidis*. (Long. corp. 2½ lin.)

Ca. *rotundicollis*. *Marsham*.—*Od. rotundicollis*. *Steph. Catal.* p. 20. No. 152.

Similar to the last, but smaller and apterous: *head* dusky, smooth: *thorax* rusty-piceous, obsoletely channelled down the centre, and slightly punctulate on the sides and posterior margin: *elytra* pale rusty-piceous, obsoletely striated, the striæ impunctate, with three impressions on the disc, and a continuous

* *ὄδον* dens, *ὄνυξ* unguis.



series of dots on the margin: body beneath rusty-piceous: legs and antennæ pale testaceous: palpi rufescent.

I obtained a single specimen of this insect from Mr. Marsham's collection, but I am totally ignorant of its locality: it is readily known by its smaller size, and by being apterous.

GENUS XXXVII.—SYNUCHUS, *Gyllenhal*.

Palpi moderate; *external maxillary* with the last joint elongate-cylindric, obtusely truncated; *labial* with the terminal joint securiform, the apex obliquely acuminate: *labrum* transverse, entire: *mandibles* acute, bent, denticulated at the base: *mentum* with an acute triangular tooth in the centre of its notch. *Antennæ* linear; the third and terminal joints nearly of equal length: *head* oblong: *thorax* nearly orbicular, emarginate anteriorly, with the posterior angles rounded: *body* rather convex: *elytra* rounded at the tip: *wings* two: *claws* serrated: *anterior tarsi* of males with three dilated joints.

Synuchus differs from *Odontonyx* and *Calathus* by the form of the terminal joint of the labial palpi; from the latter genus also by the simple tooth in the centre of the notch of the mentum, and by the rotundate thorax.

Sp. 1. *vivalis*. *Niger nitidus, antennis pedibusque rufis, elytris striatis, striis impunctatis*. (Long. corp. $3\frac{1}{2}$ —4 lin.)

Ca. *vivalis*. *Illiger*.—*Sy. vivalis*. *Steph. Catal. p. 20. No. 153*.

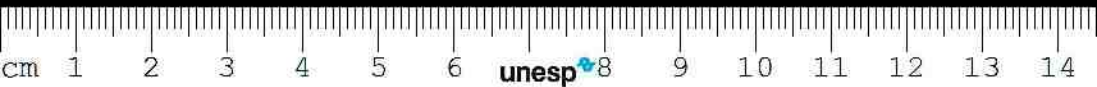
Somewhat resembling the two last species, but readily known by its black colour, exclusively of its generic differences: it has the head smooth glossy black, with a transverse impression between the eyes: mouth, palpi, labrum, and antennæ rust-colour: thorax slightly convex, shining black, smooth, the edge reddish; a slight dorsal channel, and a deep impression on each side at the base: *elytra* a little convex, glossy black or pitchy, rather strongly striated: the *striæ* impunctate, with two or three remote impressions on the disc between the second and third from the suture, and a slightly interrupted series on the margin: body beneath smooth glossy piceous: legs reddish.

It varies in having the margin of the *elytra* and the suture rufescent.

Not a very common species: I have occasionally taken it near London, in damp banks, at Coombe and Darenth-woods, and near Hertford; it also occurs, but sparingly, near Bottisham, and near Netley, Salop; and, I believe, in Norfolk.

GENUS XXXVIII.—CALATHUS, *Bonelli*.

Palpi rather long; *external maxillary* with the terminal joint cylindric, truncated; *labial* nearly filiform, the two last joints slightly clavate, the terminal truncate: *labrum* transverse, a little emarginate: *mandibles* denticulated at



the base: *mentum* with a bifid lobe in the centre of its notch. *Antennæ* compressed: *head* nearly triangular: *thorax* trapeziform, depressed: *body* slightly convex: *elytra* elliptic, entire; glossy in the males, somewhat dull in the females: *wings* two, or rudimentary: *claws* serrated: *anterior tarsi* of the males with three dilated joints.

The genus *Calathus* presents a peculiar outline, from its subtriangular head, trapeziform thorax, and elliptic elytra, by which it is readily known from the other *Harpalidæ*; exclusively of its denticulated claws, combined with the bifid central lobe in the emargination of the *mentum*; which last character obviously descriminates it from the two preceding genera: the species usually reside among short herbage in banks, and are very frequently observed upon quick hedges.

A. Without perfect wings.

a. *Thorax attenuated behind, with the posterior angles rounded.*

Sp. 1. *piceus*. PLATE VI. f. 3.—*Piceo-niger, thoracis marginibus antennis pedibusque rufo-piceis.* (Long. corp. 4—5 lin.)

Car. *piceus*. *Marsham.*—*Cal. piceus.* *Steph. Catal. p. 20. No. 154.*

Slightly glossy, pitchy-black: head smooth, with an obsolete impression between the eyes: mouth, palpi, and antennæ pitchy-red: thorax slightly convex, shining, with a strong dorsal channel, and a bent fovea between it and the margin on each side near the basal angle, which latter is impunctate; the margin is pitchy-red: elytra somewhat flat, not very deeply striated, the striæ impunctate, with three or four deep impressed dots between the second and third from the suture, and an interrupted series on the margin: body beneath impunctate, pitchy-black, with the margins of the abdomen and the breast rufescent: the legs pitchy red, sometimes dusky.

Very common in the hedges and low banks about Coombe-wood, but rather scarce elsewhere: it was, however, found in great profusion near Castle-Howard, by Wm. Spence, Esq., the learned coadjutor of the Rev. W. Kirby, in February 1810; it also occurs in Devonshire and Norfolk, and in plenty at Bottisham.

b. *Thorax broader behind, posterior angles rather acute.*

Sp. 2. *melanocephalus.* *Niger nitidus, thorace pallidè rufo, antennis pedibusque testaceis.* (Long. corp. 3—4 lin.)

Car. *melanocephalus.* *Linné.*—*Mart. C. pl. 37. f. 26.*—*Cal. melanocephalus.* *Steph. Catal. p. 20. No. 155.*

Head smooth, glossy black, with an obsolete impression on each side between the eyes: mouth and palpi reddish: antennæ entirely pale reddish: thorax rather convex, the posterior angles acute, smooth, glossy pale red above and beneath, with a slender dorsal channel, and an obsolete fovea at the base on each side: scutellum pitchy: elytra rather convex, greenish-black, shining in



the male, rather opaque in the female; very delicately striated, the striæ impunctate, with two or three impressed dots between the second and third from the suture, and a series on the margin: abdomen glossy pitchy-red: legs pale, reddish.

One of the commonest of the Harpalidæ, occurring in every hedge, and beneath every heap of stones, not only throughout the metropolitan district, but elsewhere.

Sp. 3. *Cisteloides*. *Niger, elytris obsoletissime punctato-striatis, striis tribus disci punctis majoribus ornatis*. (Long. corp. 4—6½ lin.)

Car. *Cisteloides*. *Illiger*.—*Cal. Cisteloides*. *Steph. Catal. p. 20. No. 156*.

Head smooth glossy black, with an obsolete impression between the eyes: thorax rather depressed, very obsoletely wrinkled transversely, shining black, with a slight dorsal channel, and an obsolete subpunctate fovea on each side at the base, the base itself rather thickly punctate: elytra slightly convex and striated, the striæ very obsoletely punctate, with several impressed dots towards the apex of the second from the suture, about an equal number at the base of the third, eight or ten on the fifth, frequently interrupted in the middle, and a marginal series: body beneath pitchy-black: legs ferruginous, tarsi pitchy: antennæ with the basal joint rufous, the following pitchy, the rest dusky.

Var. β . With the legs and antennæ dull pitchy-black.

This is likewise very abundant near London and elsewhere, and is usually found in damp hedges.

‡ Sp. 4. *latus*. *Niger, antennis pedibusque piceis, elytris punctato-striatis, striis duabus punctis majoribus impressis*. (Long. corp. 6 lin.)

Cal. latus. *De Jean*.—*Curtis*, iv. pl. 184.—*Steph. Catal. p. 20. No. 157*.

Known from the other indigenous species by its great width and superior size: head black, smooth, a little rugose between the antennæ: thorax black, transversely wrinkled, with a dorsal channel and a fovea on each side at the base, which is rather thickly punctured: elytra deep black, broad in the middle, rather convex, striated, the striæ punctated, the third and fifth with several deeper punctations, and the marginal one with a continuous series of deeper impressions: the body beneath, and legs, pitchy-black: palpi and antennæ rufescent.

The lateral margins of the thorax are sometimes ferruginous.

The only indigenous specimens I have seen of this insect are in the collection at the British Museum; they were taken by Dr. Leach in Devonshire during the spring of 1826.

Sp. 5. *crocopus*. *Niger, nitidus, antennis, thoracis lateribus pedibusque rufis, elytris striatis disco bipunctatis*. (Long. corp. 3½—5 lin.)

Cal. crocopus. *Hoffmannsegg*.—*Steph. Catal. p. 20. No. 158*.



Shining black: head smooth, with two transverse impressions between the eyes: thorax rather depressed, a little obsoletely wrinkled on the disc, with a longitudinal channel and an impunctate fovea at the posterior angle on each side, deep glossy black, with the margin itself pale reddish or flavescent: elytra rather convex, striated, the striæ impunctate, with two impressed dots between the second and third: body beneath pitchy-black: legs and antennæ light rufous.

Evidently not, as supposed, the *Carabus flavipes* of Paykul, of which he says, "*elytris quatuor striis punctatis*," though probably the insect which he suspects may be distinct from *C. flavipes*, and thus notices,—"*Unicum individuum tamen vidi elytris levioribus vix punctatis*."

Found occasionally near Darent-wood and Cobham, but more abundantly in Glamorganshire and Devonshire.

Sp. 6. fuscus. *Nigro-piceus*, *antennis pedibusque pallide ferrugineis*, *thoracis lateribus rufescentibus*. (Long. corp. 4—4½ lin.)

Car. fuscus. *Fabricius*.—Cal. fuscus. *Steph. Catal. p. 20. No. 159.*

Pitchy-black: head smooth, shining, with a fovea on each side between the antennæ: thorax rather depressed, the disc pitchy-black, the entire margin ferruginous, a slight longitudinal dorsal channel, and an obsolete impression on each side at the base: elytra slightly convex, pitchy-black, obsoletely striated, the striæ impunctate, with two impressed dots between the second and third from the suture, and a series of small dots on the margin: body beneath pitchy-red: legs and antennæ pale ferruginous.

Allied to the preceding and following, but distinguished from the latter by being apterous, and from the former by its pale colour and the broad ferruginous margin of the thorax.

Found on the sandy shores of North and South Wales, especially the former, whence I have seen scores of specimens, which were captured last season; and I formerly obtained a pair from L. W. Dillwyn, Esq., F. R. S., &c., who found them on the coast, near Swansea.

B. With wings.

Sp. 7. rufangulus. PLATE VI. f. 4.—*Nigro-piceus*, *antennis pedibusque testaceis*, *thoracis marginibus angulisque posticis acutis rufis*. (Long. corp. 4—5½ lin.)

Car. rufangulus. *Marsham*.—Cal. rufangulus. *Steph. Catal. p. 21. No. 160.*

Head and thorax pitchy-black, very smooth, shining; the latter with the margin and angles rufous, a slight dorsal channel, and an obsolete impunctate fovea on each side at the base: elytra pitchy-black, striated, the striæ impunctate, with two obsolete impressions in the third interstice from the suture, and a continuous series on the margin: body beneath pale pitchy-red: legs and antennæ reddish-testaceous.

Var. β. Ferruginous, with the sides of the thorax, legs, and antennæ, very pale testaceous.



Readily distinguished from the preceding, with which it has hitherto been confounded, by its ample wings, and by which character it manifestly disagrees with the Fabrician description of *C. fuscus*; from the following it differs by having the posterior angles of the thorax acute, and by its superior size. Not uncommon in the lane leading into Darenth-wood, from the Dartford lane:—it appears local, but has been occasionally found in Norfolk and Suffolk.

Sp. 8. mollis. *Nigro-piceus, antennis pedibusque rufo-testaceis, tho acis lateribus rufis, angulis posticis obtusis.* (Long. corp. 3—4 lin.)

Car. mollis. *Marsham.*—Cal. mollis. *Steph. Catal. p. 21. No. 161.*

Head smooth, glossy, pitchy-black, with an obsolete impression between the eyes: mouth, palpi, and antennæ rufous: thorax slightly convex, the posterior angles obtuse, glossy, black, with the lateral margins, and sometimes the basal, ferruginous: elytra a little convex, pitchy-black, delicately striated, the striæ impunctate, with two or more impressed dots on the third from the suture, and a continuous series on the margin: body beneath pitchy-black: legs reddish testaceous.

Var. β . Pitchy-red; with the antennæ and legs testaceous.

Distinguished from the last by its smaller size, and by the obtuseness of the posterior angles of the thorax.

This insect, which is the *C. littoralis* of Dr. Leach's MSS., is found not uncommonly on the southern and eastern coasts of Britain, especially near Southend; I have taken it on the shores of the Thames, at Gravesend; and Marsham says, "found in gardens, Ealing."

GENUS XXXIX.—PLATYDERUS * *miki*.

Palpi moderate, with the terminal joint ovate-cylindric, truncate, somewhat attenuated towards the tip: *labrum* quadrate, emarginate anteriorly: *mandibles* acute, slightly bent, denticulated at the base, with a tooth on the internal edge: *mentum* with a bifid lobe in the centre of its notch. *Antennæ* filiform, with the terminal joint longest, elongate-ovate: the second shortest: *head* suborbicular: *thorax* anteriorly emarginate, somewhat quadrate, attenuated posteriorly, with the hinder angles rounded; *elytra* depressed, entire: *wings* none: *claws* simple: *anterior tarsi* of the males with three dilated joints.

The trophi of this and the five following genera are so extremely similar, that the species have, till recently, been considered as con-

* Πλατυς, latus; Δεση, collum.



stituting one genus only; but there are several striking external characters by which they may be advantageously separated. The present genus may be known from its allies by the broad subquadrate depressed thorax, and flat body; and from *Calathus* by having simple claws.

Sp. 1. *ruficollis*. *Piceo-ferrugineus*, *thorace glaberrimo posticè utrinque striolâ impressâ*. (Long. corp. $2\frac{3}{4}$ — $3\frac{1}{2}$ lin.)

Ca. *ruficollis*. *Marsham*.—Pl. *ruficollis*. *Steph. Catal.* p. 21. No. 162.

Head very glossy, smooth, dusky-ferruginous, with a transverse impression between the antennæ: thorax very glossy, bright ferruginous-red, with a deep longitudinal dorsal channel, and a strong impressed line on each side at the base: elytra dusky ferruginous, striated, the striae impunctate, with three impressed dots on the third from the suture, and an interrupted series on the margin: body beneath dusky-red: legs, palpi, and antennæ ferruginous,

Var. β . Entirely ferruginous, with the legs paler.

Var. γ . Very pale testaceous: immature?

Not uncommon in the neighbourhood of London, particularly in Richmond-park, where I have repeatedly taken it during the winter months, beneath moss at the roots of trees: it likewise occurs in Norfolk and Suffolk.

GENUS XL.—ARGUTOR, *Megerle*.

Palpi with the terminal joint somewhat fusiform, truncate: *labrum* transverse, entire: *mandibles* acute, with a tooth at the base internally: *mentum* with a bifid central lobe. *Antennæ* filiform, the basal joint longest, second short; third, fourth, and terminal of equal length, the rest gradually shorter from the fourth, and with the latter pubescent: *head* subtrigonal: *thorax* truncate-cordate, with the hinder angles acute: *elytra* slightly convex, obsoletely emarginate: *wings* two or none: *claws* simple: *anterior tarsi* of the males with three dilated joints.

The species of this genus have been very much neglected in Britain, owing, I presume, to their apparent similarity; but when submitted to the test of a rigid examination their differences are manifest: the genus has not hitherto been characterized; it may be readily known from the preceding by its subcordate-truncate thorax, and the more acuminate terminal joint of its palpi, which approaches towards that of *Pogonus*; but its depressed body and dusky colouring well distinguish it from that genus, exclusively of the habits of the species, which usually reside beneath mosses and stones in damp places, during the spring.

A. Elytra without an abbreviated stria at the base, near the scutellum.

Sp. 1. *inquinatus*. *Elongatus, ater, antennis pedibusque rufo-piceis, thorace postice impunctato utrinque striolâ impressâ, elytris punctato-striatis*. (Long. corp. $3\frac{1}{4}$ lin.)

Ar. *inquinatus*. *Megerle*.—*Steph. Catal. p. 21. No. 163*.

Elongate, deep black; the antennæ, palpi, and legs pitchy-red, the former palest: head and thorax glossy impunctate, the latter with a single impressed line at the base on each side, and a slight central channel: elytra striated, the striæ obsoletely punctulated.

I have a pair of this species, and have seen one other specimen, all of which were taken near London.

Sp. 2. *vernalis*. *Niger nitidus, antennis pedibusque rufo-piceis, thorace postice punctulato, utrinque bistriato*. (Long. corp. $2\frac{1}{2}$ —3 lin.)

Ca. *vernalis*. *Fabricius*.—Ar. *vernalis*. *Steph. Catal. p. 21. No. 164*.

Deep glossy black: antennæ pitchy-red, brownish at the tip; palpi the same, the terminal joint with a fuscous ring: head smooth: thorax with a deep punctulated fovea at the hinder angles on each side, in which are two longitudinal impressions, of which the interior is most distinct: elytra ovate, regularly striated, the striæ obsoletely crenulated, with three minute impressions on the disc, and a series on the margin: body beneath shining pitchy-black: legs pitchy-red: the thighs usually obscure.

Very abundant near London, inhabiting every gravel-pit and stony lane.

Sp. 3. *inæqualis*. *Ater, antennis pedibusque rufis, thorace postice utrinque striolâ unicâ impressâ, elytris nitidiusculis, punctato-striatis*. (Long. corp. $2\frac{1}{2}$ lin.)

Ca. *inæqualis*. *Marsham*.—Ar. *inæqualis*. *Steph. Catal. p. 21. No. 165*.

Deep glossy pitchy-black: antennæ, palpi, and legs rufous: head smooth: thorax smooth anteriorly, subpunctate posteriorly, with a deep longitudinal impressed line on each side, towards the hinder angles, at the base: elytra shining, punctate-striated, the striæ rather deep; with three larger impressed dots between the second and third from the suture: body beneath pitchy-black, sometimes rufous.

Not very common, and apparently a submaritime species, occurring on the shores of the Thames, near Gravesend, and more abundantly down the river.

Sp. 4. *Scalesii*. *Totus ferrugineus, nitidus, unicolor, elytris crenato-striatis*. (Long. corp. $2\frac{1}{2}$ —3 lin.)

Ca. *Scalesii*. *Marsham's MSS*—Ar. *Scalesii*. *Steph. Catal. p. 21. No. 166*.

This differs from the last in being entirely of a deep glossy ferruginous colour: the head and thorax are very shining, the former impunctate, the latter with



the base punctulate, and marked with a deep longitudinal impression on each side: the elytra are deeply striated, the striae crenulated. It varies in being rather dusky.—*Marshall's MSS.*

I strongly suspect that this apparent species is merely an immature state of the last-described, as I have a variety of *Ar. longicollis* that agrees exactly with this in colour, but has its own peculiar sculpture, while *Ar. Scalesii* has that of *inæqualis*: it occurs near London.

Sp. 5. *longicollis*. *Niger, nitidis, thorace subcordato-oblongo, posticè punctulato striolâ unicâ utrinque impresso, elytris punctato-striatis, antennis pedibusque rufis.* (Long. corp. $2\frac{1}{2}$ —3 lin.)

Ca. *longicollis*. *Dufschmidt*.—*Ar. longicollis*. *Steph. Catal. p. 21. No. 167.*

Black, shining; the thorax subcordate, elongate, anteriorly very smooth, glossy, posteriorly punctulated, with a longitudinal impression on each side towards the hinder angles: elytra ovate, striated, the striae crenulated, the interstices smooth, without any impressed dots on the third from the suture, the margin obsoletely punctated: body beneath pitchy-black: antennæ, palpi, and legs rufous.

Not a very common species; taken near London; and I have received it from the Rev. F. W. Hope, who finds it near Southend.

B. Elytra with an abbreviated stria at the base, near the suture.

Sp. 6. *diligens*. *Niger, nitidus, antennis basi pedibusque rufo-piceis, thorace posticè impunctato, utrinque striolâ unicâ impressâ.* (Long. corp. $2\frac{1}{4}$ — $2\frac{1}{2}$ lin.)

Pl. *diligens*. *Sturm*.—*Ar. diligens*. *Steph. Catal. p. 21. No. 168.*

Rather elongate: deep shining black: head and thorax impunctate, the latter with a deep longitudinal impression on each side at the base, near the hinder angles, and a strong dorsal channel: elytra rather ovate, punctate-striated, with three deep impressions on the disc: body beneath pitchy-black, legs rufous: antennæ dusky, the basal joint rufous.

Taken by myself near London, but I am not aware of its true locality.

Sp. 7. *interstinctus*. *Niger, nitidus, antennis pedibusque rufo-piceis, thorace subcordato, posticè punctulato, elytris punctis sparsis impressis.* (Long. corp. $2\frac{1}{2}$ —3 lin.)

Pl. *interstincta*. *Sturm*.—*Ar. interstinctus*. *Steph. Catal. p. 21. No. 169.*

Glossy black: head smooth; thorax subcordate anteriorly, but punctate posteriorly, with a longitudinal impression at the base on each side, and a dorsal channel: elytra oblong-ovate, deeply striated, the striae punctate, with several irregularly scattered impressed dots on the disc, and an interrupted series on the margin: body beneath pitchy-black: legs and antennæ pitchy-red, the former with the tips of the joints dusky.

This is also a London species; my specimens were taken in a gravel-pit near Hertford.

Sp. 8. erythropus. *Nigro-piceus nitidus, pedibus rufis, thorace posticè punctulato, elytris striatis, striis punctulatis.* (Long. corp. 3 lin.)

Ca. erythropus. Marsham.—A. erythropus. Steph. Catal. p. 22. No. 170.

Pitchy-black, head and thorax smooth, shining, the latter punctulate at the base, with a longitudinal stria: elytra deeply striated, the striæ punctulated: body beneath piceous: legs rufous: antennæ piceous or fuscous, with the base rufous.

Very common near London, in marshy and gravelly places.

Sp. 9. strenuus. *Niger nitidus, antennis pedibusque rufo-ferrugineis, thorace posticè utrinque unistriato, subtus punctato.* (Long. corp. 3 lin.)

Ca. strenuus. Illiger.—Ar. strenuus. Steph. Catal. p. 22. No. 171.

Head glossy black, obsoletely wrinkled: mouth and palpi pitchy-red: thorax above slightly convex, shining black, obsoletely strigose, with a slight dorsal channel, and a simple longitudinal impression at the base; beneath thickly and rather deeply punctate: elytra glossy black, obsoletely punctate-striated, the marginal striæ somewhat obliterated, the outer one with a slightly interrupted series of impressed dots: body beneath subpunctate, pitchy-black: legs rusty-red.

Var. β . More or less ferruginous, with the head dusky; probably immature.

This appears to be rather a scarce species: it is taken occasionally near London, also in Norfolk and Suffolk.

Sp. 10. pullus. *Niger nitidus, antennis pedibusque ferrugineis, thorace posticè utrinque unistriato, subtus impunctato.* (Long. corp. 3—3½ lin.)

Ha. pullus. Gyllenhal.—Ar. pullus. Steph. Catal. p. 22. No. 172.

Similar to the last, but differs in having the thorax impunctate beneath and smooth, and the striæ on the elytra nearly simple: it is of a glossy black, with the antennæ ferruginous: the thorax with a single stria on each side at the base, with its under surface impunctate: the elytra are striated, the striæ finely crenated on the sides, but impunctate: the legs are usually ferruginous, but sometimes the femora are pitchy.

Var. β . Ferruginous or chestnut colour, with the head dusky, and the under parts pale testaceous.

Also found near London, and apparently uncommon; I have two specimens from Devonshire.

Sp. 11. Anthracinus. *Oblongus, niger nitidus, antennis pedibusque rufo-piceis, thorace posticè utrinque bistriato, elytris striatis, striis subcrenatis.* (Long. corp. 3½ lin.)

Ha. Anthracinus. Gyllenhal.—Ar. Anthracinus. Steph. Catal. p. 22. No. 173.

Glossy black: head smooth, with a slight oblong foveola on each side between



the antennæ: thorax acutely margined, a little convex, smooth, with a channel in the middle, and on each side at the base two impressed striæ, of which the inner one is longest, and terminates in a thickly punctulate bilobed fovea: elytra pitchy-black, striated, the striæ somewhat crenated, and a little punctate, with three larger dots on the disc, and a series of impressions on the second stria from the margin; the internal stria very short: body beneath glossy black, subpunctate, the tip reddish: the mouth, palpi, and legs pitchy-red: the antennæ pitchy, with the base palest.

Two specimens only of this species have, as yet, been under my examination; they were taken near London, and are in my collection: it is totally distinct from the *Ca. Anthracinus*, Illiger, which belongs to the genus *Omaseus*, and will be hereafter described, it having been recently taken in England.

GENUS XLI.—POGONUS, Ziegler.

Palpi with the terminal joint somewhat ovate, truncate: the *internal maxillary* very slender: *labrum* transverse, emarginate: *mandibles* slightly curved, acute, internally denticulate at the base: *mentum* deeply emarginate anteriorly, with a bifid central lobe. *Antennæ* with the third joint longest: *head* subtrigonal: *thorax* subquadrate, truncate, the hinder angles acute: *elytra* depressed, entire: *wings* two: *anterior tarsi* of the males with three dilated joints.

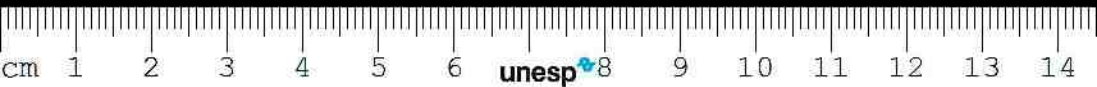
This is evidently a maritime genus (at least in Britain), the species of which it is composed residing beneath sea-weeds on the south and eastern shores of England. In the brilliancy of their colours they approach towards the insects of the genus *Pœcilus*, but may readily be distinguished from them by their inferior size, by the form of the terminal joint of the palpi, of the mentum, and of the labrum.

Sp. 1. Burrellii. *Viridi-æneus, elytris ochraceis nebula dorsali fusciscente, ore antennis pedibusque pallide ferrugineis.* (Long. corp. 3—3 $\frac{3}{4}$ lin.)

Po. Burrellii. *Curtis, i. pl. 47.—Steph. Catal. p. 22. No. 174.*

Smooth glossy: head and thorax bright coppery-green, the former with a deep longitudinal impression on each side between the eyes; the latter with a dorsal channel, and a triangular impression anteriorly, a fovea at the base on each side, and the base itself punctated: elytra pale ochraceous, with a brownish cloud on the back, striated, the striæ punctate, the external one with a row of obsolete impressions, and the third with three larger ones; the striæ greenish: body beneath green, with the apex rufescent: antennæ, legs, and palpi pale rust-coloured.

Allied to, if not the same as, the *Po. iridipennis* of Nicolai.



An elegant species, discovered by the late Rev. J. Burrell near Salthouse, on the Norfolk coast, which, so far as I am acquainted, is its only locality in Britain.

Sp. 2. chalcus. PLATE VI. f. 5.—*Viridi aut cupreo-æneus, pedibus rufescentibus, antennis basi fuscis.* (Long. corp. $2\frac{1}{2}$ — $3\frac{1}{2}$ lin.)

Ca. chalcus. Marsham.—Po. chalcus. Steph. Catal. p. 22. No. 175.

Glossy æneous: head smooth, with a deep stria on each side between the eyes: mandibles dusky-red: thorax slightly convex, the base punctated, with a fovea at the hinder angle on each side, and an impressed line: elytra coppery, varying much in colour, from tinges of green, brassy, black, and dusky to bluish; punctate-striated, the lateral striæ rather obsolete, the interstices flat, with three impressions on the third from the suture: body beneath black, tinged with æneous: palpi rufescent, with the terminal joints dusky: legs rufescent: antennæ dusky or fuscous, with the tip reddish.

Var. β. With the antennæ and legs ferruginous: the body narrower than usual.

Var. γ. Antennæ rufescent: legs dusky.

Var. δ. Very short and broad, of a blue-brass, with the margins of the elytra and legs bright ferruginous; probably distinct; I formerly called it by the name of Po. brevis, in allusion to its abbreviated form.

This insect varies greatly in form and colour, and were it not from the circumstance of most of the specimens in my collection having been captured at the same time, beneath the same heaps of rejectamenta, I should be disposed to consider several of them as distinct species.

Inhabits the eastern coasts of Britain, and found not uncommonly on the shores of the Thames and Medway; it also occurs in company with the former species, and likewise on the coast of Glamorganshire.

Sp. 3. æuginosus. PLATE VI. f. 6.—*Oblongus, viridi-æneus, antennarum apice pedibusque rufescentibus.* (Long. corp. $3\frac{1}{2}$ lin.)

Po. æuginosus mihi.—Steph. Catal. p. 22. No. 177.

Allied to the last, but considerably more oblong, and narrower, especially the thorax, with the head more porrect; it is of a bright brassy-green above: head smooth, with a slight impression on each side: mandibles dusky: antennæ greenish-bronze at the base: thorax as in the last, but the base very thickly punctate: elytra deeply punctate-striated on the back, but obsoletely so at the apex and sides, the latter with a row of remote impressed dots; the tip of the elytra and the legs rufescent: the body beneath very smooth glossy brassy-black.

This species (of which six specimens only have come under my inspection) was discovered about ten years since by a very active collector, Mr. D. Bydder, on the Hampshire coast, near Christchurch, and I am unacquainted with any other locality; bright



varieties of the preceding insect I have seen placed in collections for the present.

GENUS XLII.—PÆCILUS, *Bonelli*.

Palpi, external maxillary with the second and terminal joints of equal length, the latter subcylindric truncate; internal short, terminal joint obtuse; labial nearly filiform, the two last joints of equal length, the last truncate; labrum subquadrate, obsoletely notched: mandibles slightly denticulated at the base: mentum emarginate, with a lobe in its centre, which is sometimes bifid and sometimes obtuse. Antennæ with the third joint distinctly longest: head subovate: thorax nearly quadrate, truncate, the hinder angles acute: elytra rather convex, somewhat emarginate at the apex: wings rudimentary or ample: anterior tarsi of the males with three dilated joints.

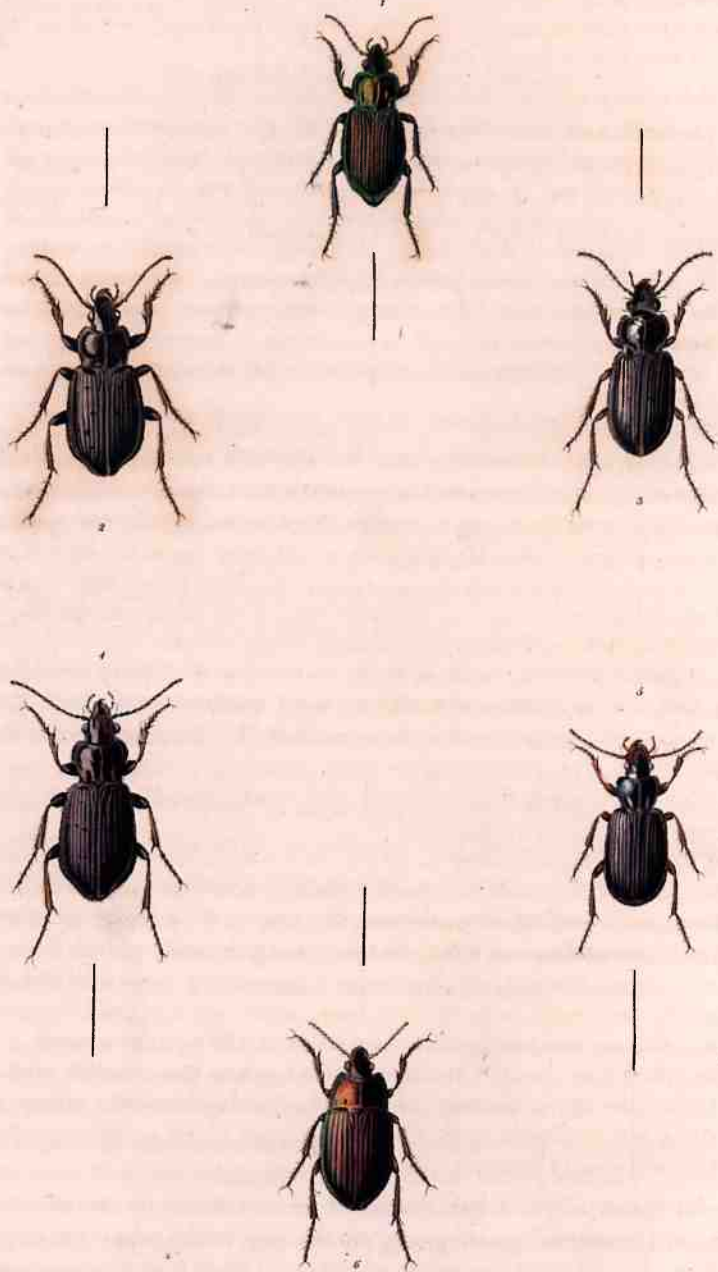
The Pæcili vary much, not only in colour, being found of every tinge of green, blue, æneous, and black, but also in form and sculpture; nay, even the very organs that are least liable to variation undergo a trifling change in this protean genus; the notch in the lobe of the anterior margin of the mentum being sometimes obsolete. It is therefore with great hesitation that I venture to add some additional species to those already described; but, as it is said by a learned botanist (Sir J. E. Smith), that “corrected judgment may, hereafter, combine what precise observation in the first instance has separated,” I shall proceed to detail them, leaving it to future observers to ascertain their validity. The Pæcili may be known from the Pogoni by their superior size, and the form of the terminal joint of the palpi, as well as that of the lobe of the mentum, which is never so deeply emarginated, and frequently entire. The species frequent open places, high-roads, and pathways, and may be seen during the spring and summer months basking and flying about in the sun; hence called *sunshiners* in many places.

Sp. 1. lepidus. PLATE VII. f. 1.—*Apterus, oblongus, antennis totò pedibusque nigris, thorace posticè utrinque profundè bistriato*. (Long. corp. $5\frac{1}{2}$ — $5\frac{1}{2}$ lin.)

Ca. lepidus. Fabricius.—Pæ. lepidus. Steph. Catal. p. 22. No. 178.

Above generally bright green-brass, the head and thorax very smooth and glossy, the latter obsoletely wrinkled, with two narrow, deeply impressed, parallel foveæ at the base on each side, the interior one largest: elytra shining brassy-green in the male, rather opaque in the female, striated, the abbreviated stria united to the next at its tip: between the second and third from the suture are three or four impressed dots, and a row on the margin: body beneath shining brassy-black, delicately punctulated: antennæ, palpi, and legs black: tibiæ and tarsi with reddish cilia.





G. M. Curtis del.

C. W. F. sc.

London, Published by J. E. Stephens, 1, April, 1828.



† Var. β . *Curtis*, iv. pl. 187.—Deep blue above, tinged with violet: thorax inclining to green.

Many other varieties are described, but the above are the only indigenous one that have come under my observation.

Not a very common insect; found occasionally in May and June at Darenth and near Hertford, and in the immediate vicinity of London; it also occurs in Norfolk and Hants: several of variety β were taken by Dr. Leach in Devonshire, and the Rev. L. Jenyns has one of a very deep hue that he captured near Ely.

Sp. 2. *dimidiatus*. *Capite lævissimo, pedibus nigris, antennarum articulis duobus basalibus infra rufis, thorace posticè utrinque profunde bistriato*. (Long. corp. $5\frac{1}{2}$ —6 lin.)

Ca. *dimidiatus*. *Fabricius*. *Don*, xvi. pl. 565.—Pæ. *dimidiatus*.—*Steph. Catal.* p. 23. No. 179.

Head and thorax light copper, tinged with green; the former with an impressed line on each side between the eyes; the latter with two deep longitudinally impressed foveæ at the hinder angle on each side, the space between which is punctate: elytra bright green, striated, the striæ deeply impressed and obsoletely punctate; the interstices convex, with some impressed dots on the third from the suture, and an uninterrupted marginal series: body beneath, legs, and antennæ black; the two basal joints of the latter, and the base of the third, fifth, and following, to the apex, rufous beneath.

Some specimens are distinguished by the brilliancy of the coppery tints on the head and thorax; others by having the upper surface entirely of a brilliant green, or of a jet black, with various gradations from the latter colour to blue and violet.

Var. β . Bright green, with the thorax very rugose, strongly wrinkled transversely, and the elytra granulated.

Var. γ . Pæ. *crenatosistriatus mihi*.—*Steph. Catal.* p. 23. No. 180. Bright green: head and thorax smooth, the former with a deep transverse fovea on the forehead, and a longitudinal one on each side between the eyes; the latter with two impressions on each side at the base: the elytra deeply striated, the striæ very strongly crenated, with four deeply impressed dots on the third from the suture, and a series on the margin: body beneath and legs black: antennæ, with the two basal joints, the fifth and following joints, rufous beneath.

This differs from the other specimens which I possess by its uniform brilliant green colour above; the deeply impressed and strongly crenulated striæ on the elytra, and its elongate form; characters which in almost any other genus of Harpalidæ would constitute a distinct species.

An insect of great beauty, found not uncommonly in the sand-pits on Hampstead-heath during the spring; it also occurs sparingly in several other places in Kent, Norfolk, &c. and is apparently local, like its congener Pæ. *lepidus*; the supposed variety was taken near London.

MANDIBULATA, VOL. I. 1ST MAY, 1828.

P

Sp. 3. cupreus. *Capite, thoraceque infra punctulatis, antennarum articulis duobus basalibus totò rufis, pedibus nigris.* (Long. corp. 5—5½ lin.)

Ca. cupreus. *Linne.*—Pæ. cupreus. *Steph. Catal. p. 23. No. 181.*

Above various shades of green, black, æneous, or coppery, with all the intermediate hues: head thickly and minutely punctate throughout, with a fovea on each side between the antennæ, and a smooth transverse impression: thorax nearly smooth, anteriorly convex, with a moderate dorsal channel, posteriorly minutely punctate, with two longitudinal punctate foveæ at each angle, the inner longest: elytra slightly convex, regularly striated, the striæ usually punctulated, with three or four impressed dots between the second and third from the suture, and an interrupted series on the second marginal stria: body beneath greenish metallic black; thorax laterally impunctate, internally and breast thickly punctate: legs black: labrum, mouth, and palpi pitchy-black: antennæ fuscous, with the two basal joints entirely rufous.

Of all the Harpalidæ this species is probably the most abundant in Britain, occurring in every field, pathway, and road, during the spring and summer.

Sp. 4. ruffemoratus. *Capite, thoraceque infra punctulatis, femoribus rufis, tibiis tarsisque piceis.* (Long. corp. 6 lin.)

Pæ. ruffemoratus *mihi.*—*Steph. Catal. p. 23. No. 182.*

Above of various colours, like its congeners; beneath black or brassy, with the breast and thorax green, and thickly punctate: the thighs rufous, the tibiæ and tarsi piceous; in other respects similar to Pæ. cupreus, but resembling Pæ. lepidus in lustre and texture.

My reasons for separating this species are, that among many hundreds of Pæcili which I have examined, and which were captured near London, not one of Pæ. ruffemoratus has occurred; whereas Mr. Haliday informs us, in the Zoological Journal, that the latter is in plenty near Belfast in Ireland, and Gyllenhal notices it as a native of Finland alone.

I have recently obtained one specimen from Scotland and two from the north of England; one of the latter is of a rich blue above.

Sp. 5. versicolor. *Capite, thoraceque infra levissimis, antennarum articulis duobus basalibus rufis supra lineâ elevatâ nigrâ, elytris striatis, striis punctulatis.* (Long. corp. 3½—5½ lin.)

Pæ. versicolor. *Ziegler.*—*Steph. Catal. p. 23. No. 183.*

Above brilliantly glossy green, blue, violet, black, æneous, or copper, of every conceivable shade, frequently with splendid iridescent tints: head smooth, impunctate, with the usual fovea on each side between the eyes, and a slender transverse impression: thorax rather convex, with a slight dorsal line; the base impunctate, with two rugose impressions on each side towards the angles, the disc transversely wrinkled: elytra slightly convex, striated, the striæ more or less punctate, the interstices smooth, the third from the suture with from two to six impressed dots, and the second from the margin with a continuous



row: body beneath smooth jet black, with the breast alone punctate: the thorax beneath sometimes bronzed-black or greenish: legs, labrum, mouth, and palpi black: antennæ dusky, the two basal joints rufescent, with the carina dusky or black.

Upon a recent examination of upwards of five hundred specimens of this extremely variable and splendid insect, both alive and dead, I am perfectly satisfied of its distinction from *Pœ. cupreus*; it is more depressed and oblong, usually much smaller; the head and the thorax beneath are impunctate, and the upper surface is peculiarly glossy and brilliant; but exclusively of these obvious distinctions of form, size, sculpture, and lustre, all the varieties may be readily known from those of *Pœ. cupreus* by the colour of the two basal joints of the antennæ, which have *invariably* a dusky or black line above, whereas those of *Pœ. cupreus* are usually immaculate, a fact of considerable importance in a genus so prone to vary; yet it is said that this insect "is probably nothing more than a small variety of *Pœ. cupreus*," although "species ought to be distinguished by form, sculpture, and disposition of colour."

Common throughout Britain; I have received it abundantly from Scotland, the north of England, and Wales, have seen many specimens from Ireland, and it is found in profusion in the metropolitan district.

Sp. 6. *punctatostriatus*. *Oblongus, capite lævissimo, antennarum articulis duobus basalibus rufis carinâ atrâ, tertio piceo-rufo, elytris profundè punctato-striatis.* (Long. corp. $4\frac{1}{2}$ lin.)

Pœ. punctatostriatus mihi.—*Steph. Catal. p. 23. No. 184.*

Closely allied to the last, but more elongate, and the striæ on the elytra deeply and strongly punctate: the head, and the thorax beneath impunctate; the thorax itself is rather elongate, and strongly wrinkled transversely with a few longitudinal wrinkles at the base, which is obsoletely punctate, and has two foveæ at the hinder angles on each side: the elytra are slightly convex, striated, the striæ deeply and thickly punctate; the interstices smooth, with about four impressed dots on the third from the suture, of which three are nearly at the tip, the other about the middle of the disc, the second from the margin with a series of dots, rather remote in the middle: body beneath black, the breast punctate: antennæ with the two basal joints dull red, with the carina dusky, the third joint pitchy red, the remainder fuscous.

Taken near London: it may eventually prove to be an extraordinary variety of *Pœ. versicolor*.

GENUS XLIII.—SOGINES, *Leach*.

Palpi robust, the terminal joint of the external maxillary obtusely truncated, and longer than the third, which is clavate: *labrum* very narrow, transverse, obsoletely emarginate: *mandibles* stout, rather obtuse, striated above. *Antennæ* compressed, the third and fourth joints longer than the rest, the former



longest, all with an elevated line above: *head* large: *thorax* with an elevated line on each side near the posterior angle: *body* depressed: *elytra* with the tip narrowed and emarginated: *wings* two, ample: *anterior tarsi* of males with three dilated joints.

Sogines may be known from *Pœcilus* by the more depressed form of its body, its narrow labrum, obtuse striated mandibles, and by the elevated carina at the hinder angle of the thorax: unlike the insects of the last genus, the only species belonging to this is not subject to variation of colour, at least such appears to be the fact from the descriptions of authors, and the specimens which I have examined.

† Sp. 1. punctulatus. *Ater, lævis, elytris subtiliter punctato-striatis.* (Long. corp. 6 lin.)

Ca. punctulatus. *Illiger.*—So. punctulatus. *Steph. Catal. p. 23. No. 185.*

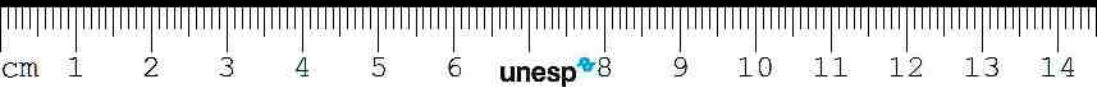
Deep dull black: head smooth, with an oblong fovea on each side between the eyes: thorax slightly emarginate anteriorly, the sides rounded, the base truncated, with obtuse angles, a little depressed above, smooth, with a very obsolete dorsal line, and near the elevated thoracic keel internally, a shallow, obsolete, scarcely punctate foveola: *elytra* rather depressed, slightly glossy, striated, the striae composed of very delicate minute dots, with the interstices entirely smooth, three remote larger impressions on the third from the suture, and a slightly interrupted series on the margin: body beneath and legs black: palpi piceous: antennæ black at the base, with the tip fuscous.

Of this species I have seen but one indigenous specimen, which is in the British Museum, and was captured by Dr. Leach, four years since, in Devonshire, during the spring.

GENUS XLIV.—OMASEUS, Ziegler.

Palpi resembling those of *Pœcilus*, but more robust: the *external maxillary* with the second joint longer than the terminal, the latter oval and truncate; *internal* as long as the maxillæ: *labial* with the two last joints elongate, the terminal slightly attenuated, truncate: *labrum* transverse, slightly emarginate or entire: *mandibles* bent, acute, denticulated at the base, sometimes striated above: *mentum* large, with a bifid lobe in its anterior notch. *Antennæ* cylindrical, the third joint longest: *head* subovate: *thorax* with the lateral margins more or less incrassated, the hinder angles sometimes acute, sometimes rounded: *elytra* entire, rather depressed: *wings* two or rudimentary: *anterior tarsi* of males with three dilated joints.

Omaseus was originally applied by Ziegler, as a generic name, to *Ca. melanarius*, of Illiger, but without characters; subsequently other species were placed in the genus by the continental writers,



and amongst them *Ca. aterrimus*, Fab., was improperly introduced, and the characters of the genus have been drawn from that insect, which thus became the type: and were it not from a disinclination to multiply generic names, I should have separated the former species, as hinted in page 68; however, I shall merely divide the Omasei into sections, as it is evident that the first step towards the advancement of science is analysis, synthesis being useful only in combining those facts which are made known by analysis; for without the latter, it tends rather to promote and perpetuate error than to elicit truth.

A. Thorax rounded behind, margins slightly incrassated; mandibles not striated above: body convex.

Sp. 1. *aterrimus*. *Niger politus, elytris striatis, foveis tribus profundis disci impressis*. (Long. corp. 7 lin.)

Ca. aterrimus. *Fabricius*.—*Om. aterrimus*. *Curtis*, i. pl. 15.—*Steph. Catal.* p. 23. No. 186.

Glossy black: head with a deep fovea on each side between the eyes: thorax broadly margined, slightly attenuated posteriorly; the angles obtuse, disc above convex, very smooth glossy black, with a deep subpunctated rounded fovea on each side at the base, and a strong dorsal channel: elytra broader than the thorax, rather convex, striated, the striæ punctated, with three very deep impressions on the disc; the posterior remote, and an interrupted series on the margin: body beneath, palpi, antennæ, and legs black: tarsi with rufescent cilia.

Found at Horning, in Norfolk; on the borders of Whittlesea-mere; and also near Cork, in Ireland, whence I received several specimens from Mr. Drummond. "In 1826 abundantly in Bot-tisham-fen; first in April, and then again in June, basking in the sun, on the soft mud, at the edge of the turf-pits."—*Rev. L. Jenyns*.

B. Thorax with the hinder angles acute, margins incrassated; mandibles striated: body depressed.

a. *With wings*.

Sp. 2. *Bulwerii*. PLATE VII. f. 2.—*Æneo-niger, elytris striatis, foveis quinque disci impressis*. (Long. corp. 4—5 lin.)

Om. Bulwerii miki.—*Steph. Catal.* p. 23. No. 187.

Above of a deep glossy bronzed black: head very smooth, impunctate, with a deep impression on each side near the base of the antennæ: thorax sub-cordate, obsoletely wrinkled transversely, the base sparingly punctate, with a deep rugose fovea at each angle, having a longitudinal impression: elytra striated, the striæ punctate, with five foveæ irregularly placed between the second and third striæ from the suture, the first rather remote; near the apex of the elytra, towards the margin, is another fovea; and on the margin itself



is an interrupted series of impressions: the body beneath smooth, impunctate, and, with the legs, antennæ, and palpi, deep bronzed black.

I have dedicated this new and elegant species to the Rev. J. Bulwer, F. L. S., &c., from whom I first received specimens, which were captured near Dublin.

Sp. 3. *Orinomum*. *Ater, nitidus, elytris striatis, foveis plurimis disci impressis.* (Long. corp. 4—5½ lin.)

Ha. *orinomum*. *Leach, MSS.*—Om. *orinomum*. *Steph. Catal. p. 23. No. 188.*

Deep shining black: head smooth, impunctate, with the usual frontal impressions: thorax subcordate, obsoletely wrinkled transversely, with a deep fovea at the basal angles: elytra rather deeply striated, with several impressed dots on the disc on the second and third interstice from the suture on each side: body beneath and legs black.

Resembles Om. *Bulwerii*; but is destitute of the metallic gloss, and is usually somewhat larger.

Var. β . PLATE VII. f. 3.—With the legs pitchy black, and the foveæ on the disc of the elytra rather obsolete.

Taken in plenty, in 1809, by Dr. Leach, at the base of Ben Lomond, in Scotland; and sparingly, during last summer, in Westmoreland, Cumberland, and Yorkshire.

Sp. 4. *Anthracinus*. *Niger, nitidus, thorace longiore, posterioribus angustiore, foveâ magnâ posticâ punctatâ, striolâ impressâ notatâ, elytris striatis, striis subpunctatis, antennis pedibusque piceis.* (Long. corp. 4½—5 lin.)

Ca. *Anthracinus*. *Illiger.*—Om. *Anthracinus*. *Steph. Catal. p. 23. No. 189.*

Similar to the following, but more glossy, and the thorax of a different form, &c.

Shining black: head as in Om. *Nigrita*: thorax rather elongate, the margins anteriorly rounded, posteriorly narrowed, with the hinder angle a little prominent; the base on each side with a large, thickly punctate fovea, having a deep longitudinal line in the middle: elytra rather depressed, striated, the striæ rather deeply punctate, with three discoidal impressions, and a marginal series: antennæ and legs pitchy-black.

Two indigenous specimens only of this insect have yet come under my inspection; they were taken in Cumberland during last July, and are in my collection.

Sp. 5. *Nigrita*. *Niger, nitidus, thorace brevior, lateribus æqualiter rotundato, posticæ parum angustiore, elytris striatis, striis sublaevibus, antennis pedibusque nigris.* (Long. corp. 4—5½ lin.)

Ca. *Nigrita*. *Fabricius.*—Om. *Nigrita*. *Steph. Catal. p. 23. No. 190.*

Uniform glossy black: head smooth, impunctate: thorax transverse, moderately convex, the sides equally rounded, slightly narrowed posteriorly, the base on each side with a deep bilobed thickly punctate fovea, having an obsolete lon-



gitudinal stria: elytra slightly convex, striated, the striæ obsoletely punctate, with three discoidal impressions, and a series on the margin: legs and antennæ black.

- Var. β . With the striæ of the elytra confluent. I have here noticed this variety, from Panzer having figured it, for the purpose of remarking that similar variations frequently occur amongst the Harpalidæ, and, consequently, that they are not characteristic of specific differences.

Very common beneath stones and moss, throughout Britain.

Sp. 6. *lævigatus*. *Niger, thorace subcordato, elytris striatis, antennis palpis pedibusque piceo-ferrugineis.* (Long. corp. $3\frac{1}{2}$ lin.)

Om. *lævigatus*. *Steph. Catal. p. 24. No. 191.*

Very glossy black: head very smooth, impunctate, with an impression on each side of the forehead: thorax very glossy, smooth, subcordate, impunctate behind, with two longitudinal striæ, the inner longest: elytra rather deeply striated, the striæ obsoletely punctate, with three impressed dots on the disc, and a marginal series: body beneath black: antennæ, legs, and palpi pitchy rust-colour.

This appears to be the *Ca. lævicollis* of Duftschmid's Fauna; but as the specific character alone is in Latin (the rest of the description being in German), it is difficult to determine, amongst such closely approximating species, which is the one intended; in size it agrees: it resembles an *Argutor*, but may be known from the species of that genus by the elongation of the striæ near the scutellum.

Few specimens only have occurred; they were captured near London.

† Sp. 7. *ruffemoratus*. *Ater, nitidus, femoribus rufis.* (Long. corp. ? lin.)

Om. *ruffemoratus mihi*.—*Steph. Catal. p. 24. No. 192.*

Very like Om. *Nigrita*, but with the thighs rufous.

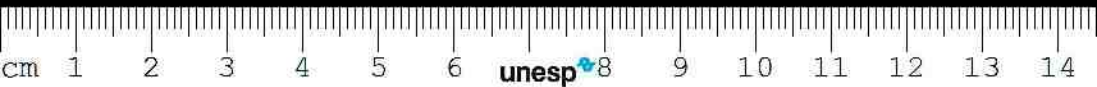
I regret being unable to say more of this insect, which is said, by Mr. Haliday, in the Zoological Journal, No. 11, to occur not uncommonly confined to one spot in the neighbourhood of Belfast, in Ireland: it may, probably, be synonymous with some of the continental species with rufous femora.

b. *With rudiments of wings only.*

Sp. 8. *melanarius*. *Niger, thorace utrinque bistriato elytris profundè æqualitèr striatis, striis punctatis.* (Long. corp. $5\frac{1}{2}$ — $9\frac{1}{2}$ lin.)

Ca. melanarius. *Illiger*.—*Steph. Catal. p. 24. No. 193.*

Glossy black: head with an irregular impressed line between the eyes on each side: thorax obsoletely wrinkled transversely, the base impunctate, with a deep rugose fovea at each angle, having two longitudinal striæ, of which the inner is longest: elytra deeply striated, the striæ punctate, with three



minute impressions on the disc, and an interrupted series on the margin: body beneath, legs, antennæ, and palpi glossy black: tarsi pitchy.

Var. β . *Om. rugicollis*. *Steph. Catal. p. 24. No. 194.* With the thorax very strongly wrinkled transversely.

Var. γ . With the thorax not wrinkled transversely.

Very common at the roots of trees, beneath stones, &c., throughout Britain.

Sp. 9. *affinis. Ater, nitidus, thorace glaberrimo, elytris subrugosis, inequalitèr striatis, striis per paria approximatis.* (Long. corp. 7 lin.)

Ca. *affinis. Marsham, MSS.—Om. affinis. Steph. Catal. p. 24. No. 195.*

Allied to the last; but known by its smooth glossy thorax, which is rounded at the sides, with two deep striæ at each of the hinder angles placed in a rugged fovea: elytra rather glossy, striated; the striæ placed in pairs and interrupted, with three minute impressions on the disc, and an interrupted series on the margin: the suture transversely wrinkled: body beneath glossy black, impunctate.

From the collection of Mr. Marsham; but I am not acquainted with its locality.

GENUS XLV.—STEROPUS, *Megerle*.

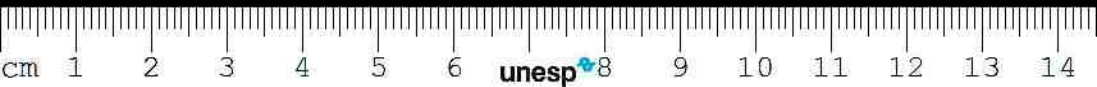
Palpi nearly as in *Omasus*; the terminal joint of the *external maxillary* ovate and rather shorter than the second; *internal* slender: *labial* with the two last joints of equal length, the terminal clavate, truncate: *labrum* quadrate, somewhat emarginate anteriorly: *mandibles* rather obtuse, striated above, denticulated at the base internally: *mentum* transverse, with a bifid lobe in the centre of its anterior notch. *Antennæ* compressed: *head* porrect: *thorax* suborbicular: *elytra* ovate: *wings* none: *anterior tarsi* of males with three dilated joints.

Steropus is chiefly to be discriminated from *Omasus* by the form of its thorax and elytra, the former being more orbicular, and the latter more ovate and convex: the labrum is nearly quadrate, and the mentum very deeply notched.

Sp. 1. *madidus. Ater, nitidus, thorace posticè utrinque impresso, elytris striatis, striâ secundâ a margine punctis subcontiguè impressâ.* (Long. corp. 6—8 $\frac{1}{4}$ lin.)

Ca. *madidus. Fabricius.—St. madidus. Steph. Catal. p. 24. No. 196.*

Deep, rather brassy-black: head smooth, with two frontal impressions: thorax rather convex, with a deep dorsal line a little dilated posteriorly, and on each angle a deep rugose fovea with a longitudinal stria: elytra slightly striated, the striæ impunctate, the second from the margin with a nearly contiguous series of impressions: body beneath and legs glossy black.



Var. β . With the femora and tibiæ rufous. This is the true *Ca. madidus* of Fabricius, which he captured near Richmond, during one of his visits to England. But Paykul, Sturm, and other continental writers, refer very different insects to the Fabrician species, each differing from the other. Var. α is the *Molops concinnus* of Sturm; and I have a large specimen (taken in Cumberland) which agrees with Duftschmidt's *Ca. arrogans*.

There is a singular variety in the British Museum, having the elytra transversely wrinkled throughout; the *Ha. crenulatus* of Dr. Leach.

Common throughout the country.

Sp. 2. *æthiops*. *Aterrimus subopacus, thorace posticè utrinque foveolato, elytris profundè striatis; striâ secundâ a margine punctis remotis notatâ*.—(Long. corp. $5\frac{1}{2}$ —6 lin.)

Ca. æthiops. Panzer.—*St. æthiops*. *Steph. Catal. p. 24. No. 197*.—*St. concinnus*. *Curtis, iv. pl. 171*.

Deep jet black: head impunctate, with two impressions on the forehead: thorax cordate, orbicular, a little sinuated posteriorly, with a deep longitudinal channel in the centre, obsoletely wrinkled transversely, with a round punctate fovea on each side: elytra deeply striated, the striæ impunctate, with two or three minute impressions between the second and third from the suture, and a series of remote dots on the margin: body beneath impunctate: legs and antennæ black; the tips of the latter fuscous, and those of the palpi, and sometimes of the mandibles, pitchy-red or ferruginous.

Unquestionably the *Ca. æthiops* of Panzer; and as decidedly not the *Molops concinnus* of Sturm, nor of any other writer, whose admirable figure not only correctly represents *St. madidus*, but whose description manifestly disagrees with the present species, exclusively of the important difference in size; Sturm's insect being seven German lines in length, equal to about eight English; whereas *St. æthiops* (and I have examined upwards of 30 specimens) never exceeds six lines.

Found in the mountainous districts of the north of England and of Scotland; apparently not uncommon in the former. I have a memorandum of its having been captured near Godstone, by W. S. MacLeay, Esq., some years since.

GENUS XLVI.—BROSCUS, Panzer.

Palpi; external maxillary with the last joint cylindric, truncate, much shorter than the second; the third still shorter, narrow at the base, incrassated at the tip: labial with the third joint elongate clavate, the terminal obconic truncate: labrum transverse, entire: mandibles striated, with a tooth in the middle of their internal edge: mentum rounded at the sides, deeply notched, with a simple obtuse lobe in the centre of the notch. Antennæ with the four basal joints naked, the third much larger than the fourth, and abruptly clavate: head broad, suborbicular: thorax subcordate, much narrowed behind: elytra oblong: wings two: anterior tarsi of the males with three dilated joints,

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Brosicus may be known from the other *Harpalidæ*, by the form of its thorax, which is very much attenuated posteriorly, depressed at the angles, and apparently remote from the elytra: the body is elongate, the mentum deeply notched, the emargination bearing an obtuse lobe in its centre, the four basal joints of the antennæ are naked, and the head is large, whence the genus has been termed *Cephalotes* by Bonelli; but that name having been employed many years previously for a genus of bats, cannot be here retained: its location is not satisfactory.

Sp. 1. *cephalotes*. *Elongatus, niger, capite parvè punctato, elytris subtilissimè punctato-striatis*. (Long. corp. 8—11½ lin.)

Br. *cephalotes*. Linné.—Don, xiv. pl. 484. Br. *cephalotes*. Steph. Catal. p. 24. No. 198.

Black, slightly glossy: head sparingly punctate: thorax very convex, obsoletely wrinkled transversely, with a dorsal channel; the base rather rugged, without angles, and rather distant from the elytra, which are somewhat opaque, with the shoulders rounded, convex above, very delicately punctato-striated, with the interstices flat and smooth, and eight or nine remote impressed dots on the margin: the body beneath and legs black: the antennæ with the seven last joints fuscous: the palpi piceous, with the tips of the joints pale rusty-piceous.

Common beneath marine rejectamenta, especially on the coasts of Sussex, Suffolk, Norfolk, Yorkshire, Northumberland, Devonshire, and Glamorganshire. Abundant also near Southend.

GENUS XLVII.—*Stomis*, Clairville.

Palpi rather elongate; *external maxillary* with the last joint as long again as the third, ovate-truncate; the second very slender, *internal* attenuated; *labial* with the third joint elongate clavate, the terminal ovate-truncate: *labrum* transverse, emarginate anteriorly: *mandibles* acute, elongate, not denticulate internally; the right one with a notch on its inner edge near the centre: *mentum* transverse, not very deeply notched anteriorly, with a simple lobe. *Antennæ* with the three basal joints naked, the third and fourth of equal length: *head* subovate: *thorax* elongate-cordate: *elytra* ovate: *wings* none: *anterior tarsi* of the males with three dilated joints.

Distinguished by its slender form, its acute elongate mandibles, emarginated labrum, slightly notched, transverse, simple-lobed, mentum, and short ovate-truncate terminal joints to the palpi.

Sp. 1. *pumicatus*. *Piceo-niger, antennis, palpis, pedibusque piceo-rufis, elytris punctato-striatis*. (Long. corp. 3—3½ lin.)

St. *pumicatus*. Clairville.—Steph. Catal. p. 24. No. 199.

Deep pitchy-black; head smooth, impunctate: thorax obovate, a little depressed behind, with a slight dorsal line, and an oblong impressed smooth fovea on each side near the hinder angle: elytra striated, the striæ punctate; the margin with a series of impressions at the base, and another closely approximating towards the tip: body beneath pitchy: legs, antennæ, and palpi rufous: mandibles ferruginous.

Near London, Southend, &c.: in the spring tolerably frequent.—“Occasionally near Bottisham, under felled timber.”—*Rev. L. Jenyns*.

GENUS XLVIII.—PATROBUS, *Megerle*.

Palpi rather slender; *external maxillary* with the basal joint small, second longest, third and fourth of equal length, the latter fusiform, the two preceding clavate: *labial* rather more slender, the basal joint, or scape, very long, second minute, the following about half the length of the terminal, which is fusiform: *labrum* transverse, straight anteriorly: *mandibles* denticulated at the base only: *mentum* slightly emarginate, with a notched central lobe. *Antennæ* with the two basal joints only naked, the third joint very long; *head* subtrigonal, attenuated posteriorly: *thorax* subquadrate, narrowed behind, the posterior angles acute, with an elevated carina: *elytra* oblong, obsoletely emarginate at the tip: *wings* two or rudimentary: *anterior tarsi* of males with two dilated joints.

Patrobus differs from the two preceding genera by having the *mentum* slightly emarginated, with its notch furnished with a bifid lobe; and from the following by the straight anterior edge of the *labrum*: the males are farther distinguished from those of the above genera by having the two anterior joints of the tarsus alone dilated.

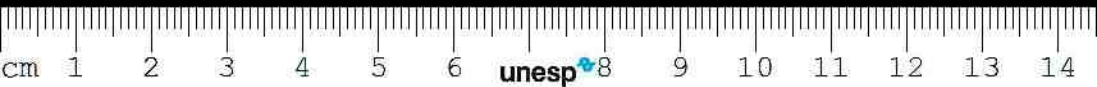
Sp. 1. *rufipes*. *Apterus*, *nigro-piceus*, *subtus dilutior*, *pedibus rufis*, *thorace postice foveolato*, *elytris punctato-striatis*. (Long. corp. $3\frac{1}{2}$ — $4\frac{1}{2}$ lin.)

Ca. *rufipes*. *Fabricius*.—Pa. *rufipes*. *Steph. Catal.* p. 25. No. 200.

Deep pitchy-black: head obsoletely wrinkled, with a deep impression between the eyes on each side, and a transverse punctate one behind the eye: thorax longer than broad, anteriorly punctured, the hinder angles elevated, acute; rather convex, shining, obsoletely wrinkled, with a deep dorsal line, and at the base, a large round deep punctate fovea near each angle: elytra striated, the striæ punctate and rather obsolete at the tip and on the sides; the second from the margin deep, and bearing a series of remote impressions; and the disc with several impressed dots on the second interstice from the suture: thorax beneath thickly punctate: legs rufous.

Var. β . With the body entirely of a rusty-red, the head and thorax darker: sometimes pale ochraceous, both probably immature.

Apparently a littoral insect, chiefly occurring on the coasts of



Essex, Norfolk, Yorkshire, and Northumberland, and near Edinburgh; though it occasionally frequents the shores of the Thames near Battersea and Plaistow Marshes, and has once been taken in a damp situation in moss at Highgate-wood. "Found plentifully under stones, on the banks of the river near Battersea, in June, 1827, near dead animals; but not one specimen beneath the latter"—*Mr. Ingpen*—who justly remarks, that they probably lurk there for the purpose of preying upon the smaller Staphylinidæ, &c., attracted by the carcasses.

† Sp. 2. *alpinus*. *Alatus, castaneus, capite thoraceque castaneo-nigris, thorace transverso*. (Long. corp. $4\frac{1}{2}$ lin.)

Pa. alpinus. *Curtis*, iv. pl. 192.—*Steph. Catal.* p. 25. No. 202.

"Smooth, shining, castaneous: head and thorax black, with a chesnut tinge, the latter with the anterior margin punctured; a channel down the middle, deepest at the base, and a large, deep, punctured fovea on each side at the base, extending to the posterior angles: elytra with nine rather faint and imperfectly punctured striæ on each, the sutural one abbreviated; between the third and fourth are three equidistant impressed dots: female longer, paler: wings ample."

This species has only been found in Scotland, and I believe but sparingly: it is the *Ha. septentrionalis* of *Schoöher*, *MSS.*, a name that might advantageously be substituted for *alpinus*, as there are already many *Harpalideous* insects bearing the latter specific name.

GENUS XLIX.—PTEROSTICHUS, *Bonelli*.

Palpi somewhat resembling those of *Omaseus*; *external maxillary* with the basal joint short, curved, the second stout, the third and fourth of nearly equal length, the latter elongate-ovate, truncate: *labial* rather stout, the basal joint robust, the second short, the third rather shorter than the terminal, which is slightly attenuated towards the apex, and truncate: *labrum* quadrate, slightly emarginate: *mandibles* crenated at the base, obsoletely striated above: *mentum* deeply emarginate, the emargination with a bifid lobe. *Antennæ* compressed, with the second and fourth joints shortest, the terminal rather acute: *head* oblong-ovate: *thorax* subcordate, truncate: *body* much depressed: *wings* two, or none: *anterior tarsi* of the males with three dilated joints.

The depressed body of the *Pterostichi* distinguishes them from the preceding genera; from *Platysma* they are known by the comparative stoutness of the palpi, and from *Abax* by the subcordate thorax. Most of the species, in common with many other *Harpalidæ*, have two deep sulciform impressions on the forehead.

Dr. Leach has been remarkably successful in capturing the species of this genus, four of which were added to our Fauna by his exertions during the year 1825; of these the only two apparently described were recorded in my list of Harpalidæ, published in November last, in which I inserted *five* species, including the *two* described by Marsham in 1802.

† Sp. 1. fasciato-punctatus. *Apterus, ater, nitidus, elytris striatis, interstitiis punctis plurimis transversaliter impressis.* (Long. corp. 8 lin.)

Ca. fasciato-punctatus. *Creutzer.*—Pt. fasciato-punctatus. *Steph. Catal. p. 25. No. 202.*

Deep glossy black: head smooth, with two sulci between the eyes: thorax rather convex, shining, with a deeply impressed dorsal line, and a fovea near each angle at the base: elytra slightly convex, deeply striated, the striæ impunctate, with three or four irregularly disposed transverse rows of impressed dots, more or less united into fasciæ, the margin densely punctated: legs rather long, pitchy-black: tarsi pitchy.

One specimen found by Dr. Leach in Devonshire.

† Sp. 2. brunnipes. *Niger, nitidus, thorace posticè utrinque bistriato, elytris striatis, disco punctis tribus impressis; pedibus piceo-brunneis.* (Long. corp. $7\frac{1}{2}$ —8 lin.)

Pt. brunnipes. *Samouelle MSS.*—*Steph. Catal. p. 25. No. 203.*

Shining black: head large, impunctate: thorax with a deep dorsal channel, obsoletely wrinkled transversely and longitudinally at the base: near the hinder angle on each side is a deep smooth impressed line, and a smaller one at the angle: elytra striated, the striæ impunctate, with three impressions on the third from the suture, and a slightly interrupted series on the margin: thorax very obsoletely punctate beneath: legs and antennæ pitchy-brown: palpi pitchy-red: mandibles obtuse, rufescent.

This appears to be the Pt. parumpunctatus of De Jean, according to Germar's description—"thorace cordato, posticè utrinque impresso, lævi, ater, nitidus, elytris striatis: striâ marginali punctatâ, disco tripunctatis;"—but as it is impossible for me to ascertain with sufficient accuracy the identity of specimens amongst approximating species, which are deposited in the British Museum, I speak with hesitation on this point, and have adopted the name applied to the insect by Mr. Samouelle.

Three specimens taken by Dr. Leach beneath stones in Devonshire: one near Stonehouse in a marsh, another between Crabtree and Ridgway, the third between Bickleigh and Shawbridge near the river.

† Sp. 3. elongatus. *Elongatus, ater, nitidus, thorace posticè utrinque impresso, elytris striatis, punctis quinque impressis.* (Long. corp. $7\frac{1}{2}$ lin.)

Pt. elongatus. *Samou. MSS.*—*Curtis, v. pl. 196.*—*Steph. Catal. p. 25. No. 204.*



Elongate: shining black: head impunctate: thorax much attenuated behind, with a channel down the centre, and a deep impunctate stria near the posterior angles: elytra striated, the striæ impunctate; with four deeply impressed dots on the second from the suture on each side towards the tip, and one on the third towards the base; the marginal striæ with a continuous series of impressions: claws and tip of palpi ferruginous: antennæ fuscous at the tip.

Once taken in Devonshire by Dr. Leach.

† Sp. 4. Panzeri? *Niger, nitidus, thorace posticè utrinque sub-bistriato, elytris striatis, punctis impressis plurimis ornatis.* (Long. corp. 7 lin.)

Ca. Panzeri. *Megerle?*—Pt. Panzeri? *Steph. Catal. p. 25. No. 205.*

Deep glossy black: head smooth: thorax with a rather abbreviated dorsal line, a deep longitudinal stria near the hinder angle, and an obsolete shallow one at the angle itself, the intermediate space a little rugose: elytra rather deeply and irregularly striated, the striæ impunctate, with several irregularly scattered impressions on the disc, and a subinterrupted marginal series: thorax beneath and breast punctate: legs, antennæ, and palpi pitchy-black, the latter with a ferruginous tip.

Whether this be the Ca. Panzeri of Megerle, or an extraordinary variety of Ca. Selmanni of Duftschmidt, I am unable to decide, for the reason previously stated; but I do not think it belongs to the latter, as it appears to be at variance with the specific character by being of a deep black, and by having the impressions on the elytra disposed differently from the representation in Sturm; neither am I certain that it is referable to the former, as that insect is said to have but one series of impressed dots on the elytra; it however seems to agree with Panzer's figure.

"Beneath a stone near the river Plym, in Devonshire, one specimen in June."—*Dr. Leach.*

Sp. 5. oblongopunctatus. *Alatus**, *nigro-æneus, glaber, tibiis tarsisque rufescentibus, elytris leviter striatis, foveolis plurimis impressis.* (Long. corp. 5½ lin.)

Ca. oblongopunctatus. *Fabricius.*—Pt. oblongopunctatus. *Steph. Catal. p. 25. No. 206.*

Shining bronze: head smooth: thorax a little convex, smooth bronzed black, with a channel down the centre, and a simple impressed line on each side near the hinder angles, which are acute: elytra rather broad, slightly convex, shining æneous, rather obsoletely striated, striæ impunctate, with several impressions between the second and third stria from the suture, and a series of subconfluent dots on the margin: body beneath smooth shining brass: thighs stout, black: tibiæ, tarsi, and palpi rufescent: antennæ black.

* See remarks on winged and apterous Adephaga, under the genus *Clivina*, in the Appendix.

“Occasionally taken near Bagley-wood, Oxfordshire.”—*Rev. F. W. Hope*. “Near Windsor; and in a salt marsh near the Lary.”—*Dr. Leach*.

Sp. 6. octopunctatus. PLATE VII. f. 4.—*Alatus, nigro-æneus, nitidus, tibiis tarsisque rufescentibus, elytris striatis punctis quatuor impressis*. (Long. corp. $5\frac{1}{2}$ lin.)

Ca. octopunctatus. *Marsham*.—Pt. octopunctatus. *Steph. Catal. p. 25. No. 207*.

Deep greenish bronze, shining: head porrect, with two rather obsolete impressions on the nasus: thorax rather narrow, somewhat convex, the dorsal channel not very deep, with a slightly punctate fovea at each posterior angle: elytra æneous, rather convex, broader than the thorax, simply striated, with about four rather deep impressions on each elytron between the second and third stria, and an interrupted marginal series, the margin itself reddish: legs dusky black: tibiæ, tarsi, and palpi reddish.

Probably a strong variety of the preceding, differing in being rather more slender, and in having fewer impressions on the disc of the elytra, but decidedly not the Pt. parumpunctatus of De Jean, of which the characters are noticed in page 121, from Germar, who has given a full description of that insect in his “*Nova Species Insectorum*,” &c., vol. i. p. 19, and tells us that it inhabits France and Western Germany; neither is it the Ca. octopunctatus of Fabricius, which according to him is a native of America; I have, however, retained the name, as the Fabrician insect is apparently referable to another genus.

I have seen but three specimens of this species: one in the collection at the British Museum, a second in that of Mr. Vigors, and the third in my own; with their localities I am unacquainted.

Sp. 7. macer. PLATE VII. f. 5.—*Alatus, nigro-piceus, nitidus, thorace postice utrinque unistriato, elytris striatis, pedibus rufis*. (Long. corp. $5\frac{1}{2}$ — $6\frac{1}{2}$ lin.)

Ca. macer. *Marsham*.—Pt. macer. *Steph. Catal. p. 25. No. 208*.

Deep glossy pitchy-black or ferruginous: head smooth, with a rugose impression on each side of the forehead: thorax much narrowed behind, with a strong dorsal line, and a deep oblong impression at the base near the posterior angles, which are a little punctate: elytra flat, simply striated, with three remote impressions on the disc between the second and third striæ, and a few on the margin, approximating at the base: thorax punctate beneath: legs and palpi rufous: antennæ dusky at the tip.

Var. 8. Larger and of a deeper colour: the thorax rugose.

This and the two preceding insects differ from the other Pterostichi by having the terminal joint of the external maxillary palpi rather shorter than the third, and by possessing ample wings; by these characters approaching to the genus *Platysma*.

Copenhagen-fields; abundant in Hackney-marshes, and near Southend; under the bark and roots of trees, beneath stones, &c.,



chiefly during the spring. "A single specimen taken near Ely."—*Rev. L. Jenyns*. "Common on the banks of the Tees, in Yorkshire."—*L. Rudd, Esq.*

GENUS L.—*PLATYSMA*, *Bonelli*.

Palpi nearly as in *Pterostichus*; *external maxillary* with the basal joint minute, the second long, stout, a little bent, third about as long as the second, clavate, fourth subfusiform-truncate, shorter than the third: *labial* rather slender, the third joint clavate, longer than the terminal, which is attenuated at the base: *labrum* quadrate, entire: *mandibles* deeply striated above, simple: *mentum* deeply notched, with a bifid lobe. *Antennæ* compressed, the fourth joint not shorter than the following, the terminal acute: *head* moderate, porrect, oblong-ovate: *thorax* obcordate, truncate: *body* depressed: *elytra* obovate, sinuated at the tip: *wings* ample: *anterior tarsi* of males with three dilated joints.

Platysma is so closely related to *Pterostichus* that Sturm has placed the only species in that genus, without any remark; it may, however, be known by the comparative slenderness and the proportions of the joints of the palpi, and by the superior length of the fourth joint of the antennæ.

Sp. 1. *niger*. *Niger, nitidus, thorace posticè utrinque bistriato, elytris profundè striatis, striis obsolete crenatis.* (Long. corp. 9—11 lin.)

Ca. *niger*. *Fabricius*.—Pl. *niger*. *Steph. Catal. p. 25. No. 209.*

Deep shining black: head obsoletely punctate, rugose near the eyes, with two frontal sulci: thorax obsoletely wrinkled transversely, with a deep channel down the centre, and two very deep impressions on each side at the base, the inner longest: elytra rather dull, very deeply striated, the striæ obscurely crenate, an impression on the third from the suture towards the base, two on the second, and a series on the margin: tips of palpi and claws ferruginous.

Not very uncommon beneath dead leaves in the spring at Coombe-wood; also found in other places near the metropolis. "Parley-heath, Hants."—*J. C. Dale, Esq.*

GENUS LI.—*ABAX*, *Bonelli*.

Palpi robust: *external maxillary* with the two last joints of equal length, the last oval truncate, the preceding clavate: *labial* with the third joint clavate, the terminal truncate, attenuated at the base: *labrum* transverse, deeply emarginated: *mandibles* very acute, striated above, internally denticulated at the base: *mentum* deeply notched, the centre of the notch with a bifid lobe. *Antennæ* setaceous, the fourth and fifth joints of equal length: *head* suboval: *thorax* quadrate, sessile: *elytra* united, with a longitudinal carina at the shoulders: *body* much depressed, broad: *wings* none: *anterior tarsi* of males with three dilated joints.



Abax is readily distinguished from the other Harpalidæ by its broad depressed body and thorax, by the elevated carina at the shoulders of the elytra, and by the perfect union of the latter.

Sp. 1. *Striola*. *Niger*, thorace utrinque strigis duabus impressis, elytris subsulcatis. (Long. corp. 8—10 lin.)

Ca. *Striola*. *Fabricius*.—Ab. *Striola*. *Steph. Catal.* p. 26. No. 210.

Black, shining: head obsoletely wrinkled, with an impression on each side near the eyes, between which and the latter are several elevated lines: thorax transversely wrinkled, with a deep dorsal channel, and near the hinder angles on each side two deep elongate impressions: elytra oblong ovate, deeply striated, the striæ impunctate; no discoidal impressions, but a series on the margin rather profound: body beneath very glossy black: claws and palpi ferruginous. Female with the elytra rather obscure, the striæ more obsolete, and the interstices flat.

Not uncommon near London, particularly on Epping-forest.

† Sp. 2. *metallicus*. *Niger*, thorace lineolis baseos utrinque impressis, thorace elytrisque æneis. (Long. corp. 6 lin.)

Ca. *metallicus*. *Fabricius*.—Ab. *metallicus*. *Steph. Catal.* p. 26. No. 211.

Black: head smooth: palpi ferruginous: thorax æneous, shining, with a dorsal channel, and two impressed lines at the base: elytra slightly striated, the striæ punctate, with two discoidal impressions, æneous or coppery, shining: legs pitchy-black.

This species ill associates with the former; Sturm places it with the *Pterostichi*.

I have seen but one indigenous specimen of this insect, which is in the collection of J. H. Griesbach, Esq. and is said to have been taken in Cambridgeshire.

GENUS LII.—OÖDES, *Bonelli*.

Palpi elongate, slender: *external maxillary* with the two last joints of equal length, the terminal cylindric-truncate, the preceding clavate: *labial* the same: *labrum* transverse, obsoletely notched: *mandibles* acute, not denticulated: *mentum* transverse, moderately emarginated, the emargination with a simple lobe. *Antennæ* with the three basal joints naked: *head* ovate: *thorax* as broad as the elytra, convex: *body* broad, rather convex: *wings* two: *anterior tarsi* of males with three dilated joints.

Oödes is known from the preceding genus, and from *Amara* (which it greatly resembles in form), by the simple lobe in the centre of the notch of the *mentum*.

Sp. 1. *Helopioides*. *Niger*, thorace lævi foveis nullis, elytris tenuè punctato-striatis. (Long. corp. 4½ lin.)

Ca. *Helopioides*. *Fabricius*.—Oö. *Helopioides*. *Steph. Catal.* p. 26. No. 212.

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Black: head smooth, impunctate: thorax anteriorly narrow, posteriorly as broad as the elytra, a little shining, smooth, obsoletely channelled in the middle, and destitute of foveæ: elytra oval, slightly glossy, striated, the striae obsoletely punctate, with two minute impressions between the second and third from the suture, and a series on the margin: body beneath thickly punctate on the sides: legs black: tarsi piceous.

Not very common, sometimes taken in Battersea-fields and Hackney-marshes; also near Whittlesea Mere, during the spring. "In plenty at Abbots' Ann, Hants, and Amesbury, Wilts."—*Rev. G. T. Rudd.*

GENUS LIII.—AMARA, *Bonelli.*

Palpi, external maxillary, and labial with the two last joints equal, the terminal oval, truncate, the third clavate: *labrum* quadrate, slightly emarginate: *mandibles* short, denticulated at the base: *mentum* emarginate, the emargination with a bifid lobe. *Antennæ* linear, the three first and base of the fourth joints naked, the latter not much shorter than the third: *head* ovate: *thorax* broad, anteriorly narrowed, posteriorly as broad as the elytra, the hinder angles straight: *body* depressed: *elytra* slightly emarginate at the tip, second stria abbreviated: *wings* ample: *anterior tarsi* of males with three dilated joints.

Of all the genera of Adephagous insects none is perhaps more difficult to be understood than this, the species being so extremely similar in their general aspect, and all being subject to considerable variety in colour*. They may be distinguished by their short, depressed, broad body, to which the base of the thorax is closely applied throughout its width, which equals that of the elytra; combined with the bifid lobe in the notch of the mentum, and the ovate terminal joint of the labial and external maxillary palpi. They

* Being necessarily compelled to proceed in one undeviating course, by describing each group in accordance with its apparent affinity (whether circumstances have permitted me thoroughly to investigate it, or not), I do not presume to assert that *all* the indigenous species will be described, or that their location and nomenclature will invariably be correct, in *every* genus; nevertheless, by rigidly describing the contents of my own cabinet, aided by the inspection of the principal metropolitan collections, and some trifling personal experience, few insects of any importance are likely to escape notice, though, in such difficult genera as the present, doubtless some may lurk in obscurity without the possibility of detection; yet should such be discovered sufficiently early, an account thereof will appear in the appendix to the volume in which the genus is described, and thus each volume will be rendered as perfect as the nature of the subject admits, to the time of publication.



usually occur beneath stones and mosses, and like the *Pæcili*, which some of the species resemble, may be frequently observed basking in the sun on a hot day.

Sp. 1. *ærata*. PLATE VII. f. 6.—*Nigra, supra ænea aut nigricans, antennarum basi rufescente atro-nebulosâ, thorace utrinque foveolis duabus lævibus.* (Long. corp. $4\frac{1}{2}$ —6 lin.)

Am. *ærata*. Kirby MSS.—*Steph. Catal. p. 26. No. 213.*

The largest species of the genus, and probably not sufficiently distinct from *Ca. acuminatus* of Paykul, with which it agrees in almost every respect: head smooth, impunctate: thorax short, slightly convex, smooth, with an abbreviated dorsal channel, a little depressed transversely towards the base, with a deep smooth fovea on each side, midway between the channel and margin, and a very shallow one near each angle: elytra striated, the striæ impunctate, with the interstices rather elevated, especially in the female, and a continuous series of impressions on the margin: body beneath impunctate: palpi and legs black: claws reddish: antennæ dusky, with the three basal joints rufescent, slightly tinged with dusky at the tips.

The colour of the upper surface varies much, being found of various hues of æneous, coppery, black, and bluish, with greenish elytra.

Not uncommon in meadows near Hertford in the autumn; and sometimes found near London. "In Reche chalkpits, Cambridge-shire."—*Rev. L. Jenyns*. "Barham, Suffolk."—*Rev. W. Kirby*. "Arbroath, in Scotland."—*Mr. Ingpen*. "Ashdown copse, Wilts."—*Rev. G. T. Rudd*.

Sp. 2. *eurynota?* *Nigro-ænea, antennarum articulis tribus basalibus totis basique quarti rufis, thorace utrinque foveolis binis subpunctatis, pedibus sæpe rufis.* (Long. corp. 4—5 lin.)

Ca. eurynotus. Illiger?—Am. *eurynota. Steph. Catal. p. 26. No. 215.*

Deep brassy-black: head as in the last: thorax with a slight dorsal channel, and on each side at the base, with two subpunctate impressions, of which the inner one is largest, and somewhat remote from the base; the outer minute and near the angles: elytra rather convex, slightly striated, the striæ impunctate, the margin with a continuous series of impressions: legs generally rufous, sometimes pitchy-brown: palpi pitchy: three basal joints of the antennæ and base of the fourth rufous, the rest dusky; colour usually æneous above, but it varies.

Sometimes taken near London, and Southend. "I once met with an immature brood near Bottisham in September."—*Rev. L. Jenyns*.

Sp. 3. *lata. Nigro-ænea, antennarum articulis tribus basalibus totis basique quarti rufis, thorace utrinque foveolis binis lævibus.* (Long. corp. 4—5 lin.)

Am. *lata. Sturm?*—*Steph. Catal. Appendix.*

Deep brassy-black: head impunctate, with a very obsolete impression on each side between the eyes: thorax slightly convex, smooth, shining, with a moderate dorsal channel; and at the base on each side with two impunctate foveolæ, of which the inner is remote from the base, narrow and deeply impressed, the outer being near the angles, small, and sometimes nearly obsolete: elytra slightly convex, rather glossy, delicately striated, with a continuous series of impressions on the margin: body beneath impunctate: legs black, with rufous cilia and claws: antennæ with the three basal joints and base of the fourth entirely rufous, the rest black; colour of the upper surface various, generally virescent.

Usually considered as the *Ca. acuminatus* of Paykul, but I presume his insect is synonymous with *Am. ærata*.

Taken near London, at Southend, and near Bottisham in Cambridgeshire. "Kimpton, near Andover."—*Rev. G. T. Rudd*.

Sp. 4. *similata*. *Nigra, supra fusco-ænea, antennarum basi rufescente thorace foveolis obsoletis subpunctatis, tibiis ferrugineis.* (Long. corp. $3\frac{1}{2}$ — $4\frac{1}{4}$ lin.)

Ha. similatus. *Gyllenhal*.—*Am. similata*. *Steph. Catal. p. 26. No. 216.*

More oblong than the preceding: deep brownish-brass, or greenish: head impunctate: thorax smooth, with two obsolete, slightly punctate foveæ at the base on each side, the inner deepest: elytra slightly convex, rather delicately striated, the striæ thickly punctulate at the bottom; the interstices somewhat coriaceous, with a few impressions on the margin, a little distant towards the apex: body beneath black: femora glossy-black, tibiæ and tarsi dull rust-colour: antennæ with the three basal joints rufous.

Frequent near London. "Bottisham." *Rev. L. Jenyns*.—"Kimpton." *Rev. G. T. Rudd*.

Sp. 5. *vulgaris*. *Oblongo-ovata nigra, supra virescenti-ænea, thorace foveolis duabus sublævibus utrinque, antennis pedibusque nigris.* (Long. corp. 4 — $4\frac{1}{2}$ lin.)

Ca. vulgaris. *Linné*.—*Mart. Col. pl. 37?*—*Am. vulgaris*. *Steph. Catal. p. 26. No. 217.*

Considerably less than the last: above bright coppery, or greenish-brass: head with an obsolete foveola on each side between the eyes: thorax more convex than in *Am. similata*, very obsoletely wrinkled, with two deep, scarcely punctate, simple foveolæ on each side of the base, the interior oblong and deepest, the outer oblique and rather obsolete: elytra a little convex, slightly striated, the striæ obsoletely punctulate, with an interrupted series of impressions on the margin: legs black, with ferruginous cilia and claws: antennæ black, with the basal joint more or less pitchy.

Tolerably frequent near London, Bottisham, Kimpton, Southend, &c.

Sp. 6. ovata. *Brevis nigra, antennis, palpis, pedibusque piceo-ferrugineis, thorace posticè utrinque striolâ unicâ obliquâ impressâ.* (Long. corp. $3\frac{1}{2}$ lin.)

Ca. ovatus. *Fabricius?*—*Steph. Catal. p. 26. No. 218.*

Broader and more ovate than the last; with the antennæ, palpi, and legs entirely pitchy-rust colour: above brassy: head impunctate: thorax rather convex, with a deep dorsal channel; the base impunctate, with an oblique impressed line on each side: elytra green-bronze, slightly convex, striated, the striæ impunctate, the margin with a continuous series of impressions: body beneath pitchy-ferruginous.

I have seen one specimen only, which was taken near London.

Sp. 7. trivialis. *Nigra, supra viridi-ænea, antennarum basi tibiisque testaceis, thorace foveola utrinque unicâ.* (Long. corp. $3\frac{1}{2}$ —4 lin.)

Ca. trivialis. *Dufschmid.*—*Am. trivialis. Steph. Catal. p. 27. No. 219.*

Oblong, above greenish-brass, or bluish-black: head smooth, glossy: thorax slightly convex, obsoletely wrinkled transversely, with a delicate line down the centre; and an abbreviated obsolete transverse impression, terminating on each side in a deep impunctate fovea: elytra rather convex, striated, the striæ obsoletely punctulated, with a subinterrupted series of impressions on the margin: body beneath pitchy-black; legs pitchy, with the tibiæ testaceous: antennæ testaceous at the base. Varies much in colour above; some specimens are of a deep blue or greenish-black, with the margin of the elytra of a rich metallic blue.

More oblong than the preceding insects, and distinguished from the first five by having one impression alone on each side of the thorax, and from the last by its form and colours. I am not certain of its being the *Ca. trivialis* of *Dufschmid*, *Sturm's* figure representing a larger insect than this as the *Ca. trivialis* of that author.

Very common throughout Britain.

Sp. 8. nitida. *Nigra, nitida, supra virescenti-ænea, antennarum basi, palpis, tibiis tarsisque ferrugineis, thorace posticè striolâ unicâ margine attingente utrinque.* (Long. corp. $3\frac{1}{2}$ lin.)

Am. nitida. *Sturm?*—*Steph. Catal. p. 27. No. 220.*

Oblong, above brilliant glossy green: head impunctate: thorax rather convex: impunctate, with a slender dorsal channel, and an impressed line on each side at the base, reaching to the base itself: elytra somewhat depressed, delicately striated, the striæ rather obsoletely punctulate, with an interrupted series of impressions on the margin: body beneath bronzed-black; thighs the same; tibiæ and tarsi ferrugineous: palpi and three basal joints of the antennæ the same.

Near London, and in Norfolk: not very common.

Sp. 9. *lævis*. *Nigra, nitida, lævissima, antennarum basi pedibusque ferrugineis, thorace posticè utrinque foveolis duabus punctatis.* (Long corp. $3\frac{1}{2}$ lin.)

Am. *lævis*. Sturm.—Steph. Catal. p. 27. No. 221.

Broad, depressed: bright, shining, brassy-green above: thorax with a slender dorsal line, an obsolete transverse impression, and two foveæ at the base on each side, both punctulated, the outer one very obsolete: elytra slightly striated, the striæ punctulate, with a few indistinct impressions on the margin at the base, and a somewhat distant series towards the apex: legs entirely ferruginous: antennæ and palpi with the basal joints testaceous: body beneath pitchy-black.

Found near London. "In Dorsetshire."—J. C. Dale, Esq.

Sp. 10. *Cursor*. *Nigra, antennarum articulis quatuor basalibus pedibusque testaceo-ferrugineis, thorace impunctato, postice utrinque striolâ unicâ, elytris punctato-striatis.* (Long. corp. 3 lin.)

Am. *Cursor*. Sturm?—Steph. Catal. p. 27. No. 222.

Above shining bronzed-green: thorax rather convex, with a slight dorsal line, the base with a short impressed obsolete line on each side near the margin, the rest of the surface impunctate: elytra of a pitchy tinge, rather strongly punctato-striated, the external stria with an interrupted series of impressed dots: body beneath pitchy-black: legs, four basal joints of the antennæ, and the base of the palpi, ferruginous. Known from the last by having one obsolete impression on the thorax, and from Am. *nitida*, by having the legs entirely ferruginous.

Common in the metropolitan district. "Rare near Bottisham."
Rev. L. Jenyns.

Sp. 11. *bifrons*. *Supra nigro-ænea, subtis rufo-picea, antennis pedibusque pallidis, thorace utrinque bis foveolato, elytris punctato-striatis.* (Long. corp. 3 lin.)

Ha. *bifrons*. Gyllenhal.—Steph. Catal. p. 27. No. 223.

Oblong black-brass above; head smooth, shining: thorax nearly transverse, very slightly attenuated anteriorly, the angles rather obtuse, the disc convex in front, with a faint dorsal channel, behind transversely depressed, and thickly punctate, with two foveæ, the inner larger and deepest, the outer small, oblique; the lateral margin and the hinder angles ferruginous: elytra slightly convex, shining, dusky-brass, the lateral margin ferruginous, faintly striated, the striæ punctulate, the margin with an interrupted series of impressions: body beneath smooth, pitchy-red, with the apex and legs pale testaceous: labrum and mouth ferruginous; mandibles black at the tip: palpi and antennæ pale testaceous.

Two specimens only of this species have come beneath my ob-



servation; they were taken near Hertford, and are very dissimilar to any others of the genus.

Sp. 12. *brunnea*. *Suprà brunnea, subtus ferrugineo-picca, antennis pedibusque pallidis, thorace amplo, utrinque bis foveolato, elytris punctato-striatis.* (Long. corp. 3—3½ lin.)

Ha. *brunneus*. *Gyllenhal*.—Am. *brunnea*.—*Steph. Catal. p. 27. No. 224.*

Above brassy-brown, or chesnut; head smooth, shining, chesnut: mandibles rufescent, with the tip black: thorax large, broad, the sides rounded, the angles obtuse: above slightly convex, smooth, shining brown or chesnut, the lateral margins paler, with a faint dorsal channel and two small punctate foveolæ on each side at the base: elytra ovate, rather convex, somewhat tinted with æneous, striated, the striæ punctate; with an interrupted series of impressions on the margin: body beneath subpunctate, rufous, or pitchy-black, with the apex palest: legs, antennæ, and palpi pale testaceous.

Taken near London in the autumn. “Bottisham.”—*Rev. L. Jenyns.*

Sp. 13. *discrepans*. *Atra, nitida, antennis pedibusque rufescentibus, elytris obsolete striatis, striis planiusculis subcrenatis.* (Long. corp. 3—3½ lin.)

Ca. *discrepans*. *Marsham MSS.*—Am. *discrepans*. *Steph. Catal. p. 27. No. 225.*

Dusky, shining: head smooth: thorax glossy, with an obsolete dorsal line, and two abbreviated punctate lines near the hinder angle on each side: elytra slightly striated, the striæ rather crenate, the interstices flat, shining: body beneath dusky: antennæ and legs reddish.

Similar to Am. *brunnea*, but differs in the form of the thorax and its foveæ.

Not common. One specimen has been captured near London; and I obtained three from the Marshamian collection.

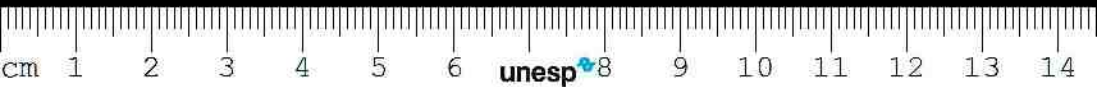
Sp. 14. *crassa*. *Brevis, lata piceo-brunnea, subnitida, subtus dilutior, antennis, palpis, pedibusque piceo-testaceis, thorace posticè punctato, foveolis duabus punctatis utrinque.* (Long. corp. 4 lin.)

Am. *crassa mihi*. *Steph. Catal. p. 27. No. 226.*

Very distinct from all the foregoing: above entirely of a pitchy-brown, with an obscure metallic tinge in the elytra: head very smooth: thorax convex, obsoletely wrinkled transversely, the base punctate, with two strongly punctate deep foveæ on each side; the margin anteriorly a little dilated, posteriorly somewhat attenuated: elytra punctate-striated, the interstices smooth, and the margin with an interrupted series of impressed dots: body beneath, legs, antennæ, palpi, and labrum pale testaceous-red.

Taken near London; one specimen only has occurred.

Sp. 15. *convexior*. *Sub-convexa, atro-cærulea nitida, thorace posticè ad angulos*



obsolete punctatis, antennis piceis, dilutioribus, basi rufâ, tibiis piceo-ferrugineis. (Long. corp. $3\frac{1}{2}$ lin.)

Am. convexior. *Wilkin MSS.*—*Steph. Catal. p. 27. No. 227.*

Rather convex; deep blue-black above: thorax smooth anteriorly, with a very slender dorsal channel, the base with an obsolete transverse impression, and towards the angles a little punctulate, with two indistinct foveæ, approximating to each other and to the margins: elytra delicately striated, the striæ impunctated, with a continuous series of impressed dots on the margin: body beneath and thighs deep pitchy-black; tibiæ and tarsi ferruginous: antennæ pitchy, with the three basal joints rufous. Greatly allied to the following species.

Found near London and Hertford. "Near Norwich."—*Mr. J. E. Giles.*

Sp. 16. plebeia. *Nigra, supra viridi-ænea, antennarum basi tibiisque testaceis, thorace inæqualis utrinque foveis duabus punctatis.* (Long. corp. $3\frac{1}{2}$ lin.)

Ha. plebeius. *Gyllenhal.*—Am. plebeia. *Steph. Catal. p. 27. No. 228.*

Similar to Am. communis, but the form of the thorax, and the impressions different: above greenish-brass or blackish: thorax anteriorly convex, with the lateral and posterior margins depressed, and near the base on each side two rather deep thickly punctate impressed foveæ: the elytra a little convex, faintly striated, the striæ obsoletely punctate, with a subinterrupted series of impressions on the margin: thighs pitchy-black, or rufous: tibiæ, and three basal joints of the antennæ pale testaceous.

Not very common near London.

Sp. 17. obtusa. *Nigra, supra viridi-nitens, thorace antice dilatato, posticè subattenuato, foveis duabus punctatis utrinque, antennarum basi, tibiis tarsisque piceo-ferrugineis.* (Long. corp. $3\frac{1}{2}$ lin.)

Am. obtusa mihi.—*Steph. Catal. p. 27. No. 229.*

Very short, convex: thorax dilated and convex anteriorly, with a very delicate line down the centre, a little depressed towards the base; near each posterior angle are two rather deep punctate foveæ, the space between also punctate, and glossed with bright green: the elytra with punctate striæ, the external one with an interrupted series of impressions: the body and thighs beneath deep black: the tibiæ and four basal joints of the antennæ testaceous-red.

Taken near London.

Sp. 18. latescens. *Lata, atra, nitida, thorace posticè obsoletissimè punctulato, lateribus rotundatis; pedibus piceis, tibiis tarsisque pallidioribus.* (Long. corp. $3\frac{1}{2}$ lin.)

Am. latescens mihi.—*Steph. Catal. p. 27. No. 231.*

Distinguished by its superior width, and by the rotundity of the sides of the thorax: above deep black: thorax slightly convex, its sides gradually and



equally rounded; the base obsoletely wrinkled longitudinally at the extremity of the dorsal channel, and very obsoletely punctate towards each angle, but without any impression: elytra simply striated, with a continuous series of impressed dots on the margin: legs pitchy, with the tibiæ and tarsi somewhat ferruginous; the anterior tibiæ with the apex dusky.

Found near London.

Sp. 19. *laticollis*. *Æneo-picea, supra ænea, thorace latissimo, lævissimo, impunctato, antennis pedibusque piceis.* (Long. corp. $3\frac{1}{2}$ lin.)

Am. *laticollis mihi*. *Steph. Catal. p. 27. No. 232.*

Readily discriminated by the breadth of the thorax, which is totally impunctate throughout, having no other impression on its surface than the usual dorsal channel, and that somewhat obsolete: the upper part of the body is of a bright glossy brass, slightly tinted with copper, sometimes entirely black above: the elytra are rather faintly striated, the striæ impunctate with an interrupted series of rather distant impressed dots on the margin.

I have seen two specimens only of this species, both of which were captured near London: one is in Mr. Hatchett's collection; the other in my own.

Sp. 20. *communis*. *Ovalis, nigra, supra virescenti-ænea, antennarum basi tibiisque ferrugineis, thorace lato, posticè vix foveolato.* (Long. corp. 3— $3\frac{1}{2}$ lin.)

Ca. *communis*. *Fabricius*.—Am. *communis*. *Steph. Catal. p. 27. No. 233.*

Allied to the few preceding species, but comparatively shorter and wider: above generally greenish-brass or coppery: head glossy, smooth: thorax broad, closely applied to the elytra, smooth, shining, a little convex, with a faint dorsal channel, the base very obsoletely punctulate towards the angles, which have mere rudimentary foveolæ: elytra short, broad, a little convex, faintly striated, the striæ scarcely punctulate; an interrupted series of impressions on the margin: body beneath bronzed-black, smooth, the sides obscurely punctulated: thighs glossy-black, tibiæ pale ferruginous, tarsi dusky: antennæ with the three basal joints rufous, the rest dusky: mouth and palpi black.

Var. β Am. *cognata*. *Steph. Catal. p. 27. No. 230.*—Rather larger, with the thorax very obsoletely punctate at the hinder angles, and the foveolæ obliterated.

Extremely common beneath stones, and in gravel-pits, throughout the metropolitan district: also at Bottisham, Kimpton, &c.

Sp. 21. *familiaris*. *Brevis, ovalis, nigra, supra nigro-cærulescens, antennarum basi pedibusque totis rufo ferrugineis, thorace posticè obsolete foveolato.* (Long. corp. 3— $3\frac{1}{4}$ lin.)

Am? *familiaris*. *Creutzer*.—*Steph. Catal. p. 27. No. 234.*

Shining black, above generally rich brassy-green, coppery, or deep cærulescent: head as in the last: thorax impunctate, with an obsoletely punctate impres-

sion on each side at the base, on the hinder margin itself, and a slight dorsal channel: elytra as in *Am. communis*, but with a continuous series of impressions on the margin: body beneath, and palpi, pitchy-æneous-black: legs and base of the antennæ rufous.

Very similar to *Am. communis*, but discriminated by having the legs entirely ferruginous, and by the thorax; but I conceive it may, nevertheless, prove to be a mere variety of that insect, and that the two following species are not sufficiently distinct, either from this or from each other, the dissimilarity of size being the principal characteristic.

Common beneath stones, and in gravel-pits, near London. "Kimp-ton."—*Rev. G. T. Rudd*. "Leith-hill."—*Mr. Waterhouse*.

Sp. 22. *lucida*. *Nigra, suprâ piceo-cærulescens, antennarum basi pedibusque totis rufo-ferrugineis, thorace posticè obsolete foveolato, margine laterali obscure ferrugineo.* (Long. corp. $2\frac{1}{4}$ lin.)

Ca. lucidus. *Dufschmid*.—*Am. lucida*. *Steph. Catal. p. 28. No. 235.*

Closely allied to *Am. familiaris*, but only half the size, pitchy-black; above bluish: head smooth, black: thorax smooth, slightly glossy: impunctate, with a very obsolete smooth fovea on each side at the base; the lateral margins obscurely ferruginous, and the basal margin a little tinted with the same hue: elytra pitchy-blue, with the margin dull ferruginous; striated, the striæ rather faint, the outer one with a few impressed dots at the base, and several closely united at the tip, forming an interrupted series: legs and antennæ entirely ferruginous-red.

Apparently rather scarce: I have seen few specimens only, which were chiefly taken near London.

Sp. 23. *erythrope*. *Nigra, suprâ cærulescens, antennis pedibusque rufo-ferrugineis, thorace posticè leve utrinque obsolete bifoveolato, margine laterali nigro.* (Long. corp. $2\frac{1}{2}$ —3 lin.)

Ca. erythropus. *Marshall MSS.*—*Am. erythrope*. *Steph. Catal. p. 28. No. 236.*

Also greatly allied to the two preceding: deep æneous-black: above various shades of blue, green, black, or violet, glossy: head smooth: thorax moderately convex, with a very obsolete dorsal channel, impunctate behind, with two obsolete smooth impressions on each side towards the angles, the lateral margins black: elytra delicately striated, the striæ impunctate, the marginal one with an interrupted series of deep impressions: legs and antennæ rusty-red: the tips of the latter, and the palpi rather dusky.

Taken on Hampstead-heath, at Hertford, &c. not very uncommonly.

Sp. 24. *atra*. *Atra, subnitida, subconvexa, pedibus elongatis, femoribus æneo-nigris, tibiis tarsisque piceo-rufis, thorace posticè utrinque bifoveolato.* (Long. corp. 3 lin.)

Am. atra mili.—*Steph. Catal. p. 28. No. 237.*



Deep black, slightly glossy, very convex: head smooth: thorax rather broad, with a slight dorsal channel, and two subpunctate foveæ on each side at the base near the hinder angles; the inner rather deepest: elytra very faintly striated, the external stria with an interrupted series of impressions; the reflected margin of the elytra and the sides of the thorax beneath æneous, the body black: legs elongate, the femora æneous, the tibiæ and tarsi pitchy-red; the antennæ stout, fuscous, with the three basal joints testaceous.

Remarkably convex, and of a deep rather obscure black, which characters, and its slender somewhat elongated legs, well distinguish it from its congeners: it somewhat resembles a *Helops*.

One specimen only found near London.

Sp. 25. *tibialis*. *Nigra, supra cærulescens aut ænea, antennarum basi tibiisque rufo-testaceis, thorace utrinque bis foveolato, elytris punctato-striatis.* (Long. corp. 2—2½ lin.)

Ca. *tibialis*. *Paykul.*—Am. *tibialis*. *Steph. Catal. p. 28. No. 238.*

Oblong, small, brassy-black: head glossy smooth: thorax transverse, nearly quadrangular, slightly convex, glossy, smooth, with a faint dorsal channel, and at the base on each side with two small impressions: elytra rather convex, faintly striated, the striæ distinctly punctate, the usual abbreviated stria near the scutellum obliterated, on the margin is an interrupted series of impressions: the thighs are black or piceous; the tibiæ and tarsi more or less rufo-testaceous, the three basal joints of the antennæ the same. The colour of the upper surface varies greatly, being of various shades of blue, violet, æneous, coppery, or black.

This and the following species are distinguished from the other *Amaræ* by the usual abbreviated stria near the scutellum being obliterated, or by having it simply indicated (in some cases) by a few remote punctures.

Not very common; occurring but sparingly near London, and its vicinity. “On the banks of the Tees.”—*L. Rudd, Esq.* “Bot-tisham.”—*Rev. L. Jenyns*. “Sand-pit, Riverhead, Kent.”—*Mr. Ingpen*.

Sp. 26. *infima*. *Nigra, nitida, antennis pedibusque rufescentibus, thorace brevior lateribus rotundato, foveolis baseos punctatis.* (Long. corp. 2—2½ lin.)

Ca. *infimus*. *Dufschmid.*—Am. *infima*. *Steph. Catal. p. 28. No. 239.*

Similar to the last, but differs in the punctuation of the thorax, and in form: glossy black: head smooth: thorax short, with its lateral margins rounded, the disc transversely convex; on each side at the base are two punctate foveæ, the inner oblong and deepest; the lateral margin, and sometimes the hinder, tinged with ferruginous: elytra as in Am. *tibialis*: body beneath black, glossy, the breast sparingly punctate; the legs stout, rusty-red, the thighs occasionally dusky: antennæ dull ferruginous, the three basal joints pale testaceous.

Apparently scarce; taken near London, and in Norfolk.



GENUS LIV.—BRADYTUS* *miki*.

Palpi moderate; *external maxillary* with the third joint clavate, shorter than the last, which is oval-truncate; *labial* with the terminal joint fusiform: *labrum* quadrate, emarginate: *mandibles* short, denticulated at the base: *mentum* slightly notched, the notch with a simple lobe. *Antennæ* with the three first joints naked, the third joint much larger than the fourth: *head* broad, rounded; *thorax* transverse, the sides dilated anteriorly, a little narrowed behind, the base straight, with slightly prominent angles: *body* convex: *elytra* slightly emarginate at the tip: *wings* ample: *anterior tarsi* of males with three dilated joints.

Bradytus † differs from *Amara*, with which it has hitherto been associated, by having the lobe in the notch of the *mentum* entire, as in *Harpalus*, the body convex, and the *thorax* transverse and subcordate. The species are less agile than the other *Harpalidæ*, and affect sandy and open situations. Sturm, in his beautiful *Deutschlands Fauna*, has given the dissections of *Br. consularis* as the type of the genus *Amara*, which shows the great absurdity of selecting any species but the type in illustration of a genus; as, instead of exhibiting the structure of the genus intended, that of another may be represented; and thus confusion is created, where elucidation is attempted.

Sp. 1. *consularis*. *Niger, nitidus, subtilis piceus, thorace striolis utrinque duabus impressis, elytris crenato-striatis*. (Long. corp. 3—3½ lin.)

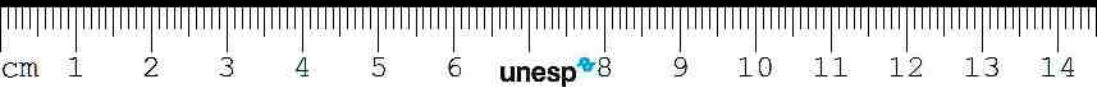
Ca. *consularis*. *Dufschmid*.—*Br. consularis*. *Steph. Catal. p. 28. No. 240*.

Pitchy-black, sometimes slightly æneous: head smooth: thorax above convex, smooth glossy black, with an abbreviated dorsal channel, and two impressed, more or less punctate, foveæ at the base, the outer one terminated by a slight ridge or fold, extending obliquely to the angle: *elytra* glossy brassy-black, punctate-striated, with an interrupted series of impressions on the margin; the reflected margins testaceous: body beneath rufous-pitchy, the breast punctate: legs deep pitchy-ferruginous: antennæ and palpi pale rufo-ferruginous.

Var. β.? Broader, the thorax posteriorly with a small oblique smooth impression on each side of the base of the dorsal channel, in addition to the usual foveæ.

* *Βραδυτης, tarditas*.

† This genus is included in the division B of my synoptic table of the *Harpalidæ*, instead of C; it consequently should be removed to the latter, and may be distinguished externally from *Zabrus* by the character *thorax transversus, postice angustatus*.



Occasionally taken near London. "In Copenhagen-fields in April."—*Mr. Ingpen*. β , which is probably a distinct species, at Winterbourne Stoke, Wilts, in March."—*Rev. G. T. Rudd*.

Sp. 2. *apricarius*. *Rufo-piceus, supra fusco-æneus, thorace posticè punctulato, utrinque bifoveolato foveolis punctatis, elytris crenato-striatis*. (Long. corp. 3—3½ lin.)

Ca. *apricarius*. *Fabricius*.—Br. *apricarius*. *Steph. Catal. p. 28. No. 241*.

Pitchy-red: above brassy-brown: head smooth, with a transverse impression on the forehead: thorax anteriorly convex, posteriorly depressed, and a little attenuated, the margin with two punctate foveolæ on each side at the base near the angles, the base usually punctulated transversely: elytra very strongly crenato-striated, with an interrupted series of impressions on the margin: body beneath pitchy-red, the breast and base of the abdomen punctate: legs and palpi pale testaceous: antennæ ferruginous. Colour various, sometimes pale pitchy-red above and paler beneath; probably the result of immaturity.

Common near London. "Banks of the Tees abundantly."—*L. Rudd, Esq.* "Norwich."—*Mr. J. B. Giles*. "In profusion in Wilts and Hants."—*Rev. G. T. Rudd*.

Sp. 3. *fulvus*. *Ferrugineus, thorace posticè utrinque bifoveolato, elytris aurichalceo micantibus, tenuè punctato-striatis*. (Long. corp. 3¼—4 lin.)

Ca. *fulvus*. *De Jean?*—Br. *fulvus*. *Steph. Catal. p. 28. No. 242*.

Similar to the last, but broader and of a different colour: body ferruginous, palest beneath: head smooth, with an impressed transverse line: thorax acutely margined, slightly convex, with a moderate dorsal channel, posteriorly with two foveæ, having each an impressed striola and a few dots; the hinder angles with an oblique elevated line: elytra slightly æneous or purplish, faintly crenato-striated, with an interrupted series of impressions on the margin: legs, palpi, and antennæ pale testaceous: breast punctulated.

I am of opinion that this insect will eventually prove a small variety only of the following, but have described it as different for the reasons stated in p. 10.

Taken at Ripley, Charlton, Hertford, &c. and in Devonshire.

Sp. 4. *ferrugineus*. *Latus ferrugineus, thorace posticè utrinque bi-impresso, elytris æneo micantibus, punctato-striatis*. (Long. corp. 4—5 lin.)

Ca. *ferrugineus*. *Linne?*—Br. *ferrugineus*. *Steph. Catal. p. 28. No. 243*.

Too closely allied to the last, chiefly differing in its greater size and comparatively superior width: colour as in the last, but deeper, head the same: thorax obsoletely wrinkled transversely, with a strong dorsal channel; the base on each side with two slightly punctate foveæ of nearly equal size: elytra a little glossed with æneous, and rather strongly punctate-striated, the external striæ with an interrupted series of impressions: body beneath, legs, palpi, and antennæ as in Br. *fulvus*.



Occasionally taken in the sandy heaths near Ripley, and not uncommonly on the sand-hills near Swansea; also in Norfolk and Devonshire.

GENUS LV.—CURTONOTUS* *miki*.

Palpi; *external maxillary* with the third joint clavate, rather longer than the last, which is fusiform truncate; *labial* with the third joint much longer than the terminal, subclavate, the terminal subcylindric, truncate: *labrum* quadrate, rounded, deeply emarginate anteriorly: *mandibles* short, obtuse, denticulated at the base: *maxillæ* obtuse: *mentum* moderately emarginate, the emargination with a bifid lobe. *Antennæ* short, the three first joints naked, the fourth abruptly clavate, rather shorter than the third: *head* rather broad: *thorax* subtransverse, much dilated at the sides, attenuated posteriorly: *body* elongate, very convex: *elytra* emarginate at the tip: *wings* ample: *anterior tarsi* of the males with three dilated joints: *tibiæ* much expanded at the tip, very spinose, the second pair internally tuberculated in the males.

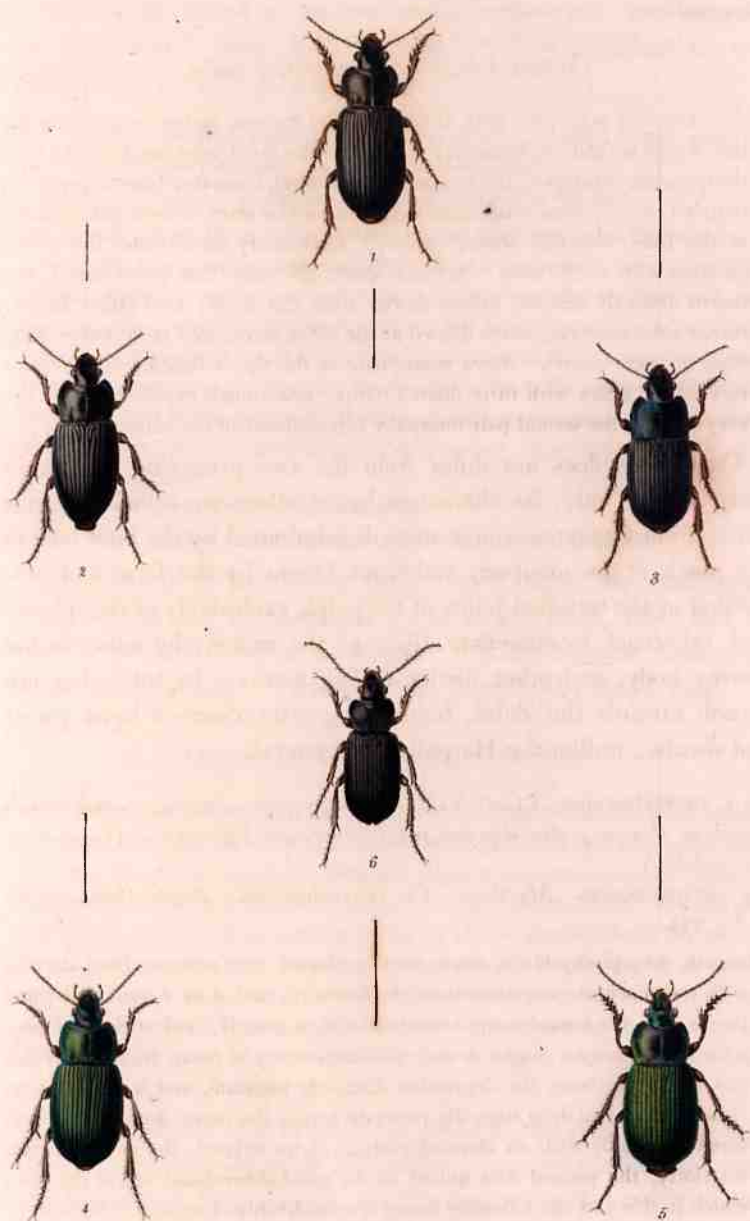
Curtonotus does not differ from the two preceding genera in mere outline only, its characters being otherwise sufficiently evident; from *Bradytus* it is at once discriminated by the bifid lobe in the notch of the mentum, and from *Amara* by the form and proportion of the terminal joints of the palpi, exclusively of the spinose and tubercled intermediate tibiæ of the males, the subcylindric convex body, and other distinguishing marks. In habit they approach towards the *Zabri*, being frequently observed upon plants and shrubs; unlike the *Harpalidæ* in general.

Sp. 1. *convexiusculus*. PLATE VIII. f. 1.—*Elongatus, piceo-niger, supra æneomicans, thorace postice depresso punctato utrinque bifoveolato*. (Long. corp. 5—5½ lin.)

Ca. convexiusculus. *Marsham*.—*Ca. convexiusculus*. *Steph. Catal. p. 28. No. 244.*

Elongate, deep pitchy-black, above usually glossed with æneous: head smooth, with two moderate impressions on the forehead, united by a transverse line: thorax with the lateral margin much dilated anteriorly, and attenuated posteriorly, the hinder angles acute; the disc convex in front, transversely depressed at the base, the depression distinctly punctate, and terminating on either side in two deep ruggedly punctate foveæ, the outer deepest, and bordered externally with an elevated carina: *elytra* striated, the striae punctate anteriorly, the sutural stria united to the usual abbreviated one at the base, which in this and the following insect is considerably elongated; the margin with three or four impressions at the base, and several rather remote at the

* *Kueros*, convexus; *Nuros*, dorsum.



C. M. Curtis, del.

C. Wagstaff, sc.

London, Pub. by L. F. Stephens, 1. May, 1828.





tip: body beneath pitchy, the base of the abdomen ruggedly punctate: antennæ, legs, and palpi rufous.

Occasionally found in hedges at Darenth-wood. "Frequent near Southend."—*Rev. F. W. Hope*. "Very abundant on the shores of the Tees."—*L. Rudd, Esq.*

Sp. 2. *aulicus*. *Brevior, nigro-piceus, subtus dilutior, thorace postice depresso punctato, utrinque bistriato.* (Long. corp. 5—6 $\frac{1}{2}$ lin.)

Ca. *aulicus*. *Illiger*.—Cu. *aulicus*. *Steph. Catal. p. 28. No. 245.*

Short, broad, pitchy-black, paler beneath: head with two deep impressions in front, united by a strong transverse line: thorax moderately convex, its sides dilated anteriorly, and attenuated posteriorly; the base slightly depressed, and punctate, the punctæ longitudinally rugose, the depression with two impressed striæ at each extremity, and terminated by an elevated line: elytra less convex than in the last, strongly punctate striated throughout, the margin with several impressed dots at the base, and others irregularly approximating to each other near the apex: body beneath laterally subpunctate: legs, antennæ, and palpi pitchy-ferruginous.

Var. β . With the legs very pale testaceous.

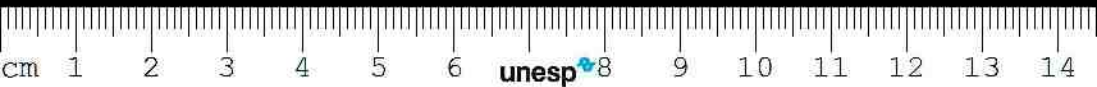
Var. γ . With the legs pitchy-black, the body dull brownish-black.

Very common in hedges and banks near London, especially near Coombe-wood and at Hertford. "In rotten trees, Ely; also in cellars, Bottisham."—*Rev. L. Jenyns*. "Kimpton, near Andover."—*Rev. G. T. Rudd*. "Banks of the Tees."—*L. Rudd, Esq.*

GENUS LVI.—ZABRUS, *Clairville*.

Palpi; *external maxillary* with the terminal joint shorter than the third, ovate-truncate, the third subclavate, of equal length with the second; *labial* with the two last joints equal, the terminal slightly fusiform, truncate; *labrum* subquadrate, deeply emarginate: *mandibles* short, subtrigonal: *maxillæ* obtuse: *mentum* slightly emarginate, with an obtuse simple lobe in the centre. *Antennæ* linear, the third and terminal joints equal in length, the fourth rather shorter: *head* oblong, broad, elevated behind: *thorax* transverse subquadrate, broadest behind, gibbous: *elytra* obsoletely emarginate at the apex: *body* gibbous: *wings* two, ample: *tibiæ* dilated at the apex: *anterior tarsi* of the males with three dilated joints.

The remarkable convexity of the body of the Zabri well discriminates them from the other Harpalidæ excepting *Curtonotus*; but from that genus they may be readily known by the width of the thorax behind and the simple obtuse lobe in the notch of the mentum; from *Harpalus* they also differ by the obtuseness of the maxillæ, the deeper emargination of the labrum, and the form of the palpi.



Sp. 1. gibbus. *Oblongus rufo-piceus supra niger, antennis palpis tibiis tarsisque piceo-ferrugineis, elytris punctato-striatis, thoracis angulis posticis subacutis.* (Long. corp. 5—7½ lin.)

Ca. gibbus. *Fabricius*.—*Za. gibbus. Steph. Catal. p. 29. No. 246.*

Pitchy, above glossy black, head obsoletely wrinkled, with a small impression on each side in front: thorax very convex, obsoletely wrinkled, with a slight dorsal channel, slightly transversely depressed posteriorly and thickly punctate, with an obsolete fovea on each side: elytra black, or pitchy-black, regularly punctato-striated, the usually abbreviated stria at the base rather long, with an interrupted series of impressions on the margin: body beneath irregularly punctate: thighs stout, pitchy-black; tibiæ, tarsi, antennæ, and palpi, ferruginous.

Var. β. With the suture and margin of the elytra ferruginous.

Var. γ. With the legs entirely, antennæ and palpi pitchy-black.

Found generally in corn-fields, frequently on the ears of the corn itself, in the autumn, throughout the southern parts of the kingdom; in plenty near Worthing, in August, 1817, and near Brighton the following year. “In profusion near Hastings, on corn, in September last.”—*N. A. Vigors, Esq.* “Occurs every autumn regularly and plentifully in the open corn-lands about Cambridge.”—*Rev. L. Jenyns.*

An interesting account of the supposed ravages of the larvæ of this species, by destroying the young corn near Seeburg, in Germany, is given in Germar's Magazine, as noticed in page 4; from which it would appear that the *Zabri* are less zoophagous than the other *Geodephaga*: but as they were accompanied by truly herbivorous larvæ, did they not rather feed upon the latter (as surmised in the above page)? And is it not probable that the perfect insects ascend the corn for the purpose of devouring the insect parasites thereon? This is a subject that requires investigation, as it is highly important for the interests of the agriculturist, in those districts where the insect abounds, that the question should be thoroughly set at rest; because, should the *Zabri* depart from the habits of the group to which they belong, and become herbivorous instead of carnivorous, their destruction would be desirable; while, on the contrary, if they destroy the devourers of our produce, their preservation should be attempted. It may be added, that certain specimens of the perfect insect, which were enclosed in a box with some corn, were observed to devour the latter so long as the supply lasted, when they attacked each other. But was not that rather analogous to the natural antipathy which animals seemingly have to feed by

choice upon their own species? For it is a fact, which has been frequently observed by others, as well as by myself, that if a quantity of carabideous insects of different kinds be confined together, the more powerful species will first attack those of other genera, then such as are congenerous, and finally, when compelled, their own species.

‡ Sp. 2. *obesus*. *Crassus, picus, supra niger, antennis, pedibusque piceo-castaneis, thoracis angulis posticis obtusis*. (Long. corp. $7\frac{1}{2}$ lin.)

Za. *obesus*. Latreille.—Curtis, iv. pl. 188.—Steph. Catal. p. 29. No. 247.

Smooth shining black: thorax with the margins æneous; with a slight dorsal channel, and a punctured fovea on each side near the base, the hinder angles rounded: elytra tinged with æneous, striated, the striæ obsoletely punctate, the abbreviated one near the scutellum very short, and the margin with a series of deep impressions: beneath pitchy; antennæ, legs, and mandibles of a chesnut hue. Female more obscure.

Two specimens taken by Dr. Leach, in Devonshire.

GENUS LVII.—HARPALUS, Latreille.

Palpi, external maxillary and labial, with the terminal joint fusiform truncate, and of equal length with the preceding, which is clavate; *internal maxillary* nearly filiform: *labrum* subquadrate, slightly emarginate: *mandibles* short, not very acute, with the inner edge irregularly sinuated towards the base: *maxillæ* acute: *mentum* deeply notched, with an obtuse simple lobe in the centre. *Antenna*, with the two basal joints alone naked: *head* ovate: *thorax* transverse, more or less subquadrate; the hinder angles sometimes acute, sometimes rounded, the disc usually impunctate: *elytra* more or less sinuated at the tip: the second stria abbreviated: *wings* two, ample: *anterior* and *intermediate tarsi* of the males with three dilated joints.

A genus of variable external form, though the species may be at once known from all the other Harpalidæ but Ophonus, by the obtuse simple lobe in the centre of the mentum, united with the abbreviation of the second stria on the elytra, and the pubescence of all but the two basal joints of the antennæ: from Ophonus they differ by having the disc of the thorax impunctate, the mentum more deeply notched, and the terminal joint of the maxillary palpi less robust; scarcely stouter than the preceding. The males are further distinguished from all the foregoing genera by having the four anterior tarsi with dilated joints; and the females are generally obscure above.

From the great diversity of form, and the extent of the genus,
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I shall subdivide it into sections, in order to render the study of the species less difficult.

A. With the hinder angles of the thorax obtuse.

a. *The elytra sinuato-truncate at the tip.*

1. Thorax not attenuated behind.

* *With the body short, convex.*

Sp. 1. *serripes*. *Ater*, thorace subquadrato posticè utrinque striolâ obsoletâ, pedibus nigris, tibiis valdè spinosis. (Long. corp. $5\frac{1}{2}$ lin.)

Ca. *serripes*. *Schönherr*.—Ha. *serripes*. *Steph. Catal.* p. 29. No. 248.

Deep opaque black: head smooth: antennæ dull brown, pitchy at the base: thorax subquadrate, obsoletely strigose transversely; the margins slightly rounded, with a slender dorsal channel, and a somewhat obsolete punctulated fovea on each side at the base, reaching to the hinder margin: elytra dull black, slightly striated, the striæ impunctate, with a minute impression on the second interstice from the suture towards the apex of the elytra, and an interrupted series on the margin: body beneath glossy piceous, the base of the abdomen and the breast subpunctate: legs black, tibiæ with strong black spines: tips of the palpi rufo-testaceous.

Schönherr introduces the minute impression on the disc of the elytra into the specific character, but that mark is common to most of the *Harpali*.

I have one specimen, which was taken on the shores of the Thames beyond Gravesend; and others from Southend and the Isle of Wight.

Sp. 2. *tardus*. *Niger*, nitidus, thorace læve posticè utrinque foveolâ impressâ, elytris striatis, antennis fulvis nigro annulatis. (Long. corp. $4\frac{1}{2}$ —5 lin.)

Ca. *tardus*. *Illiger*?—Ha. *tardus*. *Steph. Catal.* p. 29. No. 249.

Allied to the last, but smaller, and more oblong: thorax smooth, with an impressed fovea on each side posteriorly, not reaching to the hinder margin; the dorsal channel rather strong: elytra less dilated on the sides than in *H. serripes*; simply striated, the second stria with a minute impression towards the tip of the elytra, and the margin of the latter with an interrupted row of impressions: legs pitchy-testaceous, with the cilia on the tibiæ rufescent: antennæ fulvous, with the base of several joints black; palpi fulvous, with the base of the joints black.

“Frequently taken near Southend.”—*Rev. F. W. Hope.*

Sp. 3. *stygius*. *Conveior*, niger, subopacus, antennis rufo-piceis nigro maculatis, thorace posticè utrinque foveâ simplici profundâ. (Long. corp. $4\frac{1}{2}$ lin.)

Ha. *stygius*. *Wilkin MSS.*—*Steph. Catal.* p. 29. No. 251.

Distinguished by its great convexity: entirely deep opaque black: thorax with a deep impunctate fovea on each side at the base, remote from the hinder margin, and a very faint dorsal channel: elytra simply striated, with a series



of minute impressions on the margin, scarcely interrupted in the middle: legs totally black: antennæ, with the basal joint and tips of the others, rufo-piceous; palpi black, with the apex of the joints fulvous.

I have seen three specimens only of this insect; one in the collection at the British Museum, the second in that of Mr. Vigors (formerly Mr. Wilkin's), the other in my own: two were captured on the Glamorganshire coast, the locality of the other is unknown.

Sp. 4. *rufimanus*. *Paulo depressus, niger, nitidus, thorace posticè transverse depresso, utrinque striolâ impressâ, antennis tarsisque fulvis*. (Long. corp. $4\frac{1}{2}$ lin.)

Ca. *rufimanus*. *Marsham*.—Ha. *rufimanus*. *Steph. Catal. p. 29. No. 250*.

Like Ha. *tardus*, but narrower and more depressed: thorax with a transverse impression posteriorly, terminating in a broad, shallow, obsoletely punctate fovea: elytra simply striated; the margin with an obsolete continuous series of impressions: legs pitchy-black, with the tarsi and claws rufous: antennæ and palpi entirely fulvous.

Not uncommon near London, in sand and gravel-pits.

Sp. 5. *fuliginosus*. *Niger, thorace posticè vix foveolato, antennis ferrugineis, pedibus rufo-testaceis, femoribus tibiârumque apice nigricantibus*. (Long. corp. $4\frac{1}{2}$ lin.)

Ca. *fuliginosus*. *Dufschmid*.—Ha. *fuliginosus*. *Steph. Catal. p. 29. No. 252*.

Slightly depressed, broad: thorax very obsoletely punctate behind, with a nearly obliterated marginal fovea on each side at the base: elytra striated; the margin with a continuous series of distinct impressions: legs rufo-testaceous, with the thighs and tips of the tibiæ dusky or black: the antennæ and palpi entirely ferruginous.

Sometimes found near London. "Occasionally near Southend."
—*Rev. F. W. Hope*.

Sp. 6. *latus*. *Niger, antennis, pedibusque rufis, femoribus tibiârumque apice piceis, thorace posticè utrinque striolâ impunctatâ*. (Long. corp. $4\frac{1}{2}$ lin.)

Ca. *latus*. *Linne?*—Ha. *latus*. *Steph. Catal. p. 29. No. 253*.

Broader than the preceding, which it much resembles: the thorax has an evident impunctate striola on each side at the base, touching the posterior margin: the elytra are striated, and the lateral margin has an indistinctly interrupted series of impressions: the legs are rufous, with the thighs and tips of the tibiæ pitchy: the antennæ and palpi are totally rufous or ferruginous.

Frequent in sand and gravel-pits near London. "Southend."
—*Rev. F. W. Hope*.



Sp. 7. fuscipalpis. *Niger*, thorace posticè transverse impresso, antennis basi tibiis tarsisque rufo-ferrugineis, palpis nigris. (Long. corp. $4\frac{1}{2}$ lin.)

Ha. fuscipalpis. Sturm.—Steph. Catal. p. 29. No. 254.

Like Ha. rufimanus, but discriminated from it and all the foregoing by the following characters: antennæ fuscous, with the basal joint fulvous: palpi black: thighs black: tibiæ and tarsi entirely rufo-ferruginous: the thorax has a transverse impression behind, terminating in a simple foveola: the elytra are simply striated, the marginal stria with a series of impressions.

Sometimes taken near London.

** With the body elongated, rather depressed (resemble *Amaræ*).

Sp. 8. nigripes. *Niger nitidus*, antennarum basi palpisque rufo-ferrugineis, thorace posticè utrinque striolâ unicâ. (Long. corp. $3\frac{1}{2}$ lin.)

Ha. nigripes. Sturm.—Steph. Catal. p. 29. No. 255.

More elongate and much smaller than any of the foregoing: deep glossy black: thorax with a slender dorsal channel, and a faint transverse posterior depression, terminating in a rather elongate simple marginal fovea on each side at the base: elytra simply striated, the margin with a continuous series of impressions: legs totally black, with the claws and cilia pitchy: antennæ fuscous, with the basal joint rufous: palpi rufous, with the base of the joints dusky.

Two specimens of this species alone have come under my inspection; they were taken by myself near London.

Sp. 9. piger. *Niger, nitidus*, antennis rufis nigro maculatis, thorace posticè utrinque lineâ tenuè impressâ. (Long. corp. $3-3\frac{1}{2}$ lin.)

Ha. piger. Duftschmid.—Ha. piger. Steph. Catal. p. 29. No. 256.

Very similar to Ha. nigripes, but rather less: thorax with a delicate impressed line at the base on each side: the elytra faintly striated, the margin with an obsolete continuous series of impressions: the thighs black: the tibiæ and tarsi pitchy-red, the tips of the latter dusky: the antennæ ferruginous or piceous, with the base rufous, and some of the articulations black at the base.

Sometimes taken near London; also at Southend, but sparingly. "Dorking."—Mr. Waterhouse.

Sp. 10. anxius. PLATE VIII. f. 2.—*Niger, subovatus* palpis antennisque ferrugineis, pedibus rufo-piceis, thorace posticè utrinque impresso subpunctato, angulis posticis subacuminatis. (Long. corp. $3\frac{1}{2}-4$ lin.)

Ca. anxius. Duftschmid.—Ha. anxius. Steph. Catal. p. 29. No. 257.

Rather larger than the two preceding: body short, ovate: thorax with a slightly punctulate impressed line at the base on each side: elytra slightly and simply striated, the outer margin with a somewhat interrupted series of impressions: legs stout, the thighs and tibiæ generally black, sometimes piceous, the tarsi generally paler: palpi testaceous: antennæ ferruginous.

The margin of the thorax and its hinder angles are frequently ferruginous, and the base of several of the apical joints of the antennæ is often dusky or black.



Common on the coasts of Glamorganshire, and near Southend, beneath rejectamenta.

Sp. 11. femoralis. *Ater nitidus, thorace posticè utrinque striolâ lævi impresso, antennis piceo-brunneis, pedibus nigro-piceis, femoribus posticis elongatis.* (Long. corp. $3\frac{1}{2}$ lin.)

Ha. femoralis mihi.—*Steph. Catal. p. 30. No. 258.*

Deep glossy black: thorax with a smooth rather elongate impression on each side at the base; the dorsal channel rather deep posteriorly: elytra rather deeply striated, the striæ impunctate, the margin with a distinctly interrupted series of impressions: the legs deep pitchy-black, the hinder thighs elongated: antennæ pitchy-brown: palpi rufous, with the base of the joints black.

Taken near Swansea; probably a variety of the foregoing.

Sp. 12. coracinus? *Piceo-brunneus, thorace postice transversa impresso, utrinque striolâ sublævi unicâ, antennis pedibusque rufo-piceis.* (Long. corp. $3\frac{1}{2}$ — $4\frac{1}{4}$ lin.)

Ha. coracinus. *Sturm?*—*Steph. Catal. p. 30. No. 259.*

Pitchy-brown: thorax behind with a transverse impression, terminating on each side in a somewhat smooth striola; the lateral margins and hinder angles rufo-ferruginous: elytra pitchy-brown, inclining to castaneous, slightly striated, the striæ impunctate, an obsoletely continuous series of impressions on the margin: legs pitchy-brown, tarsi and claws a little rufescent: antennæ and palpi rufo-piceous, or fulvous.

I am not certain whether this be the Ha. coracinus of Sturm; it is the Ha. maritimus of Mr. Kirby, and may probably be a mere variety (or rather immature state) of Ha. anxius.

Taken on the coasts of Suffolk, Norfolk, and Essex.

Sp. 13. flaviventris? *Suprà piceo-brunneus, subtus antennis palpis pedibusque flavo-testaceis, thorace posticè striolâ subpunctatâ impresso.* (Long. corp. $3\frac{1}{2}$ —4 lin.)

Ha. flaviventris. *Sturm?*—*Steph. Catal. p. 30. No. 260.*

Above pitchy-brown, beneath pale yellowish testaceous: thorax as in Ha. anxius: elytra slightly striated, the margin with an interrupted series of impressions: legs very pale yellowish testaceous: palpi and antennæ the same, the latter dusky at the tip.

I have a pair of this species from the shores of the Severn, and one specimen which was taken on those of the Thames near Gravesend.

*** With the body broad, much depressed: thorax very broad.

Sp. 14. thoracicus. PLATE VIII. f. 3.—*Niger nitidus, thorace latissimo cærulescente posticè rugoso-punctato: elytris striatis, apicibus punctis impressis ornatis, antennis fulvis basi pallidiore.* (Long. corp. $5\frac{1}{2}$ —6 lin.)

Ha. thoracicus. *Leach MSS.*—*Steph. Catal. p. 30. No. 261.*



Broad and depressed: shining black: head smooth: thorax bluish or greenish, rather obsoletely and irregularly wrinkled transversely, with a longitudinally rugose triangular space anterior to the dorsal line, which is somewhat faint and abbreviated posteriorly, and a broad transverse space behind, thickly and ruggedly punctate, with a rudimentary impression on each side towards the angles: elytra striated, the striæ impunctate; the margin irregularly punctate towards the apex, the marginal striæ with several minute impressed dots, the third interstice from the margin with six or eight, the fifth with one or two, and the eighth (or second from the suture) with one impression at the apex, close to the union of the striæ: legs pitchy-black: claws rufous: antennæ pitchy-fulvous, with the base pale or rufous.

This approaches near to the *Ca. crassipes* of Duftschmid; but his insect differs in having numerous puncta on the third interstice of the elytra, and none on the fifth and eighth: from his *Ca. depressus* it may be known by the latter insect having but seven deep impressions, as noticed below; but with his *Ca. corvus* I suspect it will prove synonymous.

Taken, though rarely, beneath stones at Darent and Coombe woods. "In Oxfordshire."—*Rev. F. W. Hope*. "By the Roman pavement, Thruxton, Hants, but very sparingly, in March."—*Rev. G. T. Rudd*. "Leith-hill, Surrey, in September."—*Mr. Waterhouse*.

2. With the thorax attenuated posteriorly.

Sp. 16. cupreus. PLATE VIII. f. 4.—*Crassus, niger, nitidus, supra viridi-micans, suturâ fusciscente, elytris striatis, striis subpunctatis, thorace posticè nigropunctato, utrinque foveâ subrugosâ*. (Long. corp. 6 lin.)

Ha. cupreus. *De Jean*.—*Steph. Catal. p. 30. No. 263.*

† Sp. 15. depressus. *Niger depressus, thorace anticè subangustiore, elytris subpunctato-striatis, antennarum basi rufâ*.—*Duftschmid*. (Long. corp. $6\frac{1}{2}$ lin.)

Ca. depressus. Duftschmid.—*Ha. depressus. Steph. Catal. p. 30. No. 262.*

According to Sturm's figure this insect is more elongate than the preceding, and the thorax is considerably narrower in proportion: its general aspect is very similar, but the base of the antennæ alone is rufous: the upper surface is entirely black; and the impressions at the apex of the elytra are different, the third and fifth interstices having but three large impressions on each, and the eighth one minute dot, the margin being impunctate.

I have not seen an indigenous example of this species, which I introduced into my Systematic Catalogue on the authority of the Leith-hill specimens of *Ha. thoracicus*, which had been pronounced synonymous with the *Ha. depressus* of Sturm: but having been recently favoured with an inspection of the specimens themselves, I have ascertained that they do not differ from those I formerly possessed by the MS. name of *Ha. thoracicus*. *Ha. depressus* must consequently for the present be expunged from the list of British species.



Robust, subconvex, deep shining pitchy-black; above rich green: head smooth, the front transversely rugged, with two deep rugose impressions, and a few longitudinal rugæ close to the base of the labrum: thorax bright green, with a few longitudinal wrinkles in front, and towards the posterior extremity of the dorsal line (which is rather faint) some transverse ones; the base ruggedly punctate, with a deep rugose fovea on each side at the base towards the hinder angles: elytra slightly coriaceous, of a beautiful rich green, with the suture brownish-brass; rather strongly striated, the striæ subpunctate, the abbreviated one longer than usual; the disc with an impression towards the apex of the second elongate stria, and the margin with several towards the tip: legs pitchy-black: the cilia and claws rufescent: antennæ and palpi pitchy-ferruginous, the latter dusky at the base.

This beautiful and conspicuous insect stands unique in my cabinet; it was captured near London, on the shores of the Thames, some years since.

Sp. 17. rubripes. *Latior, niger, suprâ nigro-cærulescens, aut virescens, thorace posticè utrinque foveolâ obsoletâ punctulatâ, antennis, palpis, pedibusque rubro-testaceis, elytrorum interstitio tertio à margine punctis plurimis impresso.* (Long. corp. $4\frac{1}{2}$ — $5\frac{1}{2}$ lin.)

Ca. rubripes. *Gyllenhal.*—*Ha. rubripes. Steph. Catal. p. 30. No. 264.*

Broad, black: head glossy, tinged with bluish or greenish: thorax the same, obsoletely wrinkled anteriorly, punctulated towards the base, with a moderate dorsal channel; the base on each side with an obsolete punctate fovea, the margins black: elytra bluish or greenish, striated, the striæ impunctate, with five or six impressed dots at the apex of the third interstice from the margin, one on the second from the suture, and the margin itself irregularly punctate: legs, antennæ, and palpi testaceous-red.

Var. β . *Ha. cyanopterus. Kirby MSS.—Steph. Catal. p. 30. No. 266.*

Rather less and narrower, with the elytra of a rich blue, and the suture brownish. This insect varies much in colour and size, and I conceive that it and the three following species are far too closely allied to each other to be truly distinct, though, as they have been separated by others, I shall not, without sufficient evidence, reunite them: they all agree in having several impressions at the apex of the seventh interstice, or third from the margin of the elytra; but that character is rather diagnostic of a section than of a species, as nearly all the insects of this division possess them more or less evidently.

Taken occasionally in gravel-pits, and near London, at Coombe, Darenth, Hertford, Ripley, &c. "Not uncommonly at Southend."—*Rev. F. W. Hope.* "Near Ipswich."—*Rev. W. Kirby.*

Sp. 18. azureus. *Sub-elongatus, niger, suprâ cyaneo-niger, antennis, palpis, pedibusque rufis, elytris interstitio tertio à margine punctis tribus obsoletis impresso.* (Long. corp. 5 lin.)

Ha. azureus. *Sturm.—Steph. Catal. p. 30. No. 265.*



Closely allied to the last, but differs in being of a deep rich glossy blue, with the thorax very obsoletely striated behind, and the foveæ nearly evanescent: the elytra rather faintly and simply striated; the third interstice from the margin with three slightly impressed dots only; the margin obsoletely punctate.

The above appears to agree with Sturm's *Ha. azureus*, but the concise definition given by Fabricius to his *Ca. azureus* will equally suit many other *Harpalidæ*.

Taken at Coombe, Hertford, &c., and other places within the metropolitan district; also in Norfolk.

Sp. 19. *chloropterus*. *Subelongatus, niger supra virescens, elytris viridibus, interstitio tertio à margine punctis quinque impresso, antennis, palpis, pedibusque rufo-testaceis.* (Long. corp. $4\frac{1}{2}$ lin.)

Ha. chloropterus. Kirby MSS.—*Steph. Catal. p. 30. No. 267.*

Similar to *Ha. rubripes*, but rather narrower and more elongate: the colour different, being of a bright green and very shining: elytra with impunctate striæ; the third interstice from the margin with about five impressions at its tip, the fifth with two: the legs and palpi rufo-testaceous.

Is this merely a variety of the last?

Found, but rarely, near London, in Suffolk, &c.

Sp. 20. *marginellus*. *Latus, subconvexus, niger nitidus, thorace elytrisq. subviolaceo nitentibus, elytrorum interstitio tertio à margine punctis plurimis impresso, margine laterali thoracis, antennis, pedibusque fulvis.* (Long. corp. $4\frac{1}{2}$ —5 lin.)

Ha. marginellus. Ziegler.—*Steph. Catal. p. 30. No. 269.*

More convex and broader than the preceding: deep glossy black: the thorax and elytra a little tinted with violet, particularly the former, which is impunctate, and has a fovea on each side at the base, a faint dorsal line, and the lateral margins fulvous: the elytra are similar to those of the foregoing, but rather more convex, and very slightly tinted with violet or greenish, and the third interstice from the margin has about seven or eight impressions at the apex: the antennæ, palpi, and legs are fulvous.

The above agrees with specimens sent to Dr. Leach by M. De Jean as the *Ha. marginellus* of Ziegler. Gyllenhal unites it with *Ha. rubripes*.

Near London, Ipswich, and Swansea.

Sp. 21. *fulvipes*. *Subelongatus paulò depressus, piceo-niger, elytrorum interstitio tertio à margine subpunctato, antennis pedibusque fulvis.* (Long. corp. $4\frac{1}{2}$ —5 lin.)

Ha. fulvipes. Sturm.—*Steph. Catal. p. 30. No. 272.*

More elongate and depressed than the last, above entirely glossy pitchy-black; the female a little obsoletely tinted with greenish: the thorax is smooth, with the base near the hinder angles a little punctate, and having a slightly rugose fovea; the dorsal channel rather deep: elytra rather deeply striated, the third interstice from the margin with several rather obsolete impressions, and the margin thickly punctate at the tip: the antennæ and legs are bright fulvous.



Taken occasionally in the metropolitan district. "In cellars, Bottisham."—*Rev. L. Jenyns*.

Sp. 22. punctiger. *Picco-niger, antennis pedibusque concoloribus, elytris striatis, interstitio tertio à margine punctis plurimis impresso.* (Long. corp. $4\frac{1}{2}$ —5 lin.)

Ha. punctiger mihi.—*Steph. Catal. p. 30. No. 270.*

Differs from the five last in having the legs and antennæ concolourous with the body, and more impressions at the apex of the third interstice from the margin; in other respects similar.

Found sometimes near London.

Sp. 23. nigrocæruleus. *Niger nitidus, supra obsoletè violascens, antennis fulvis, pedibus piceo-rufis, femoribus tibiærumque apicibus piceo-nigris, interstitio tertio à margine punctulato.* (Long. corp. $4\frac{1}{2}$ —5 lin.)

Ha. niger mihi.—*Steph. Catal. p. 30. No. 274.*

Rather broad and depressed; much resembling the last, but differs in the colour of the legs: the thighs and tips of the tibiæ alone being pitchy-black; the base of the latter and the tarsi pitchy-red: the thorax impunctate behind, but the foveæ rather deep: the elytra are striated as in the last, and the apex of the third interstice from the margin has several impressions.

This varies much in colour; I have recently obtained several specimens richly tinged with blue above, which has induced me to alter the name from that given in my catalogue.

Taken in various parts of England, and in Wales.

Sp. 24. subsinuatus? *Niger nitidus, thorace posticè subsinuato, elytris striatis, corpore subtùs antennis pedibusque ferrugineis.* (Long. corp. 5 lin.)

Ca. subsinuatus. *Dufschmid.*—Ha. subsinuatus. *Steph. Catal. p. 30. No. 268.*

Rather convex, pitchy-black, slightly glossy: thorax smooth, a little punctate towards the hinder angles, which have each a slight longitudinal stria; the posterior margin is a little sinuated: elytra not very deeply striated, the striæ impunctate: body beneath, legs, antennæ, palpi, and mandibles ferruginous.

I have two specimens of this species which were found near London, and agree with those sent to Dr. Leach by M. De Jean, named as above.

Sp. 25. limbatus. *Niger nitidus, antennis, palpis, thoracis margine pedibusque rufo-testaceis.* (Long. corp. 4— $4\frac{1}{2}$ lin.)

Ca. limbatus. *Dufschmid.*—Ha. limbatus. *Steph. Catal. p. 30. No. 273.*

Glossy black, the males above sometimes tinged with bluish, the female always black and duller: head smooth: thorax with a slight transverse posterior impression, terminating on each side in a subpunctate fovea; the lateral margins more or less rufo-testaceous: elytra slightly striated, the striæ impunctate, the apex of the third interstice from the margin without any impressed foveolæ;

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but a few towards the tip on the margin: body beneath pitchy-black; sometimes pale testaceous at the tip: legs, antennæ, and palpi rufo-testaceous.

Var. β . With the body beneath more or less ferruginous. The Ha. luniceps, Wilkins' MSS., and, according to Gyllenhal, the Ha. flaviventris of Sturm; but his insect appears distinct, and the form of the thorax different, not being attenuated posteriorly; see page 145.

Not uncommon in the vicinity of London, at Southend, &c. "Banks of the Tees, Yorkshire."—L. Rudd, Esq. "Bottisham."—Rev. L. Jenyns.

Sp. 26. lentus. *Brevior, latus, niger subnitidus, thorace posticè recto, corpore subtus, antennis pedibusque rufo-ferrugineis.* (Long. corp. $4\frac{1}{2}$ lin.)

Ha. lentus. Sturm.—Steph. Catal. p. 30. No. 271.

Broad, rather convex: head and thorax glossy black; the latter transversely wrinkled in the centre, with a strong dorsal channel, a slight transverse impression posteriorly, with an obsoletely rugose fovea at its extremities; the hinder margin straight: elytra black, rather shining, faintly striated, the striæ simple, and the margin irregularly punctate at the apex: body beneath and legs rufo-ferruginous; antennæ and palpi the same, but paler.

The lateral margins of the thorax are slightly rufous in my specimen, which in other respects agrees with Sturm's insect: its superior width well distinguishes it from the other indigenous species, as well as the form of its thorax, which differs a little from others of this section, its hinder angles being very obtuse.

I have one specimen taken near London, several years ago.

Sp. 27. annulicornis. *Niger, nitidus, thorace posticè utrinque foveâ subrugosâ, antennis palpisque fulvis nigro annulatis, pedibus piceo-nigris, spinulis rufis.* (Long. corp. $4-4\frac{1}{2}$ lin.)

Ha. annulicornis. Kirby MSS.—Steph. Catal. p. 30. No. 275.

Deep glossy black: thorax with a moderate dorsal channel, a deep rather rugged fovea on each side at the base, and slightly wrinkled transversely: elytra black, simply and rather deeply striated, with several impressions at the apex of the third interstice from the margin; the margin itself with an interrupted series of impressions: legs pitchy-black, the cilia on the tibiæ rufous: antennæ and palpi fulvous, annulated with black, the apical joints of the former immaculate.

Taken occasionally near London, and in Suffolk.

Sp. 28. atrocæruleus. *Ater, supra nigro-cærulescens, thorace posticè utrinque foveolâ simplice, antennis fulvis nigro-maculatis, palpis fulvis, pedibus spinulisque nigris.* (Long. corp. $4-4\frac{1}{2}$ lin.)

Ha. atrocæruleus. Kirby MSS.—Steph. Catal. p. 31. No. 276.

Greatly resembling the last, but of a fine blue tint above: the thorax with a simple impunctate foveola on each side at the base, the antennæ fulvous, with



the basal joints spotted with black; the palpi fulvous: the legs black, with black cilia: elytra as in *Ha. annulicornis*, but of a deep blue.

Two of my specimens of this insect I obtained from the Marshamian Cabinet; bearing the above name, from Mr. Kirby's MSS., in which Mr. Kirby justly inquires, *An varietas precedentis?*

Taken occasionally near London; also in Cumberland. "In Suffolk."—*Rev. W. Kirby.*

Sp. 29. *notatus. Niger, nitidus, palpis antennisque rufo-testaceis, pedibus nigris, tarsis anticis et intermediis piceo-ferrugineis, antennarum articulis 2, 3 et 4, basi nigris; thorace postice transverse impressâ utrinque foveis duabus.* (Long. corp. $4\frac{1}{2}$ lin.)

Ha. notatus. Kirby MSS.—Steph. Catal. p. 31. No. 279.

Also allied to *Ha. annulicornis*, but differs in having a transverse impression at the base of the thorax, which is longitudinally wrinkled, and has two deep somewhat rugged foveæ on each side, adjoining the posterior margin; the elytra are slightly tinged with blue, moderately and simply striated, with a few impressions at the apex of the third interstice from the margin, and an interrupted series on the margin itself: the legs are black, with the anterior and intermediate tarsi pitchy-ferruginous, antennæ and palpi rufo-ferruginous; the second, third, and fourth joints of the former black at the base. Allied to the *Ha. Frolichii* of Megerle.

I obtained one specimen from Mr. Marsham's collection, and have since taken the insect near London. "In Suffolk."—*Rev. W. Kirby.*

Sp. 30. *obscuricornis. Brevis, latus, niger, antennarum apice, palpis, tibiæ basique piceo-testaceis.* (Long. corp. 4 lin.)

Ha. obscuricornis. Megerle.—Steph. Catal. p. 31. No. 278.

Short, broad, slight glossy-black: thorax with a very faint dorsal channel, very obsoletely wrinkled transversely, with an obsolete slightly punctulate fovea on each side at the base, on the posterior margin itself: elytra faintly striated, the striæ simple, and no impressions at the apex of the third interstice from the margin, but a series on the marginal one towards the tip: thighs black, tibiæ and tarsi rufo-testaceous, the former blackish at the tips: antennæ blackish at the base, the tip pale fulvous: palpi ferruginous.

Apparently rare; as I have seen but one specimen, which I caught several years since near Dover. It is very distinct from all the preceding.

Sp. 31. *rufipalpis. Niger, subnitidus, palpis rufo-fulvis, pedibus nigris, tarsis piceo-testaceis, antennis fulvis, articulis 2, 3 et 4, basi nigricantibus.* (Long. corp. $4\frac{1}{4}$ lin.)

Ha. rufipalpis. Sturm.—Steph. Catal. p. 31. No. 277.



Allied to the foregoing, but differs in being much smaller and more slender: its upper surface is entirely of a deep slightly glossy black: thorax with a faint dorsal channel, and a simple impressed line at the base on each side: elytra faintly and simply striated, the third interstice from the margin with two impressions, the marginal one with several at the tip: legs black, tarsi pitchy-testaceous: antennæ fulvous, with the second, third, and fourth joints blackish at the base: palpi fulvous, dusky at the base.

Of this I have also seen but one specimen, which was taken near London.

Sp. 32. *attenuatus*. *Elongatus, niger nitidus, thorace posticè valdè attenuato, antennis, palpis, tibiis, tarsisque rufo-ferrugineis, elytris striatis, striis subtilissimè punctatis*. (Long. corp. 4 lin.)

Ha. *gracilis*. Steph. Catal. p. 31. No. 280.

Very slender and elongated: the thorax much attenuated posteriorly: deep glossy black: thorax with an obsolete dorsal channel, and a deep punctate fovea on each side at the base: elytra punctato-striated, with a deep impressed dot near the apex of the second striæ from the suture, and a nearly continuous series of remote impressions on the margin: thighs pitchy-black; tibiæ, tarsi, antennæ, and palpi, bright ferruginous-red.

The above was given to me several years since as the Ha. *gracilis*, Wilkins' MSS.; but the insect of that name in Mr. Vigors's Collection is totally different, and is described in page 156.

My specimens were taken on the banks of the Thames. "Near Southend."—Rev. F. W. Hope. "Dorking."—Mr. Waterhouse.

Sp. 33. *cuniculinus*. *Niger, thorace lateribus subrotundato, posticè subsinuato, elytris striatis, antennarum basi palpisque ferrugineis*. (Long. corp. 3½ lin.)

Ca. *cuniculinus*. Duftschmid.—Ha. *cuniculinus*. Steph. Catal. p. 31. No. 281.

Shining black, with the sides of the thorax rounded, and a little sinuated behind; its base impunctate, with a narrow impressed line on each side, reaching to the posterior edge: elytra bluish, simply striated, with one or two impressed points at the apex of the third interstice from the margin; which last has a continuous series of approximating impressions: the legs are pitchy, with pale rufous tarsi: the palpi and antennæ bright ferruginous: the base of the second, third, and fourth joints of the latter black.

Near London, but apparently rare.

Sp. 34. *servus*. *Angustior, nigro-piceis, palpis antennis tarsisque ferrugineis, thorace striolâ baseos utrinque impresso*. (Long. corp. 3 lin.)

Ca. *servus*. Creutzer. Ha. *servus*.—Steph. Catal. p. 31. No. 282.

Narrow, slender, pitchy-black, glossy: thorax with a faint dorsal line, and a short, slightly punctate stria on each side at the base, touching the posterior margin: elytra moderately striated, the striæ impunctate; no impressions at the apex of the third interstice from the margin, but the latter with an inter-



rupted series; those nearest the base nearly obsolete: legs pitchy: tarsi, palpi, and antennæ ferruginous.

I have one specimen, but I am ignorant of its locality, though I believe Devonshire.

Sp. 35. luteicornis? *Niger nitidus, antennis, palpis, pedibus, thoracis elytrorumque marginibus posterius rufo-testaceis.* (Long. corp. $3\frac{1}{2}$ lin.)

Ca. luteicornis. *Duftschmid?*—Ha. luteicornis. *Steph. Catal. p. 31. No. 283.*

Black: thorax subquadrate, transversely punctate posteriorly, with an oblong thickly punctulate fovea on each side at the base; the lateral margins (and sometimes the posterior) ferruginous: elytra with the lateral margins and tip ferruginous, regularly striated, the striæ impunctate; legs, palpi, and antennæ rufo-testaceous.

Taken either on the coast of Devonshire or Glamorganshire.

Sp. 36. nitidus. *Niger, supra viridi nitens, antennis palpisque rufis, pedibus piceis, tibiarum basi tarsisque piceo-testaceis, thorace postice utrinque foveolâ punctatâ.* (Long. corp. $4\frac{1}{2}$ lin.)

Ha. nitidus. *Sturm.*—*Steph. Catal. p. 31. No. 284.*

Black, above glossy green: thorax with a moderate dorsal line, and a punctate fovea at the base on each side, at the posterior margin: elytra faintly striated, the striæ impunctate, with one or two impressions at the tip of the third interstice from the margin, the margin itself with an interrupted series, the basal impressions rather faint: legs pitchy, the base of the tibiæ and the tarsi piceo-testaceous: the antennæ and palpi rufous.

I have a pair of this insect, which were taken in Devonshire.

Sp. 37. ignavus. *Niger, supra cærulescens, thorace postice impresso lævi, elytris striatis, antennis tarsisque ferrugineis.* (Long. corp. $4\frac{1}{2}$ lin.)

Ca. ignavus. *Creutzer.*—Ha. ignavus. *Steph. Catal. p. 31. No. 285.*

Black, above blue, the thorax with a faint dorsal channel, and a smooth impressed line behind on each side: elytra faintly striated, the striæ impunctate, the third interstice from the margin smooth, the marginal one with several impressions at the tip, and three or four at the base: the legs pitchy-black, with the tarsi rufo-ferruginous: the antennæ and palpi fulvous.

This insect also inhabits Devonshire.

3. With the sides of the thorax and posterior angles rounded †.

* *Antennæ moderate.*

Sp. 38. cyaneus. *Niger nitidus, subdepressus, supra cyaneo-nitens, antennarum articulo basali inferne rufo, thorace postice subrugosâ utrinque foveolâ latâ.* (Long. corp. 5 lin.)

Ha. cyaneus mihi.—*Steph. Catal. p. 31. No. 286.*

† Few species of this section are in collections, probably from their maritime localities.



Rather depressed: shining black; above rich glossy blue: thorax with the dorsal channel deep in front, and united to a transverse impression anteriorly, the base somewhat rugose, with a shallow, broad, and rugged fovea near the hinder angles: elytra deep blue, striated, the striæ impunctate and deep, the margin obsoletely punctate; the usual abbreviated stria rather long: legs deep pitchy-black; claws rufous: antennæ fuscous, with the basal joint rufous beneath: palpi pitchy-black, with the tips ferruginous.

I have seen but one specimen of this fine species, which I obtained from Mr. Marsham's collection.

Sp. 39. *pœciloides*. PLATE VIII. f. 5. *Paulo convexus, niger nitidus, supra splendide viridis, antennarum articulo basali inferne rufo, thorace postice rugoso utrinque sub bifofoato*. (Long. corp. 5—5½ lin.)

Ha. *pœciloides mihi*.—*Steph. Catal. p. 31. No. 287.*

Slightly convex: glossy black, above brilliant rich green: thorax as in the last, but more rugose posteriorly, and the foveolæ more distinct, with an obsolete one near the union of the lateral and posterior margins: elytra rich green, deeply striated, the striæ impunctate, the margin with a continuous series of impressed dots: legs pitchy-black, claws fulvous: antennæ fuscous, with the basal joint rufous below: palpi pitchy-black, with the tips fulvous or ferruginous. Female more obscure and æneous above.

The resemblance of this species to *Pœcilus cupreus* is so close, that were it not from the dilatation of the intermediate tarsi, and the rounded posterior angles of the thorax, it might readily be confounded with that insect, which has induced me to give it the above name, which I have retained, although I have recently ascertained that it is synonymous with the *Ha. virens*, De Jean MSS.

Two indigenous specimens only have come under my notice; they were taken on the shores of the Thames several years since.

Sp. 40. *scaritides*. *Niger nitidus, annis, palpis, tarsisque piceo-brunneis, thorace postice utrinque foveolâ punctatâ*. (Long. corp. 4½ lin.)

Ha. *scaritides*. *Sturm.*—*Steph. Catal. p. 31. No. 288.*

Shining black: thorax with an obsolete dorsal line, the sides rounded and posteriorly suddenly attenuated, the hinder angles nearly obliterated, with a punctate subtriangular fovea on each side at the base: elytra simply and rather faintly striated: legs black: tarsi pitchy-brown: antennæ and palpi the same, but rather pale.

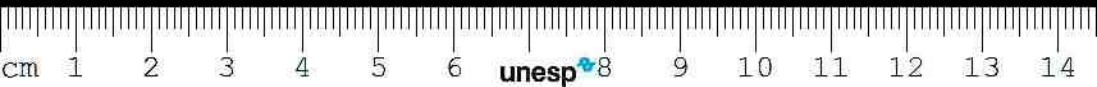
Of this insect I have also seen but my own specimen, which was taken on the shores of the Thames beyond Gravesend.

** *Antennæ very short.*

Sp. 41. *vernalis*. *Nigro-piceus, subnitidus, annis palpisque pallidis, pedibus fusco-ferrugineis, thorace utrinque uni-foveolato*. (Long. corp. 2½—3 lin.)

Ca. *vernalis*. *Dufschmid.*—*Ha. vernalis*. *Steph. Catal. p. 31. No. 289.*

Pitchy-black, rather shining: thorax very short, with an obsolete dorsal channel, and near the base on each side with a simple minute obsoletely punctate im-



pression; the margin sometimes piceo-ferruginous: elytra rather convex, faintly striated, the striæ impunctate, the margins ferruginous: legs pale dusky-ferruginous: tibiæ and tarsi palest: antennæ and palpi pale testaceous.

It varies a little in colour, occurring of a paler or deeper hue; sometimes pale testaceous beneath, and ferruginous above.

Not very uncommon on the coasts of Norfolk, Suffolk, and Essex. "Taken plentifully near Yarmouth."—*A. H. Haworth, Esq.*

Sp. 42. *pumilus*. *Niger nitidus, antennarum basi palpisque rufis, thorace posticè utrinque striolâ unicâ.* (Long. corp. $3\frac{1}{2}$ lin.)

Ha. *pumilus*. *Sturm?*—*Steph. Catal. p. 31. No. 290.*

Rather larger than, but greatly resembling, the last; it is of a deep glossy black, with the legs concolorous; the base of the antennæ and the palpi rufous: thorax with a moderate dorsal line, and a simple stria at the base on each side: elytra simply and not very deeply striated: tips of the antennæ fuscous.

My specimen of this insect is the only indigenous one I have seen; it was found on the shores of the Thames.

b. *With the elytra deeply excised and dentate at the apex.*

Sp. 43. *æneus*. *Niger, suprâ viridi-æneo, cupreo, cæruleo violaceove nitens, elytris striatis interstitiis tribus marginalibus punctulatis; antennis pedibusque rufo-ferrugineis.* (Long. corp. 4—5 lin.)

Ca. *æneus*. *Fabricius.*—Ha. *æneus*. *Steph. Catal. p. 31. No. 291.*

Above polished and very smooth; the colour varying from brilliant shades of rich metallic green to blue, violet, brassy, and cupreous: head with a deep transverse impression: thorax with an abbreviated dorsal line, terminating posteriorly in a slight transverse depression; towards the hinder angles on each side at the base a punctate foveola: elytra very smooth, rather faintly striated, the striæ impunctate, the interstices flat, the marginal ones more or less thickly punctulated: body beneath generally pitchy-black, sometimes pale testaceous: legs, antennæ, and palpi rusty-red or ferruginous, sometimes pale testaceous.

The males are generally highly polished and brilliant; the females obscure and less powerfully tinted; and their elytra granulated.

If the five following insects be really mere varieties only of this species, which I imagine to be the case, they will present the most striking anomaly amongst coleopterous insects, as their relative proportions of width and length, as well as their general form, sculpture, colour, and texture, differ so considerably, and well justify the appellation of *Ca. Proteus*, which has been given to them by Paykul; though it should be added, that he includes some of the foregoing Harpali under that name.

Extremely abundant throughout Britain, running and flying about in pathways and roads during fine sunshiny and hot weather.



Sp. 44. *confinis*. *Lator, supra viridi-ænea aut cærulea, elytris tenuè striatis, interstitiis exterioribus punctatis, antennis pedibusque piceo-nigris.* (Long. corp. $4\frac{1}{2}$ —5 lin.)

Ha. *confinis*. Kirby MSS.—*Steph. Catal.* p. 31. No. 292.

Differs from the last in having the legs and antennæ deep pitchy-black, the colour less brilliant, and usually greenish-brass or blue, rarely bright green, the suture generally fuscous, the elytra finely striated, and the outer interstices rather strongly punctated.

Sometimes black above, with a slight violet tinge.

Taken near London and in Suffolk.

Sp. 45. *æneopiceus*. *Subelongatus, supra æneo-piceus, nitidus, antennis pedibusque rufis, thorace posticè paulò attenuato, elytris tenuè striatis, interstitio externo punctulato.* (Long. corp. $4\frac{1}{2}$ —5 lin.)

Ha. *æneopiceus*. Kirby MSS.—*Steph. Catal.* p. 31. No. 293.

Differs from Ha. *æneus* in being more elongate, with the thorax more attenuated posteriorly; the colour above usually rather brilliant pitchy-brass: the elytra rather granulated in each sex, and the outer interstice alone punctate: the dentation at the apex not very deep.

Found, with the foregoing, near London, &c.

Sp. 46. *concinus*. *Gracilis, subcylindricus, æneo-niger, supra viridi-cupreus, thorace posticè subattenuato, punctato, utrinque foveolâ unicâ, antennis pedibusque rufo-piceis.* (Long. corp. 4—5 lin.)

Ha. *concinus mihi*.—*Steph. Catal. Appendix.*

More cylindric than Ha. *æneus* or the others of this section; the thorax slightly attenuated behind, punctate transversely at the base, with a rugose fovea at each angle: the elytra faintly striated, with the exterior interstices more or less punctulate: the legs and antennæ are pitchy-red.

This is the Ha. *gracilis* of Wilkins' MSS., which name I have discarded, from its having been used elsewhere.

Found, with the preceding, near London and in Norfolk.

Sp. 47. *dentatus*. *Brevis, latus, depressus, supra æneo-piceus, antennis pedibusque piceo-rufis, thorace posticè subrugoso utrinque foveolâ unicâ, elytrorum apice profundè exciso.* (Long. corp. $4\frac{1}{2}$ —5 lin.)

Ha. *dentatus*. [Kirby MSS.—*Steph. Catal.* p. 32. No. 294.

Broader, shorter, and more depressed than Ha. *æneus*; the thorax rather rugose at the base, with a thickly punctate fovea on each side, and a very faint dorsal line: elytra rather deeply striated, the interstices a little convex, the two outer thickly punctulate, the apex with a deep excision: the antennæ and legs are pitchy-red: the colour above is usually of a deep pitchy-brass, sometimes slightly tinted with green or copper.

Occasionally found near London, and in Suffolk.



Sp. 48. subcæruleus. *Brevis, latus, nitidus, suprâ piceo-cæruleus aut violaceus, elytrorum apice subdentato.* (Long. corp. 4—5 lin.)

Ha. subcæruleus. Kirby MSS.—*Steph. Catal. p. 32. No. 295.*

Also much allied to Ha. æneus, but differs in being generally of a rich deep black or pitchy-blue, sometimes tinged with violet and sometimes a little brassy; it is rather shorter and broader in proportion: the thorax is less punctate behind, and the foveæ near the posterior angles less evident: the elytra are rather more strongly striated, and the striæ have very obsolete punctations at the bottom, the two exterior interstices are thickly punctate: the antennæ and legs pitchy or testaceous.

Taken occasionally near London. "Southend."—*Rev. F. W. Hope.* "Near Ipswich."—*Rev. W. Kirby.*

B. With the hinder angles of the thorax acute.

Sp. 49. caffer? *Piceo-niger, subtus pallidior, antennis, pedibus margineque laterali thoracis rufis, elytris tenuè striatis.* (Long. corp. 5 lin.)

Ca. caffer. Duftschmid—Ha. caffer. *Steph. Catal. p. 32. No. 296.*

Pitchy-black, inclining to castaneous, beneath paler: antennæ, palpi, and legs rufous: mandibles the same, tipped with blackish: thorax smooth, quadrate, the lateral margins more or less rufo-ferruginous; dorsal channel faint, the base with a broad band of punctures, the posterior angles with a deep rugose fovea in the punctured band: elytra smoothly and faintly striated, the striæ impunctate, the margin with a series of impressions at the tip, and a few at the base.

I have three specimens of this insect, one of which was in the Marshamian Collection, the other two I obtained from that of my late friend J. M. Griffin, Esq., by the name of *Ha. nitidulus*: it appears to agree with the Ca. caffer of Duftschmid, but Gyllenhal considers his insect synonymous with *Ha. tardus*; the acute posterior angles of the thorax, however, well distinguish it from that species.

Found I believe near Norwich.

Sp. 50. binotatus. *Niger, antennarum basi punctisque duobus frontalibus rufis, elytris nudis profundè striatis, interstitiis impunctatis.* (Long. corp. $4\frac{1}{2}$ — $5\frac{1}{2}$ lin.)

Ca. binotatus. Fabricius.—Ha. binotatus. *Steph. Catal. p. 32. No. 297.*

Black: head obsoletely wrinkled, usually with two rufous spots on the forehead, which are sometimes united, and occasionally obliterated: thorax above somewhat depressed, black, the disc obsoletely wrinkled, with a dorsal channel, the lateral and posterior margins more depressed and thickly punctate, the punctation rugged, near the angles are two slight foveæ, one on either side: elytra slightly convex, rather deeply striated, the striæ impunctate, the interstices convex and impunctate, the lateral one with an interrupted series of impressions: legs generally pitchy-black, with the tarsi and claws rufescent: antennæ deep fuscous, with the basal joint rufous: palpi rufescent.

Var. β. With the legs entirely rufo-testaceous.

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x

Far from uncommon in the neighbourhood of London. "Common near Bottisham."—*Rev. L. Jenyns*. "Kimpton."—*Rev. G. T. Rudd*. Also in Norfolk and Suffolk.

Sp. 51. *spurcaticornis*. *Niger*, *antennarum basi apiceque, puncta obsolete frontali pedibusque rufo-testaceis, elytris tenuè striatis*. (Long. corp. 5 lin.)

Ha. spurcaticornis. *Ziegler*.—*Steph. Catal. p. 32. No. 298*.

Rather more oblong and narrower than the preceding, with the elytra more faintly striated, the hinder angles of the thorax apparently more prominent, and the antennæ rufo-testaceous at the base and apex: in other respects far too similar to constitute a distinct species.

With *Duftschmid* and *Gyllenhal* I coincide in opinion, being convinced that this insect is a mere variety of the foregoing; but as *Ziegler* and *De Jean* consider that it is distinct, and it was likewise separated by *Mr. Wilkin* by the MS. name of *Ha. angulatus*; and as *Mr. Wilkins'* specimen, now in *Mr. Vigers'* cabinet, and mine (which agree with each other), were captured in very distant parts, without the occurrence of specimens near London, where *Ha. binotatus* abounds, I shall wait the result of further experience ere I re-unite them with the latter insect.

I believe *Mr. Vigers'* specimen was found in Norfolk, and mine was received from Devonshire.

Sp. 52. *ruficornis*. *Nigro-piceus*, *antennis pedibusque rufis, elytris striatis pubescentibus, interstitiis creberrimè punctulatis*. (Long. corp. $4\frac{1}{2}$ — $7\frac{1}{2}$ lin.)

Ca. ruficornis. *Fabricius*.—*Mart. C. pl. 36. f. 13*.—*Ha. ruficornis*. *Steph. Catal. p. 32. No. 299*.

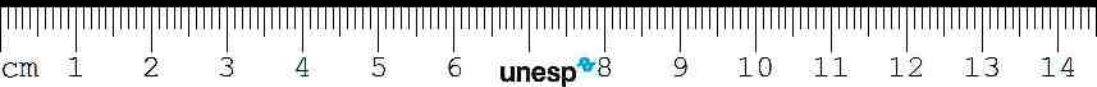
Pitchy-black: head and thorax shining, the latter a little convex, with the margin somewhat rufescent: dorsal line faint; the disc obsoletely wrinkled, the margins, especially the posterior, thickly punctated, depressed at the base, with a broad obsolete foveola on each side: elytra opaque, slightly convex, clothed with a short griseous pubescence, with a silken gloss in certain lights, faintly striated, the striæ impunctate, the interstices convex, thickly punctulate, the margin with a continuous series of irregular small impressions: body beneath punctulated laterally: legs generally pale rufous: antennæ ferruginous, brightest at the base.

Var. β . With the body beneath pale testaceous, and the elytra pitchy-brown, the suture, and sometimes the thorax rufescent.

Var. γ . With the legs deep pitchy-black, and the antennæ fuscous.

Var. δ . Much smaller, beneath rufo-piceous: thorax with the dorsal impression much deeper, and also the fovea at the basal angles. *Ha. griseus*. *Panzer*.—*Steph. Catal. p. 32. No. 300*.

This species varies greatly in size and colour; and I am convinced, upon a re-examination of my specimens, that the supposed species (*Ha. griseus* of *Panzer's Index*) is merely a small individual, having the dorsal channel rather more evident: I have therefore followed *Gyllenhal* in uniting it with *Ha. ruficornis*.



This is one of the most common of the Geodephaga, and is found I believe in all parts of the country.

GENUS LVIII.—OPHONUS, Ziegler.

Palpi; external maxillary with the terminal joint ovate-truncate, longer and stouter than the preceding, which is clavate: internal with the basal joint slender, the terminal more robust, ovate, acuminate; labial with the two last joints of equal length, the last stoutest, fusiform truncate, the preceding slender, not clavate: labrum slightly notched: mandibles short, rather obtuse, the base dilated internally: mentum short, deeply emarginate, the centre slightly produced. Antennæ with the two basal joints naked: head subtrigonal: thorax subquadrate or suborbicular: elytra rather sinuated at the apex: second stria abbreviated: wings two, ample: anterior and intermediate tarsi of males, with four dilated joints.

Ophonus differs from Harpalus by having the upper surface more or less punctate throughout; by the greater length and stoutness of the terminal joint of the maxillary palpi, and by the brevity of the mentum, and its slightly produced central lobe: all the species are pubescent above, are more abundant during the summer than the true Harpali, and seemingly affect chalky and gravelly districts.

Sp. 1. stictus. PLATE VIII. f. 6.—*Niger, punctulatissimus, elytris leviter striatis, apice exciso, antennis pedibusque rufo-ferrugineis* (Long. corp. $6\frac{1}{2}$ lin.)

Ca. stictus. Marsham MSS.—Op. stictus. Steph. Catal. p. 32. No. 301.

Antennæ ferruginous: thorax with the sides rounded, the angles obtuse, without an impressed fovea at the base: body above black, thickly punctate, the puncta largest on the thorax, less on the head, and least on the elytra, which are faintly striated, with the apex rather deeply excised: body beneath black, punctated: legs ferruginous.

This insect, which is the largest of the genus, greatly resembles Op. oblongiusculus of De Jean, but it is somewhat broader, less glossy, and the punctuation appears different; but these characters may be consequent upon the disparity of sex; the only specimen of De Jean's insect which I have examined being a male, and Mr. Bentley's and my own being females. Its superior bulk well distinguishes it from any of the other species, excepting the two following, from which it is separated by its colour and the deep excision at the apex of the elytra.

I obtained one specimen from the Marshamian Collection, and I believe Mr. Kirby has another: of their localities I am ignorant, but most probably they were found in Suffolk. There is also one in the British Museum, taken near London. "Hackney-marshes, in May, 1823."—Mr. Bentley.



Sp. 2. obscurus. *Piceo-niger, supra niger, elytris obsolete cærulescentibus, antennis pedibusque rufo-testaceis, thorace suborbiculato punctato, postice foveolâ unicâ utrinque.* (Long. corp. $4\frac{1}{2}$ —6 lin.)

Ca. obscurus. *Fabricius.*—Op. obscurus. *Steph. Catal. p. 32. No. 302.*

Deep-pitchy black, beneath paler: head moderately punctate, the nape smooth; thorax suborbicular, thickly and not very coarsely punctate throughout, the disc slightly convex; with a faint dorsal line, the base with a single fovea on each side, and a slight depression at the end of the dorsal line: elytra bluish or greenish, striated, the striæ impunctate, the interstices thickly and very finely punctate, the margin with an interrupted series of impressions: legs, antennæ, and palpi rufo-testaceous.

Var. β . With the colour very obscure above; nearly black.

Common beneath stones, near Gravesend, which is the nearest ascertained locality to London. "In profusion on the shores, under rejectamenta, at Southend."—*Rev. F. W. Hope.* "Kimpton, near Andover, sparingly."—*Rev. G. T. Rudd.* "Dorking, under stones."—*Mr. Waterhouse.*

Sp. 3. Sabulicola. *Piceo-niger, supra niger, elytris obscure cærulescentibus, antennis pedibusque rufo-testaceis, thorace quadrato punctato, foveolis vix ullis.* (Long. corp. $5\frac{1}{2}$ —6 lin.)

Ca. Sabulicola. *Fabricius.*—Op. Sabulicola. *Steph. Catal. p. 32. No. 303.*

Similar to the foregoing, but differs in the form of its thorax, and slightly in punctuation: head strongly punctate, with the nape and a central anterior patch nearly smooth: thorax quadrate, very coarsely punctate; the disc a little convex, the dorsal line nearly obsolete, and the hinder angles with a mere rudiment of foveæ, but very thickly punctate: elytra rather flat, faintly striated, the interstices punctate throughout; the marginal one with an interrupted series of impressions: body strongly and thickly punctate beneath: legs, antennæ, and palpi rufo-testaceous.

Var. β . With the abdominal segments rufescent on the margins.

Not sufficiently distinct from the foregoing; the chief distinction consisting in the form of the thorax, and the more profound punctuation: Duftschmid expunges it from the Austrian Fauna.

Taken occasionally near London, in Southend. "One specimen at Winterbourne, Stoke, Wilts, in April."—*Rev. G. T. Rudd.* "Halesworth, Suffolk, June."—*Mr. Curtis.* "Dorking, in September."—*Mr. Chant.*

Sp. 4. punctatulus. *Niger, supra æneo-cyaneis, antennis pedibusque ferrugineo-rufis, thorace quadrato, disco parvè punctato, elytris striatis, interstitiis subtilissimè punctulatis.* (Long. corp. $4\frac{1}{2}$ lin.)

Ca. punctatulus. *Duftschmid.*—Op. punctatulus. *Steph. Catal. p. 33. No. 304.*

Pitchy-black: above beautiful rich blue: head with a slightly rugose fovea on



each side above the labrum, and sparingly and finely punctate: thorax subquadrate, the margins, especially the posterior, thickly punctate, the disc sparingly punctate, with a rather strong dorsal line reaching to the hinder margin, the hinder angles a little depressed, but no foveæ: elytra depressed, striated, the striæ impunctate, the interstices finely and thickly punctate, the margin with an interrupted series of impressions: body rather obsoletely punctate beneath: antennæ, legs, and palpi, rusty-red.

In July last I found a single individual of this species beneath a stone near Ripley. I believe there are two others, *unnamed*, in the British Museum, which were taken in Kent.

Sp. 5. *nitidulus*. *Niger, supra cæruleo-viridis, antennis pedibusque rufis, thorace creberrimè punctato, præsertim ad angulos posticos, elytris striatis, interstitiis subtilissimè punctulatis.* (Long. corp. $3\frac{1}{2}$ — $4\frac{1}{2}$ lin.)

Ca. *nitidulus*. *Schrank*.—*Op. nitidulus*. *Steph. Catal. p. 33. No. 305.*

Very similar to the foregoing, but more convex: head obsoletely punctate: thorax thickly and rather coarsely punctate, especially at the hinder angles, each of which has a slight foveola: the dorsal channel is strong, and nearly reaches to the posterior margin: the elytra finely striated, the striæ impunctate, the interstices thickly punctulate, the margin with a nearly continuous series of impressions: body beneath slightly punctate, pitchy brown, with the margins of the segments rather paler: antennæ, legs, palpi, and labrum rufous.

The colour of the upper surface varies much, occurring of various tints of green and bluish, sometimes rather pitchy.

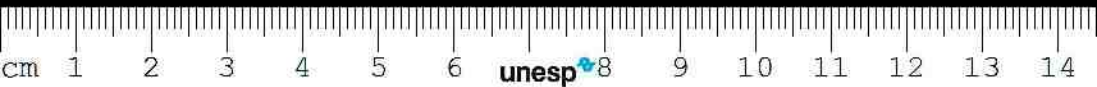
Taken abundantly near Hertford, in July, 1822; sparingly in the immediate neighbourhood of London. "Near Swansea."—*Mr. S. W. Millard*. "Near Norwich."—The late *Mr. Griffin*. "Bot-tisham."—*Rev. L. Jenyns*. "Kimpton."—*Rev. G. T. Rudd*.

Sp. 6. *azureus*. *Nigro-piceus, supra cyaneus, antennis pedibusque rufis, thorace vagè et parcè punctato, margine laterali tenuè ferrugineo, elytris striatis, punctulatis.* (Long. corp. 3 — $3\frac{1}{2}$ lin.)

Ca. *azureus*. *Illiger*.—*Op. azureus*. *Steph. Catal. p. 33. No. 306.*

Much resembling the last, but not above half the size: head blue-black, with a deep transverse impression in front, slightly punctate: thorax green or blue, rather convex, sparingly, but deeply and coarsely, punctate, especially towards the base, which has an obsolete transverse depression, but no foveæ; the dorsal line abbreviated and rather faint; the lateral margins slightly ferruginous: elytra blue or green, rather faintly striated, the striæ impunctate, the interstices thickly punctulate: the margin with a series of remote spots: body beneath pitchy black, punctulated: legs, antennæ, and palpi rufous: labrum pitchy-red. The colour of the upper surface varies greatly.

Not very abundant; taken occasionally beneath stones, in June



and July, near Darent-wood, and at Hertford. "Bottisham."—*Rev. L. Jenyns*. "Kimpton."—*Rev. G. T. Rudd*. "Leith-hill, in September."—*Mr. Waterhouse*. "Newmarket-heath; and St. Lawrence, Isle of Wight."—*Mr. Curtis*.

Sp. 7. punctatissimus. *Piceo-testaceus, antennis pedibusque pallidioribus, elytris nigris viridi nitentibus, thorace subcordato.* (Long. corp. $3\frac{1}{2}$ — $4\frac{1}{2}$ lin.)

Op. punctatissimus *mihi*.—*Steph. Catal. p. 33. No. 311.*

Pitchy-testaceous: the head and thorax above inclining to ferruginous, the former rather thickly punctate, the latter subcordate, with a moderate dorsal line, and thickly but not very coarsely punctate throughout its disc, especially towards the posterior margins, which have an obsolete fovea near the angles: elytra pitchy-black, with a green hue, very deep in some specimens, very thickly and minutely punctate between the striæ, which are impunctate: the legs, palpi, and antennæ are pale rufo-testaceous.

This is probably the *Ha. rupicola* of Sturm, but the puncta on the head and thorax appear to be larger and nearer to each other than in his figure.

Sometimes taken near London. "Southend."—*Rev. F. W. Hope*.

Sp. 8. puncticollis. *Niger, subtus rufo-piceus, antennis pedibusque pallide rufis, thorace profunde punctato, elytris striatis, interstitiis punctulatis.* (Long. corp. $2\frac{1}{2}$ —4 lin.)

Ca. puncticollis. *Paykul*.—Op. puncticollis. *Steph. Catal. p. 33. No. 308.*

Black, pubescent, pitchy-rufous beneath: head glossy, sparingly and faintly punctate, with an obsolete impression on each side between the eyes: thorax slightly convex, glossy black, obsoletely canalculated, the disc slightly and the base thickly and deeply punctate, with a very obsolete foveola near the angles: elytra rather opaque, striated, the striæ impunctate, the interstices thickly and finely punctulated, the margin with an interrupted series of impressions: body punctulate beneath: legs, antennæ, and palpi pale rufescent.

Very abundant near Hertford in June and July; common also near Bottisham, Kimpton, Dorking, in Norfolk, and near Edinburgh.

Sp. 9. foraminulosus. *Piceus, antennis, abdomine pedibusque ferrugineis, elytris striatis, thorace punctato, lineâ dorsali profundâ.* (Long. corp. 4— $4\frac{1}{4}$ lin.)

Ca. foraminulosus. *Marsham*.—Op. foraminulosus. *Steph. Catal. p. 33. No. 309.*

Pitchy, beneath ferruginous: head obsoletely punctulated: thorax distantly and deeply punctate, with a deep channel down the centre, and a slight fovea on each side at the base: elytra very faintly striate, the striæ impunctate, and the interstices thickly and finely punctulated: the body beneath punctulated: the antennæ and legs ferruginous.

Differs from the foregoing by being paler beneath, and by having the thorax more deeply punctate, and the dorsal line more evident.



Found with the preceding, and probably not sufficiently distinct from that insect. "Calton-hill, Edinburgh."—*Dr. Leach.*

Sp. 10. subpunctatus. *Piceo-ater, antennis pedibusque piceis, thorace sublavio ad angulos posticos solè punctato, elytris striatis, interstitiis vix punctulatis.* (Long. corp. $3\frac{3}{4}$ lin.)

Op. subpunctatus mihi.—*Steph. Catal. p. 33. No. 313.*

Readily distinguished from all the foregoing by its superior glossiness, and the paucity of impressions on its surface; it is of a deep pitchy-black both above and below: head a little rugose between the eyes, very obsoletely punctate anteriorly, smooth posteriorly: thorax with the disc impunctate, with a deep central line, and slightly wrinkled, the hinder margin towards the angles a little punctate: elytra faintly striated, the striæ impunctate, the interstices obsoletely but rather thickly punctulated, the outer one with an irregular continuous series of obscure impressions: legs and antennæ pitchy.

Taken near Dover under the cliffs. "Dorking, once found."—*Mr. Waterhouse.*

Sp. 11. puncticeps. *Elongatus, gracilis, piceo-niger, antennis pedibusque rufo-testaceis, thorace subcordato, lined dorsali subprofundâ, capite punctatissimo.* (Long. corp. $3\frac{1}{2}$ lin.)

Op. puncticeps mihi.—*Steph. Catal. p. 33. No. 312.*

Considerably more slender than either of the foregoing; pitchy-black, beneath paler: head thickly punctate: thorax subcordate, with the disc thickly and somewhat coarsely punctate, especially towards the hinder angles, and with a deep abbreviated dorsal line: elytra rather faintly striated, the interstices thickly and somewhat finely punctate: the legs, palpi, and antennæ rufo-testaceous.

I have seen but my own specimens, which I took near Dover in August 1819.

Sp. 12. cribellum. *Nigro-piceus subtus dilution, antennis pedibusque rufo-testaceis, thorace brevissimo, profundè et creberrimè punctato, lateribus rotundatis.* (Long. corp. $2\frac{1}{4}$ — $3\frac{1}{2}$ lin.)

Op. cribellum. *Leach MSS.—Steph. Catal. p. 33. No. 310.*

Allied to the last, but differs in the form of its thorax and its impressions; it is of a pitchy-black above, paler beneath: the head is thickly punctate: the thorax transverse, with the lateral margins rounded, disc moderately convex, with an abbreviated dorsal line, thickly and deeply punctate, especially at the hinder edge, which has a mere rudiment of a fovea on each side: the elytra are moderately convex, the sides a little dilated, striated, the striæ impunctate, the interstices thickly and rather strongly punctate: the legs and antennæ are testaceous-red.

Taken occasionally near London, and at Dover. "Dorking, under stones."—*Mr. Waterhouse.*



Sp. 13. pubescens. *Pallide-ferrugineus punctatissimus, capitis thoracisque medio, elytrorum maculâ communi posticâ abdomineque nigro-piceis.* (Long. corp. $2\frac{3}{4}$ — $3\frac{1}{2}$ lin.)

Ca. pubescens. Paykul.—*Trechus pubescens.* Steph. Catal. p. 34. No. 321.

A variable insect, generally pale ferruginous: head thickly punctate, with a longitudinal black line: thorax slightly convex, thickly and deeply punctate, with a faint dorsal line, and on each side at the base a rather deep fovea, the centre frequently with a longitudinal black line: elytra a little convex, faintly striated, the striæ obsoletely punctate, the interstices thickly and deeply punctate, the disc posteriorly with a large common black patch, in certain lights tinged with blue: breast and abdomen pitchy-black, thickly punctate: legs ferruginous: hinder thighs sometimes pitchy at the base: antennæ rufescent at the base, rusty-brown at the tip.

Var. β . Steph. Catal. l. c. Rather larger, with the upper surface entirely ferruginous.

Var. γ . Steph. Catal. l. c. With the disc of the thorax entirely black; the suture ferruginous.

Var. δ . Steph. Catal. l. c. With the upper surface pitchy-ferruginous, beneath paler, the head rufous.

There are many other varieties, scarcely two specimens occurring precisely similar in their markings.

This insect has hitherto been placed in English cabinets at the head of the genus *Trechus*, but the evidently truncate palpi, and the pubescent and punctate body, sufficiently remove it therefrom, and render it congenerous with the *Ophoni*, with which it is associated by the continental writers, and, like several of the species of that genus, it is mostly found on the coast.

Apparently a littoral insect, taken occasionally near Gravesend, and on the coasts of Norfolk and Suffolk. "Beneath rejectamenta at Southend."—*Rev. F. W. Hope.* "On the shores of the Tees."—*L. Ruidd, Esq.* "Near Swansea."—*Dr. Leach.*

Sp. 14. germanus. PLATE IX. f. 1.—*Niger, capite, pedibus elytrisq. testaceis, elytris apice thoraceque violaceis.* (Long. corp. 4 — $4\frac{1}{2}$ lin.)

Ca. germanus. Linné.—*Op. germanus.* Curtis, iv. pl. 191.—Steph. Catal. p. 33. No. 307.

Very pubescent; black: the head testaceous, thickly and finely punctulate: thorax blue-black, with an abbreviated dorsal line; the disc rather depressed, thickly and finely punctulated throughout, with an elongate fovea on each side at the base: elytra pale testaceous, with a patch of violet at the apex, striated, the striæ impunctate, the interstices very finely and thickly punctulated: antennæ, legs, and palpi testaceous.

"Near Kingsbridge in Devonshire."—*Dr. Leach.* To whom I am indebted for a fine series of specimens taken as above by the late Mr. Cranch, in June 1816.





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GENUS LIX.—STENOLOPHUS, Ziegler.

Palpi, external maxillary with the terminal joint ovate-acuminate, truncate, longer than the preceding, which is clavate; internal with the last joint as long again as the first, and very slender, acute: labial with the two last joints of equal length, the terminal ovate, truncate: labrum transverse, entire: mandibles acute, obsoletely crenated at the base: maxillæ acute, elongate: mentum transverse, deeply and simply emarginate. *Antennæ* with the two basal joints naked: head ovate: thorax suborbicular, the hinder angles rounded: elytra sinuate-truncate at the apex: wings two: anterior and intermediate tarsi of males with dilated joints.

Stenolophus differs from Harpalus by having the notch of the mentum nearly simple, as in Trechus, but from the latter genus it may be known by its truncate palpi; it may also be distinguished with facility from Ophonus by the body being naked and impunctate, and from Harpalus by its suborbicular thorax.

The species of this genus usually frequent wet and marshy situations in gravelly districts, and are mostly very local.

Sp. 1. vaporariorum. PLATE IX. f. 2.—Niger, thorace, elytrorum basi, antennarum articulis duobus basalibus pedibusque testaceis. (Long. corp. $2\frac{1}{2}$ — $3\frac{1}{4}$ lin.)

Ca. vaporariorum. Fabricius.—St. vaporariorum. Steph. Catal. p. 33. No. 314.

Above with the head black, smooth: thorax rufous, slightly convex, with a moderate dorsal line, and a foveola on each side at the base: elytra with the base and margin pale testaceous, and a large patch of black occupying more than the posterior half, simply striated, the interstices smooth, with a few impressions towards the apex of the outer stria: beneath the head and abdomen are black: the thorax, legs, palpi, and the two basal joints of the antennæ pale testaceous, the remaining joints fuscous: the anterior margin of the thorax is sometimes black.

Linnaeus has evidently confounded different insects together, under the above name, in his *Systema Naturæ* and *Fauna Suecica*: the insect thus called in the former work is supposed by Gyllenhal (whose residence in Sweden gives him a better opportunity of deciding the point than other naturalists) to be the *Tarus basalis*, subsequently described, while the other description is evidently synonymous with that of *Tr. dorsalis*. It however appears, by a memorandum of Mr. Kirby's, that the insect in the Linnean cabinet, called *Ca. vaporariorum*, is the same as the above.

Taken in Battersea-fields, but rarely. "Gravelly banks of ponds, Wandsworth common, in February, March, and April."—Mr. Inghen. "Fakenham, Norfolk."—Rev. T. Skrimshire. "Brompton, near the canal."—Mr. Waterhouse.

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Sp. 2. Skrimshiranus. *Fusco-testaceus, subopacus, capite nigro, antennarum articulis tribus basalibus, palpis pedibusque pallide testaceis.* (Long. corp. 3 lin.)
 St. Skrimshiranus mihi.—*Steph. Catal. p. 33. No. 315.*

Allied to the foregoing, but more oblong: above dull brown-testaceous: head black: thorax with an obsolete dorsal channel, and a single subpunctate fovea on each side at the base: elytra entirely testaceous-brown, with an obsolete darker tinge towards the apex, simply and regularly striated, the abbreviated and sutural striæ united; the marginal stria with a few oblique serratures towards the apex, and two at the base: the abdomen, breast, and head pitchy-black, the thorax, legs, palpi, and three basal joints of the antennæ pale testaceous.

“Near Fakenham, in Norfolk.”—*Rev. T. Skrimshire*; to whom I am indebted for my specimen. There are also two specimens in the British Museum from the above county.

Sp. 3. vespertinus. PLATE IX. f. 3.—*Nigro-piceus, pedibus pallidis, thoracis margine laterali testaceo, foveâ magnâ punctatâ posticâ utrinque, elytris brunneis internè nigris.* (Long. corp. $2\frac{3}{4}$ —3 lin.)

Ca. vespertinus. *Illiger?*—St. vespertinus. *Steph. Catal. p. 34. No. 316.*

Pitchy-black: head and thorax glossy black, the latter with a slight dorsal line, the lateral margin pale testaceous, a broad, shallow, thickly punctate fovea on each side at the base: elytra slightly convex, rather glossy testaceous or pitchy-brown, with the margin and suture palest, and an indistinct longitudinal dash of bluish-black towards the suture: legs, basal joint of the antennæ, and tip of the palpi pale testaceous, the rest of the antennæ fuscous.

Var. β ? St. Zeigleri. *Steph. Catal. p. 34. No. 317.* Rather more elongate, with the elytra darker than usual, and the thorax less margined than ordinary. This insect, which I have lately re-examined, is in the British Museum, and is evidently a mere variety of the above.

Usually taken in marshy and damp situations, or gravelly banks by the sides of ponds. “Wandsworth-common and Copenhagen-fields, in the spring.”—*Mr. Ingpen.* “Battersea-fields, and near the canal, Earl’s-court.”—*Mr. Waterhouse.* “Borders of Whit-tlesea Mere.”—*Mr. Weaver.* “Marshes near Norwich.”—Late *Mr. Griffin.* “Hackney-marshes.”—*Mr. Bentley.*

GENUS LX.—TRECHUS, *Clairville.*

Palpi, external maxillary and *labial* with the last joint conic acute, the penultimate joint of the former obconic, shorter than the last, the two forming a fusiform club; *internal maxillary* composed of two nearly equal joints, the terminal very slender: *labrum* rounded, entire: *mandibles* acute: *mentum* transverse, tridentate anteriorly, the central tooth shortest. *Antennæ* with the



two basal joints alone naked: *head* ovate: *thorax* cordate-truncate, angles mostly rounded: *body* subconvex, ovate: *elytra* entire, as long as the body: *wings* two, ample: *anterior* and *intermediate tarsi* of males dilated.

Trechus, even in its present restricted state, embraces some very dissimilar forms, and consequently requires subdivision; the species may, however, be distinguished from all the foregoing Harpalidæ by the acute termination of the last joint of the palpi, and from Blemus by the less elongate and more convex body, as well as by the obtuse posterior angles of the thorax. The species mostly frequent damp and gravelly places, by the sides of ponds or banks. De Jean places several of the species in the former genus; but the acute palpi obviously remove them therefrom.

A. With the body more or less convex.

a. *The posterior angles and sides of the thorax rounded.*

Sp. 1. dorsalis. PLATE IX. f. 4.—*Niger, nitidus, elytris striatis pallidis, plagâ lanceolatâ nigrâ, thorace nigro, lateribus pallidis, posticâ utrinque foveâ subpunctatâ.* (Long. corp. $1\frac{1}{2}$ —2 lin.)

Ca. dorsalis. Fabricius.—St. dorsalis. Steph. Catal. p. 34. No. 318.

Glossy black; thorax generally with the disc black, the lateral and hinder margins more or less pale testaceous, with a slight dorsal channel, near the base on each side a broad, rather deep, obsoletely punctate fovea: elytra pale testaceous, with a broad glossy black or violet dash on each near the suture, striated, the striæ impunctate, the margin with an irregular series of impressions: legs testaceous brown: antennæ fuscous, with the basal joint testaceous.

This insect varies much in colour, the thorax being sometimes found immaculate, the spot on the elytra is occasionally nearly obliterated, and the hinder tibiæ occur with their apex dusky.

“Wandsworth-common and Copenhagen-fields, in the spring, at the roots of grass in gravelly banks by the sides of ponds.”—*Messrs. Ingpen, Waterhouse, and Westwood.* “Marshes near Fakenham.”—*Rev. T. Skrimshire.*

Sp. 2. parvulus? *Niger, thoracis limbo, elytris pedibus palpis antennarumque basi pallide testaceis.* (Long. corp. $1\frac{3}{4}$ lin.)

Tr. parvulus. Sturm?—St. parvulus. Steph. Catal. p. 34. No. 319.

Rather less than the last: head black: thorax with the disc black, the margins entirely pale testaceous, the dorsal line rather deep, the base on each side with a slight fovea: elytra pale testaceous-yellow, simply striated: legs pale testaceous: antennæ fuscous, with the three basal joints testaceous.

Probably a small variety of the preceding, with the elytra immaculate.

Found, though rarely, in damp places near London.

Sp. 3. *flavicollis*. *Niger, antennarum articulo primo thoraceque testaceo-flavis elytris rufo-fulvis, plagâ latâ nigrâ, pedibus palpisque pallide flavis.* (Long. corp. $1\frac{1}{2}$ — $1\frac{1}{2}$ lin.)

Tr. *flavicollis*. *Sturm.—Steph. Catal. p. 34. No. 327.*

Head black: thorax testaceous yellow immaculate; with a slight dorsal line, and an impunctate fovea on each side at the base: elytra pale fulvous-yellow, with a broad black longitudinal dash from the base nearly to the apex, leaving the suture and margin clear; rather faintly striated, the striæ impunctate: abdomen pitchy-black, breast and head beneath fulvous: legs and palpi pale yellow; the basal joint of the antennæ testaceous-yellow, the rest fuscous.

Far from abundant; taken in sand-pits on Hampstead-heath: also in Norfolk, and near Ripley. "On Wandsworth-common."—*Messrs. Ingpen, Waterhouse, and Westwood.*

b. *The posterior angles of the thorax somewhat acute.*

Sp. 4. *ruficollis*. *Nigro-piceus, antennis thoraceque rufo-fulvis, pedibus testaceis.* (Long. corp. $1\frac{1}{2}$ lin.)

Tr. *ruficollis mihi*. *Steph. Catal. p. 34. No. 326.*

About the size of the foregoing: deep pitchy-black: the head as in the last: thorax rather light fulvous-red; with a moderate dorsal line, and an obsolete transverse impression, at the base on each side a slightly punctate fovea: elytra uniform pitchy-black, rather deeply and simply striated, the abbreviated striæ obsolete: legs and palpi pale-testaceous: antennæ fulvous, with the tip dusky.

Found sometimes near London and at Hertford. "Bottisham."—*Rev. L. Jenyns.*

Sp. 5. *suturalis*. *Nigro-piceus, antennis, suturâ margineque elytrorum fulvis, pedibus pallidis.* (Long. corp. $1\frac{3}{4}$ — $2\frac{1}{4}$ lin.)

Tr. *suturalis*. *Leach MSS.—Steph. Catal. p. 34. No. 325.*

Larger than the foregoing: deep pitchy-black: head smooth, with a minute frontal impression, and two puncta between the eyes: thorax sometimes fulvescent, with a rather deep channel down the centre, and an obsolete transverse impression, the base on each side with a moderate fovea, rather slightly punctate: elytra pitchy-black, with the margin and suture fulvous; deeply striated, the striæ impunctate, the margin with a series of impressions at the tip: legs and palpi pale testaceous: antennæ fulvous with the tip dusky.

Rare near London; taken occasionally at Hampstead. "Wandsworth-common."—*Mr. Ingpen*. "Banks of the Tees."—*L. Rudd, Esq.* "Near Swansea."—*Mr. Millard*. "Midgley Moss, near Halifax."—*Mr. Gibson.*

Sp. 6. *pallipes*. *Niger, subtilis piceus, antennis pedibusque pallide fulvis, elytris striatis, striis subpunctatis.* (Long. corp. $2\frac{1}{4}$ — $2\frac{1}{2}$ lin.)

Tr. *pallipes mihi*.—*Steph. Catal. p. 34. No. 322.*



Black, beneath pitchy, rather glossy: head smooth, with a minute impression on each side: thorax smooth, with a faint dorsal channel, and a transverse depression posteriorly, terminating at each end in a small punctate fovea: elytra black, rather strongly striated, the striæ obsoletely punctate, the interstices somewhat convex: the marginal stria with a few impressions towards the apex: legs, palpi, and antennæ pale fulvous, the latter dusky towards the apex.

Taken in corn-fields near Hertford, in July, and "in Devonshire."—*Dr. Leach.*

Sp. 7. fulvus. *Piceo-fulvus, annis pedibusque pallidioribus, elytris striatis, striis impunctatis.* (Long. corp. 2—2½ lin.)

Ca. fulvus. *Marsham.*—Tr. fulvus. *Steph. Catal. p. 34. No. 323.*

Rather less than the last, and paler: of a deep pitchy-fulvous: head as in Tr. pallipes: thorax of a glossy rusty-rufous, the disc smooth, with a faint dorsal channel; an obsolete impressed thickly punctate stria near the apex, and a large coarsely punctate fovea on each side at the base: elytra rather obsoletely striated, the striæ impunctate; the interstices slightly convex, the margin with a series of impressions at the apex, and four or five at the base: legs testaceous: antennæ rather fulvous, with the apex a little dusky.

Var. β. With the thorax very rugose, and much wrinkled transversely.

Common near London; in sand-pits, at Hampstead; gravel-pits, Coombe, near Ripley, Southend, &c.

Sp. 8. pallidus. *Corpore toto pallide testaceo, annis pedibusque dilutioribus, oculis nigris.* (Long. corp. 2—2½ lin.)

Tr. pallidus *mihi.* *Steph. Catal. p. 34. No. 324.*

Allied to the two last; entirely of a pale testaceous, with the suture and margins of the elytra paler: the antennæ and legs still paler, the former a little dusky at the apex, and the eyes deep black: the thorax is slightly tinted with fulvous, and punctate behind, and the elytra are a little clouded with dusky. Probably a mere variety from immaturity of the foregoing, taken in company with it, but apparently mature. It appears to be the Tr. Verbasci of Sturm.

Taken near Ripley, in June and July.

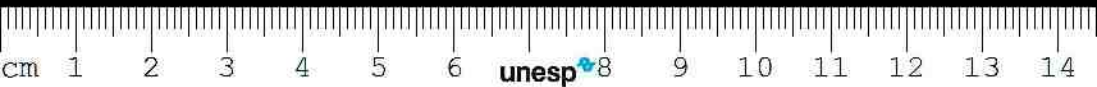
B. Body more or less depressed.

a. *Thorax transverse, the sides rounded, the posterior angles slightly acute.*

Sp. 9. minutus. *Nigro-piceus, nitidus, annis pedibusque ferrugineis, elytris castaneis, striis quatuor vel quinque dorsalibus impunctatis* (Long. corp. 1½—1¾ lin.)

Ca. minutus. *Fabricius.*—Tr. minutus. *Steph. Catal. p. 35. No. 329.*

Depressed, glossy, pitchy-black, or ferruginous: head sometimes black, with a deep arcuated impression on each side, terminating rather behind the eyes: thorax with the angles obtuse, slightly convex, the disc pitchy-ferruginous,



the margins paler; a somewhat deep longitudinal dorsal line, a curved impression, and a small fovea on each side at the angle: elytra very flat, smooth, glossy chesnut, or ferruginous, with the edges paler; each with four or five faint impunctate striæ towards the suture, the marginal ones being more obsolete, and not touching the apex; the margin itself is striated, and has one or two impressions at the base, and a few towards the tip: the legs and palpi are pale testaceous: the antennæ ferruginous. * It varies in colour.

Found in damp places round London and Southend; also in Suffolk, Norfolk, and Yorkshire, common.

Sp. 10. fuscipennis. *Piceus, nitidus, antennis pedibusque pallide ferrugineis, elytris fuscescentibus, striis dorsalibus profundis.* (Long. corp. $1\frac{3}{4}$ lin.)
Tr. fuscipennis. Wilkins' MSS.—Steph. Catal. p. 35. No. 330.

Probably a mere variety of the foregoing: it differs in being of a deeper colour, and in having the elytra more profoundly striated, the striæ impunctate: the head is pitchy: the thorax dusky-black: the elytra deep castaneous-brown, the striæ rather deep and impunctate: the legs and palpi are rusty-red, and the antennæ ferruginous.

Found in Norfolk, and also near London.

Sp. 11. tristis. *Nigro-piceus, nitidus, antennis pedibusque ferrugineis, elytris subcastaneis, striis dorsalibus subpunctatis.* (Long. corp. $1\frac{1}{2}$ — $1\frac{3}{4}$ lin.)
Ca. tristis. Paykul.—Tr. tristis. Steph. Catal. p. 35. No. 331.

Very similar, and possibly not sufficiently distinct from the two last: deep shining pitchy-black: head as in the two preceding; generally black: thorax rather castaneous, with a moderate dorsal line, and a slightly punctate fovea on each side at the base: elytra striated internally, the striæ obsoletely punctate, the outer ones nearly evanescent, and vanishing at the tip: legs pale testaceous: antennæ ferruginous, with the base palest.

Frequently captured near London and Southend.

b. *Thorax rather elongate, attenuated posteriorly, the angles obsolete.*

Sp. 12. meridianus. *Niger, nitidus, thorace postice attenuato, elytris striatis, basi suturâ pedibusque pallidis.* (Long. corp. $1\frac{1}{4}$ — $1\frac{3}{4}$ lin.)
Ca. meridianus. Linné.—Tr. meridianus. Steph. Catal. p. 34. No. 328.

Deep glossy black: head smooth: thorax slightly attenuated posteriorly, deep black or piceous, rather convex, with a faint dorsal line, and a large subpunctate fovea on each side at the base, the margins sometimes testaceous: elytra slightly convex, not very deeply striated, the striæ impunctate; shining black, the base with a large pale spot, more or less dilated externally, the suture and the outer margin also pale, the former rather blackish at the base: legs and antennæ ferruginous, the former with the thighs sometimes dusky, and the latter generally brownish at the tip.

Common near London, and I believe pretty generally distributed.

Sp. 13. *cognatus*. *Niger, thorace posterioris angustiore rotundato, foveis baseos punctatis, elytris ferrugineis, plagâ lanceolatâ nigro-cærulescente.* (Long. corp. $1\frac{3}{4}$ lin.)

Ca. *cognatus*. *Gyllenhal?*—St. *cognatus*. *Steph. Catal. p. 34. No. 320.*

Size of St. *dorsalis*, which it resembles; but the structure and foveæ of the thorax are different: head black, shining; mouth and labrum pitchy: palpi pitchy, with the tip pale: antennæ pitchy-brown, with the basal joint testaceous: thorax obliquely narrowed behind, moderately convex, shining black, the hinder margin obscure ferruginous, the base with a deep punctate fovea on each side: elytra with a dorsal patch, as in Tr. *dorsalis*, but sometimes deep ferruginous: body beneath glossy black: thighs black, or pitchy-red: tibiæ and tarsi pale testaceous.

Rare near London; I have seen one specimen only.

GENUS LXI.—BLEMUS, Ziegler.

Palpi, external maxillary and labial with the last joint conic acute, the penultimate joint of the former distinct, obconic, equal in length with the last: *internal maxillary* slender: *labrum* transverse, arcuate, slightly notched: *mandibles* acute, rather elongate: *mentum* notched anteriorly, the centre slightly produced. *Antennæ* with the basal joint naked: *head* large, oblong-ovate: *thorax* cordate-truncate, hinder angles very acute: body elongate, rather depressed: *elytra* entire, as long as the body: *wings* two, ample: *anterior tarsi* of the males with dilated joints.

The species of this genus are all scarce in Britain; they may be known from the Trechi by their elongate depressed body, by the relative length of the terminal joints of the external maxillary palpi, and by the form of the thorax, which is much attenuated posteriorly, and has the hinder angles very acute, and somewhat recurved.

Sp. 1. *paludosus*. *Nigro-piceus, nitidus, capite fusco, elytris punctato striatis, antennis pedibusque testaceis.* (Long. corp. 3 lin.)

Be. *paludosum*. *Gyllenhal.*—Bl. *paludosus*. *Steph. Catal. p. 35. No. 332.*

The largest species of the genus, and differing a little from the others in form, the elytra being rather broader in proportion: it is of a glossy pitchy-black, inclining to castaneous; the head rather dusky, with a deep bent impression on each side anteriorly: thorax a little convex, smooth pitchy-black, with a deep dorsal channel, and a deep transverse fovea on each side at the base: elytra dark chesnut, with the disc interiorly punctate-striated, exteriorly more obscurely striated; at the base on the margin are a few impressions: body beneath glossy pitchy-black; the abdomen posteriorly pale ferruginous: legs pale testaceous: antennæ and palpi ferruginous.

Var. β ? Broader, and of an uniform pale testaceous colour, with the elytra more

deeply striated. Three specimens in the British Museum, which are apparently distinct species from var. α .

One of my specimens of this species was caught near Norwich; the others were taken near Hull, by W. Spence, Esq. "Grampian-hills."—*Rev. F. W. Hope*. "Zetland."—*Rev. J. Fleming*. "Swansea."—*Dr. Leach*.

Sp. 2. *rubens*. *Testaceo-ferrugineus, capite fuscescente, thorace rufo-ferrugineo, elytris versus apicem obsolete cæruleo micantibus, tenuè striatis*. (Long. corp. $2\frac{1}{4}$ lin.)

Ca. *rubens*. *Fabricius*.—Bl. *rubens*. *Steph. Catal. p. 35. No. 333*.

Rusty-testaceous: head rather dusky, with an arcuated impression on each side: thorax rusty-red, rather convex, with a deep central channel, and a deep depressed fovea on each side near the posterior angles: elytra pale testaceous, with a bluish gloss towards the apex of the disc; rather faintly striated, the striæ simple: legs and antennæ pale ferruginous.

Taken occasionally in gardens in the vicinity of London, at Lambeth, first by Dr. Leach, afterwards by myself. "Chelsea."—*Mr. Westwood*. "Hackney marshes."—*Mr. Chant*. "Windsor." *Dr. Leach*. "In a water meadow at Thruxton, Hants."—*Rev. G. T. Rudd*.

Sp. 3. *unifasciatus*. *Rufo-ferrugineus, oculis elytrorumque fasciâ posticâ nigris, elytris obsolete striatis; pedibus ochraceis*. (Long. corp. $2-2\frac{1}{4}$ lin.)

Ca. *unifasciatus*. *Panzer*.—Bl. *unifasciatus*. *Steph. Catal. p. 35. No. 334*.

Allied to the last; rusty-red: head smooth, with a deep impression on each side round the eyes, the latter prominent, black: thorax obcordate, rather convex, with a deep longitudinal line, and a simple depression at the hinder angles on each side: elytra slightly pubescent, obsoletely striated, ferruginous, with a bluish-black fascia towards the tip: body beneath pale reddish: legs ochraceous or pale testaceous.

Var. β . With the head black, the elytra testaceous, with a common dorsal black spot.

This variety is probably the Ca. discus of Fabricius, but of that insect he says, "*thorax rotundatus*," which character neither suits this insect nor any other of this genus.

This species has been found in the neighbourhood of London; it also occurs in Norfolk and Suffolk, though very sparingly, and is usually caught upon the wing. "Greenwich road, in June."—*Mr. Ingpen*.

† Sp. 4. *longicornis*. *Elongatus, capite nigro, thorace elytrisq. brunneis, antennis, palpis pedibusq. brunneo-flavis, elytris striatis, punctis tribus impressis*. (Long. corp. $2\frac{1}{2}$ lin.)

Tr. *longicornis*. *S Sturm*.—*Steph. Catal. p. 35. No. 335*.

Elongate: head black: thorax brown, suborbicular cordate, truncate behind, with a dorsal and transverse impression: elytra pale brown, tinged laterally with yellowish, and internally rather bluish; striated, the striae simple, with three impressed dots on the disc: legs, palpi, and antennæ pale brownish-yellow.

“Taken in June last, under rejectamenta, at Broughton, Lancashire.”—*Mr. Curtis.*

Sp. 5. consputus. PLATE IX. f. 6.—*Niger, antennarum basi pedibusque pallidis, elytris substriatis testaceis, maculâ subcommuni fuscl.* (Long. corp. 2 lin.)

Ca. consputus. *Dufschmid.*—Bl. consputus. *Steph. Catal. p. 35. No. 337.*

Body beneath and head black: thorax generally pale rusty-red, with a strong dorsal line, having an impression posteriorly, the base greatly depressed behind, with a deep impunctate fovea on each side: elytra testaceous, moderately striated, with a longitudinal brown or black patch, glossed with violaceous, on each, separated by the suture, which is more or less testaceous: legs pale testaceous yellow: basal joints of the antennæ the same, the rest brownish.

Var. β . With the disc of the thorax entirely pitchy ferruginous, and the patch on the elytra more powerful.

“Taken rather plentifully in a gravel-pit near Windsor.”—*J. H. Griesbach, Esq.*; who presented me with specimens. “Battersea-fields and Old Brompton, sparingly, in May last.”—*Mr. Waterhouse.* “Copenhagen-fields.”—*A. Cooper, Esq.*

GENUS LXII.—EPAPHIUS, *Leach.*

Palpi, maxillary with the terminal joint longer than the preceding, conic-acute; labial with the two last joints nearly equal in length: labrum short, transverse, arcuate: mandibles slightly elongate, bent, acute: mentum with its anterior edge emarginate, the emargination with a simple tooth. Antennæ with the basal joint large, naked: head large, triangular: eyes small: thorax transverse, cordate, convex, rounded behind, remote from the elytra; the latter oval, broad, rounded at the apex: wings none: anterior tarsi of the male with two dilated joints.

This singular genus is readily distinguished from the two preceding and the following genera by its nearly orbicular cordate thorax and dilated elytra; it also differs in the form and proportions of the palpi, the absence of wings, and by the structure of the mentum. The only indigenous species inhabits the coasts, beneath rejectamenta.

Sp. 1. Secalis. *Ferrugineus nitidus, thorace nitidissimo, elytris disco interiore punctato-striatis, pedibus pallidis.* (Long. corp. 2 lin.)

Ca. Secalis. *Paykul.*—Ep. Secalis. *Steph. Catal. p. 35. No. 338.*

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Bright shining ferruginous: head with a deep bent fovea between the eyes on each side: eyes black: thorax glossy ferruginous, smooth, with a slender dorsal line, and a small fovea near the base on each side: elytra rather paler than the thorax, with five distinctly punctate abbreviated striæ on the disc of each interiorly, the exterior margin very smooth, with a few impressed dots at the base: body beneath glossy rusty-piceous: legs and palpi pale testaceous: antennæ pale ferruginous.

Var. β . With the head and thorax pale rusty-red, the elytra and legs testaceous-yellow.

Found occasionally on the coast of Norfolk. "On the shores of the Humber."—*Wm. Spence, Esq.*

GENUS LXIII.—*ÆPUS*, *Leach*.

Palpi, maxillary with the terminal joint shorter than the preceding, the *internal* with the last joint slender, *external* with the third joint longest, stout, clavate, the terminal slender, attenuated; *labial* with the two last joints nearly equal in length, the terminal slender and attenuated, the preceding robust: *labrum* bilobed: *mandibles* porrect, acutely dentate interiorly: *mentum* slightly emarginate, tridentate anteriorly. *Antennæ* with the basal joint naked: *head* broad, ovate: *eyes* minute: *thorax* obcordate-truncate: *elytra* depressed, obsoletely notched at the apex: *wings* none: *tarsi* very pubescent beneath, the *anterior* with a curved spine on the penultimate joint below.

The depressed form, porrect mandibles, obcordate-truncate thorax, large head, and attenuated terminal joints of the palpi, sufficiently discriminate this genus from the rest of the Harpalidæ, exclusively of its minute dimensions, which are the least of the family.

Sp. 1. *fulvescens*. *Depressus, ochraceus, subtus pallidior, oculis nigris, antennis capiteque pallide fulvescentibus*. (Long. corp. $\frac{3}{4}$ — $1\frac{1}{4}$ lin.)

Æpus fulvescens. *Leach MSS.*—*Curtis*, v. pl. 203.—*Steph. Catal.* p. 36. No. 339.

Smooth, pale ochraceous, paler beneath: head rather fulvescent, with a curved impression on each side in front: eyes black: thorax with an abbreviated dorsal channel, and an obsolete fovea on each side at the base near the hinder angles: elytra pale, irregularly and somewhat obsoletely punctate: legs pale ochraceous: antennæ fulvescent.

"Taken in plenty on the southern coast of Devonshire, beneath stones, at the mouths of the rivers Tamar and Yealm, and at Tarmarton, Bantam, and Kingsbridge."—*Dr. Leach*. "At Ballyhuish Ferry, Scotland."—*Mr. Curtis*.



ADDENDA ET CORRIGENDA.

Page 6. *Larva of CICINDELA*. With reference to the note on the eyes, the Rev. W. Kirby observes, in a letter upon the subject, "I have again examined my specimen of the larva of Cicindela, and I distinctly perceive eight eyes, the two larger ones above the head, and the minute ones below; the inner minute one would easily be overlooked; and as Latreille probably did not examine it with a high power, which is necessary distinctly to perceive it, it escaped his eye." For the correctness of the above I can vouch, by an examination of the larva itself, which was kindly given to me by Mr. Westwood, who obtained several specimens during the early part of last summer from gravel-pits at Coombe-wood, and on Wimbledon-common.

Page 8. *CICINDELA hybrida*. A small specimen, measuring only $5\frac{1}{2}$ lines in length, and of a very convex form, was taken at Beaumaris, in North Wales, in June last: its colour and markings are, however, nearly the same as usual.

Page 11. *CICINDELA germanica*. "Taken in plenty at Black-gang-chine, during last July."—*A. Cooper, Esq. R. A.* "Near Reading."—*Rev. C. S. Bird.*

Page 18. *CICINDELA aprica*. Var. γ . Of a beautiful rich coppery green above, with the foveæ and lunules as usual in form, but of a deep tawny ochraceous hue, at first sight apparently obliterated.

Like the other Cicindelæ, this has the humeral lunule frequently interrupted. This appears to be the common species on the north-western coasts, particularly in those of Lancashire and Cheshire. I have now seen nearly 100 specimens: it varies greatly. "One taken at Southend in April, 1827."—*Rev. F. W. Hope.* A specimen of this species stands in the Banksian cabinet as *Ci. hybrida*.

Page 13. *POLISTICHUS fasciolatus*. "A single specimen taken in April, 1827, under a stone, at Marsden, in Northumberland, by Mr. Thornhill."—*G. Wailes, Esq.* "Found in profusion, in April, 1828, beneath a heap of stones, on the coast near Southwold, Suffolk."—*C. J. Hewitson, Esq.*, who obligingly furnished me with a series of specimens. This does not appear to be a maritime insect on the continent, as, according to De Jean, it occurs not uncommonly near Paris. Mr. Hewitson's capture of this species, as well as the observations of the Rev. G. T. Rudd, upon *Badister cephalotes*, fully exemplify the justness of my remarks in page 17, relative to the supposed rarity of particular insects; and the former paucity of the above species in collections tends to show the great difficulty we experience in ascertaining the extent of the entomological productions of any country, which is further illustrated by referring to the labours of Duftschmid, Sturm, and others, wherein it will be observed that very many of the species are described in their respective works upon the knowledge of single specimens merely.

Obs. In some of the early impressions of the figure of this insect, the left antenna is represented with ten joints only.



Page 15. † Sp. 3. *DEMETRIAS imperialis*. *Pallide flavus, capite atro, thorace oblongo-ovali, elytris striatis, plagâ suturali maculâque marginali posticâ nigro-fuscis*. (Long. corp. 3 lin.)

De imperialis. *Megerle*.—*Steph. Catal. Appendix*.

Head black; mouth and neck rufescent: thorax oblong, narrow behind, slightly margined, smooth, pale rufescent: elytra flat, obsoletely striated, very pale, with an abbreviated wedge-formed brown dash at the suture, and a deep black spot on the outer margin of each elytron towards the apex: body beneath and legs pale, with the breast pitchy-black: antennæ pale.

“Taken at Southend, April, 1829.”—*Rev. F. W. Hope*.

Page 21. † Sp. 3, b. *DROMIUS Sigma*. *Pallidus, capite nigro, thorace quadrato rufo, elytris suturâ fasciâque posticâ dentatâ fuscis*. (Long. corp. 2 lin.)

Dromius Sigma. *De Jean*.—*Steph. Catal. Appendix*.

The form of the preceding insect (*Dr. 4-maculatus*), but the size of the following, from which it differs by its quadrate thorax and greater width: the head black: thorax quadrate, rufo-ferruginous, with the margins paler, and a small impression at the base, near the posterior angles: elytra pale yellowish-testaceous, the suture, except at the apex, brown, and a little behind the middle a broad transverse fascia of the same colour, dentated anteriorly in the middle, and dilated posteriorly on the outer margin: body beneath, and legs, pale testaceous, the former darkest.

I have seen one specimen only, which was taken near Dorking, in April last, by Mr. Waterhouse.

Page 21. *DROMIUS 4-notatus*. Var. γ . “With the pale spots on the elytra united, as in *Dr. 4-maculatus*, var. δ : taken near Darlington, in company with a profusion of var. α .”—*Mr. C. Horner*.

Page 23. *DROMIUS impunctatus*. “In plenty near Lawrence Waltham, in Berkshire, in March last.”—*Mr. Hanson*.

Page 25. Sp. 11, b. *DROMIUS maurus*. *Ater, nitidus, thorace brevi posticè obliquè attenuato, elytris brevibus, lævissimis*. (Long. corp. $1\frac{1}{2}$ — $1\frac{1}{2}$ lin.)

Dr. maurus, *Ziegler*.—*Steph. Catal. Appendix*.

Allied to *Dr. glabratus*, but smaller, of a deeper black, with the thorax very much attenuated behind, and the elytra considerably shorter than the abdomen: the upper surface is entirely of a deep glossy black, and the elytra impunctate, and not striated; body beneath, and legs also black: antennæ rather brownish.

Not uncommon near Ripley. “Dorking.”—*Mr. Waterhouse*. “Near Lawrence Waltham, in Berkshire.”—*Mr. Hanson*.

Page 27. *LEBIA crux-minor*. “Near High Buckington, Devonshire.”—*T. Cocks, Esq.*

Page 29. *LAMPRIAS cyanocephalus*. “Springly, under moss, on oaks, near



Kimpton, Hants."—*Rev. G. T. Rudd*. "Near Darlington, rather plentifully, in March, 1828."—*Mr. J. O. Backhouse*.

Page 31. *LAMPRIAS chlorocephalus*. "Not very uncommon near Newcastle." *G. Wailes, Esq.*

Page 32. Sp. 3. *TARUS macularis*. *Mr. Edwards*, I am informed, has an indigenous specimen of this insect.

Page 33. Sp. 5. *TARUS basalis*. "*Niger, subpubescens, profundè punctatus, ore antennis pedibusque rufo-testaceis, elytris evidenter punctato-striatis, antice ferrugineis.*"—*Gyll.* (Long. corp. $4-4\frac{1}{2}$ lin.)

Cy. basalis. Gyllenhal.—*Tarus basalis. Steph. Catal. Appendix.*

Black; head slightly glossy, thickly and deeply punctate; thorax cordate, black or piceous; rather shining, thickly and deeply punctate, with an obsolete impression on each side near the base: elytra depressed, black or piceous, rather glossy, slightly pubescent, anteriorly transversely and indeterminately rufo-ferruginous, evidently punctate-striated, the interstices thickly punctulated; beneath pitchy-black: antennæ, mouth, palpi, and legs testaceous-red.

Through the liberality and zeal of my friend, the *Rev. G. T. Rudd*, I am enabled to add a fifth indigenous species to this remarkable genus; his brother, *L. Rudd, Esq.* of Marton Lodge, Yorkshire, having taken six specimens of *Ta. basalis*, in April last, on the shores of the Tees, a pair of which he kindly presented to my cabinet. "Beneath stones, on Midgley-moor, near Halifax, very sparingly."—*Mr. Gibson*; who also supplied me with specimens.

Page 34. Sp. 1, b. *BRACHINUS immaculicornis. Ferrugineus, elytris subcostatis cæruleo-virescentibus, abdomine obscuro, antennis totis ferrugineis.* (Long. corp. 4 lin.)

Br. immaculicornis. De Jean.—*Steph. Catal. p. 6. No. 37. **

The chief difference between this insect and the foregoing (*Br. crepitans*) consists in the antennæ being entirely ferruginous, the elytra being of a greener cast, and more deeply punctate; the abdomen rather paler: the body more depressed: and the size, according to *De Jean*, usually greater.

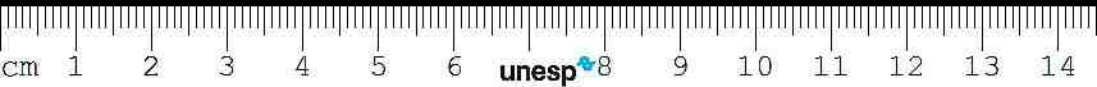
I found two specimens of this species near Ripley, in July last; but I suspect that they may be mere varieties of *Br. crepitans*: it must, however, be remarked, that both specimens agree with each other in every respect; and their distinction from the latter insect is apparent at a glance.

Page 37. *SCARITES Beckwithii. W. Swainson, Esq.* has an indigenous specimen of this insect, which he obtained from his father's collection.

Page 39. *CLIVINA Fossor.* "Common in moist sandy situations in Northumberland."—*G. Wailes, Esq.* "Carlisle."—*T. C. Heysham, Esq.*

Page 40. *CLIVINA collaris.* "In the Isle of Arran, and other parts of Scotland."—*Dr. Leach.* "Near Carlisle."—*T. C. Heysham, Esq.*

In my description of this species I mentioned as a fact of general occurrence



that it was usually found with wings, while its congener, *Cl. Fossor*, was mostly destitute of those appendages; it has also been said that the species may be distinguished by their presence or absence alone; but from recent observation I have remarked that *Cl. Fossor* is, as I have before stated, nearly as frequently winged as apterous, notwithstanding which, its superior size and dissimilar colour and form well distinguish it from the other species.

With respect to the alation of geodephagous, and other insects, much might be said; but my limits preclude the possibility of adding more than the few following examples as proofs of the insufficiency of that character alone being diagnostic of species; the most that can be alleged is, that certain species have a greater tendency to be apterous than others, and vice versa: *e. g.* *Omasseus nigrita* is generally winged, but I have several examples taken lately that are perfectly apterous: again, *Calathus crocopus* is usually apterous, but many of the specimens taken on the banks of the Tees have ample wings: the same may be added of *Achenium depressum*, which is said to have mere rudiments of them; whereas the supposed males appear perfectly apterous, and amongst the females which I have examined are many with rudiments only, others with those appendages of greater bulk, and some with large and ample wings: these latter instances are evidently analogous to similar occurrences amongst the Hemiptera, such as *Lygæi micropterus* et apterus, *Hydrometra stagnorum*, &c., which have also been found with ample ones.

Page 41. † Sp. 1, b. *DYSCHIRIUS æratus*. *Æneus, antennis et pedibus nigropiceis*. (Long. corp. $2\frac{1}{8}$ lin.)

Dy. *æratus mihi*.—*Steph. Catal. p. 7. No. 47.**

“Mandibles rufo-piceus: front rugose impressed: thorax lightly channelled, the sides much rounded: abdomen oblong-ovate: elytra punctate-striate, the punctures vanishing before the apex, body beneath blackish: wings long, whitish hyaline, stigma pale brown.”—*Zool. Journ.*

“Inhabits banks of pools near Holywood, in the county Down, in the cracks left by the drying of the slime, and, when the sun shines, running on the surface.”—*Mr. Haliday*. It may not be distinct from some of the foregoing species of *Dyschirius*.

Page 45. *CYCHRUS rostratus*. “Not uncommon during great part of the year, in Northumberland.”—*G. Wailes, Esq.*

Page 47. *PROCRUSTES coriaceus*. I am informed that Mr. Edwards possesses a specimen of this fine insect, which was taken alive near Portsmouth.

Page 49. *CARABUS monilis*. “Not uncommon near Harrogate, Yorkshire, but not as yet found at Newcastle.”—*G. Wailes, Esq.*

Page 51. *CARABUS arvensis*. “Common on heaths, in Northumberland.”—*G. Wailes, Esq.*

Page 56. *CARABUS nitens*. “Common on heaths, in Northumberland.”—*G. Wailes, Esq.* “Near Carlisle, 26th May last.”—*T. C. Heysham, Esq.*



Page 57. *CALOSOMA*. The supposed third indigenous species, alluded to in this page, is in the collection of J. Marshall, Esq., and from his description it appears to be merely a smaller and deeper coloured specimen than usual of *Ca. inquisitor*.

Page 60. *NEBRIA livida*. "Cromer Cliffs, Norfolk, September 11, 1827."—*Mr. Giles*. "Found under stones close to the cliff on the north shore of Scarborough at the high-water mark, where it is washed by the spring tides: taken only during the neap, but not earlier than June, at which period the elytra are soft; first taken in June, 1825."—*Mr. Williamson*; who obligingly communicated the above information, accompanied by specimens of the insect.

Page 61. Sp. 1, b. *Helobia* *Æthiops*. *Lata, subdepressa, nigra, elytris striatis, striis obsolete punctulatis, punctisque quatuor impressis, tarsis rufo-piceis*. (Long. corp. 5 lin.)

He. Æthiops mihi.—*Steph. Catal. Appendix*.

Form that of *He. brevicollis*, but the colour totally black, the striæ on the elytra not crenated, the thorax shorter; head with a cruciform frontal impression: thorax very short, with a deep triangular depression anteriorly and another behind, the latter and lateral margins slightly rugose, and obsoletely punctate; the disc faintly wrinkled transversely, with a deep dorsal channel: elytra rather narrower than in *He. brevicollis*, not very deeply striated, the striæ very obsoletely punctulated, with four impressed dots on the sutural edge of the third: the four basal joints of the antennæ deep black, the remainder dusky and pubescent: palpi and legs also black: the tarsi and claws rufescent, the former with the joints tipped with black.

This insect differs considerably in form from either *He. Marshallana* or *Gyllenhalii* of the British cabinets; but from *De Jean's* description it appears to resemble his *Nebria Heegeri*, if it be not that insect.

"Taken on Midgley-moor near Halifax."—*Mr. Gibson*; who favoured me with a specimen.

Page 63. *LEISTUS spinibarbis*. Two splendidly-coloured specimens were sent to me from Newcastle by Mr. Wailes.

Page 64. *LEISTUS montanus*. "Seven or eight specimens of this new species were captured during last summer in Cumberland."—*J. Marshall, Esq.*

Page 71. *PANAGÆUS crux-major*. "Taken in great plenty near Cambridge in February and March last."—*Rev. L. Jenyns*. "On Epping-forest in April last."—*Mr. Stone*. "Winterbourne Stoke, Wilts."—*Rev. G. T. Rudd*. "Common at roots of poplars, Netley."—*Rev. F. W. Hope*.

Page 72. *BADISTER cephalotes*. "Found in profusion at Winterbourne Stoke, Wilts, in March and April last; only one of *Ba. bipustulatus* observed."—*Rev. G. T. Rudd*. "Not uncommon under the bark of willows near Old Brompton."—*Mr. Waterhouse*.

Page 73. *BADISTER suturalis*. "Six specimens taken near Winterbourne Stoke, Wilts, in March last."—*Rev. G. T. Rudd*.



The two following insects differ so essentially from those which are above included in the genus *BADISTER*, and from all the other Harpalidæ, that I should be departing from those principles which have guided me in the generic distribution of the geodephaga were I to associate them with that genus, which Sturm, De Jean, and others appear to do; I shall therefore form them into a genus by the name *TRIMORPHUS* (*Tetis* tria, μορφη forma, having the appearance of three genera), from their close resemblance to the *Trechis* on the one hand, and to the *Badisteres* and *Dromii* on the other.

GENUS XXVI. b.—*TRIMORPHUS mihi*.

Palpi elongate: *external maxillary* with the terminal joint considerably longer than the preceding, subfusiform-truncate, the third slightly clavate; *internal* with the last joint truncate; *labial* with the terminal joint very large, subfusiform-ovate, slightly truncate: *labrum* membranaceous, entire: *mandibles* bent, obtuse, obsoletely emarginate at the tip: *mentum* very deeply emarginate, the notch simple. *Antennæ* with the two basal joints naked: *head* rounded, depressed anteriorly: *thorax* cordate, truncate, emarginate anteriorly: *elytra* entire, rounded at the apex, scarcely so long as the abdomen: *wings* two: *anterior tarsi* of the male with three dilated joints.

This genus may be known from *Badister* by the proportionate length of the terminal joints of the maxillary palpi, by their form and truncation: it also differs in the structure of the labrum, and by the greater apparent depth of the notch of the mentum; the body is more elongate and depressed; and the thorax more distinctly heart-shaped*.

Sp. 1. *TRIMORPHUS scapularis*. *Niger, thoracis margine laterali, pedibusque pallidis, elytris nigris, margine, suturâ maculæ quadratâ humerali pallidis.* (Long. corp. $2\frac{1}{2}$ lin.)

Ca. dorsiger. *Duftschmid*, ii. 151?—Tri. *scapularis*. *Steph. Catal. Appendix.*

Rather depressed, shining black: head large, smooth, with an impression on each side near the eyes, and two minute dots on the forehead: thorax subquadrate, attenuated posteriorly, the hinder angles rounded, with a deep central channel, and a slightly wrinkled depression on each side near the posterior angles, in which is an impressed stria; the lateral margin is more or less pale, especially towards the base of the thorax: elytra black, striated, the striae

* The tabular view, in page 66, of the genera *Licinus* and *Badister* having been in part accidentally transposed, it is here reprinted, with the addition of the genus *Trimorphus*.

A. *Mentum* anticè emarginatum; dente medio nullo.

<i>Mandibulæ</i>	{ obtusæ: <i>Palpi labiales</i> articulo ultimo . . .	{ ovale; <i>maxillares</i> externi articulo ultimo tertio	breviore: 26. <i>BADISTER</i> .
			longiore: 26, b. <i>TRIMORPHUS</i> .
	{ acutæ: . . .	{ securiforme: . . .	27. <i>LICINUS</i> .
			28. <i>REMBUS</i> .



rather faint and impunctate, with one or more impressed dots between the second and third from the suture; the lateral margin with a series of impressions at the tip, and of a pale colour: suture pale towards the apex, rather dusky at the base: shoulders with a large pale subquadrate patch: legs pale: palpi pale, with fuscous rings: antennæ fuscous in the middle, the base and apex pale: the margin of the thorax, both laterally and posteriorly, is sometimes entirely pale.

It is probably the *Badister humeralis* of Bonelli and De Jean; the *Ba. sodalis* of Sturm is seemingly different.

"Taken near Carlisle, in March, 1828."—*T. C. Heysham, Esq.*; who kindly transmitted me a pair, which arrived safely, through the medium of a letter; and subsequently other specimens accompanied by the following information.

"Apparently extremely local, having yet only met with the insect on a woody bank near Carlisle: most plentiful in February and March; in the beginning of the latter month, this year, I took several at the roots and on the beds of trees (generally the ash), under moss, in company with *Badister bipustulatus*, which is a common insect in this neighbourhood." "Earls' Court, near Brompton, 1st instant."—*Mr. Waterhouse.*

Sp. 2. *TRIMORPHUS confinis*. PLATE IX. f. 5.—*Piceo-niger, thoracis margine laterali pallido, elytris fusciscentibus maculâ subquadrata humerali pedibusque pallidis.* (Long. corp. $1\frac{3}{4}$ —2 lin.)

Trimorphus confinis. *Steph. Catal. Appendix.*

Very similar to the last, but differs in being rather more slender in proportion, considerably less, and of a paler colour; it is of a pitchy-black: head without the two frontal impressions: thorax as in the foregoing, the basal and lateral margins broadly pale: elytra pale dusky, with a quadrate pale spot at the shoulders: the suture and margin slightly pallid; rather faintly striated, the striæ impunctate, the margin with a series of impressions: legs pale: antennæ fuscous, paler at the base and tip: palpi pale, ringed with dusky.

Var. β . fig. 5. With the thorax dusky ferruginous, the margins broadly pale, the elytra pale dusky testaceous, rather clouded, with a cærulescent tint towards the apex, the humeral spot deficient.

Five specimens only of this insect have come beneath my observation; two of them I found in a grassy bank in Battersea-fields in May, 1816, and one beneath some stones near Darenth in July, 1821; the rest are in the British Museum; one taken in Norfolk, the other at "Loch Awe, Scotland."—*Dr. Leach.*

Obs. By a communication from Mr. Heysham, dated 26th May last, I have every reason to suppose that he captured, on that day, on a common near Carlisle, a specimen of *Badister peltatus* Illiger (which no doubt belongs to this genus); but unfortunately the specimen which accompanied the notice was lost during its transit, and the necessity for this sheet being immediately printed off precludes the possibility of ascertaining the truth of my suspicions.

Page 76. *EPOMIS circumscriptus.* "In meadows, Netley."—*Rev. F. W. Hope.* Mr. Haworth has an indigenous specimen of this insect.

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Page 77. *CHLÆNIUS holosericeus*. "Ellesmere Lake, Salop."—*Rev. F. W. Hope*.

Page 79. *CHLÆNIUS Agrorum*. "Near Matlock, Derbyshire."—*Mr. Stone*.
"Southend."—*Rev. F. W. Hope*.

Page 81. *CALLISTUS lunatus*. "Leith-hill."—*Rev. F. W. Hope*.

Page 82. *ANCHOMENUS oblongus*. "Nuthurst, Sussex."—*Rev. F. W. Hope*.
"Common near Newcastle."—*G. Wailes, Esq.*

Page 83. *PLATYNUS angusticollis*. "Midgley-moor, near Halifax."—*Mr. Gibson*. "Carlisle."—*T. C. Heysham, Esq.*

Page 85. *AGONUM*.

The observations of the *Rev. G. T. Rudd*, upon the distinctions of species in this intricate genus, satisfactorily prove that the depression in the region of the scutellum is a character of very little importance, he having met with several species (amongst them, *Ag. parumpunctatum*) in the same places, and under the same circumstances, with that part more or less depressed, and remarkably so in one specimen of the insect just named:—he also justly observes, that the difference in form and colour is not sufficient in several of the species to warrant a distinction, as at the root of the same tree he collects perhaps a dozen specimens, no two of which agree in every particular.

The above remarks, as well as those contained in my observations upon this genus and upon *Amara*, fully show the necessity of a practical acquaintance with every species previously to deciding upon their distinctions; and I cannot here avoid noticing, as bearing upon the subject, the extreme difficulty which the student of entomology necessarily experiences in this country from the lamentable state of our public collections, of which even the most extensive is for the most part *unnamed* and unarranged, and may be characterized as "*rudis et indigestaque moles*;" and a mere collection, in the above state, however extensive, is, for the purposes of science, as useless as the hoards of the miser are to his fellow-creatures: it is therefore probable that, in such collections, some few indigenous species may remain undetected by me, owing to the impossibility of ascertaining them by the mere inspection of unnamed specimens, without convenient accommodations for making comparisons, either with other specimens or books.

Page 86. *AGONUM 6-punctatum*. "Near Bottisham, in June, 1827."—*Mr. Hanson*.

Page 92. *AGONUM pullum*. "This occurs in the utmost profusion under bark of willows, in water-meadows, at Winterbourne Stoke, Wilts, and there only."—*Rev. G. T. Rudd*.

Page 96. *ODONTONYX rotundatus*. "Common on Midgley-moor, near Halifax."—*Mr. Gibson*. "Near Carlisle."—*T. C. Heysham, Esq.*

Page 99. *CALATHUS crocopus*. "Abundant on the shores of the Tees, Yorkshire."—*L. Rudd, Esq.* "Near Carlisle."—*T. C. Heysham, Esq.*

Page 100. *CALATHUS rufangulus*. "On Sidbury-hill, Wilts, in March."—*Rev. G. T. Rudd*. "Near Carlisle."—*T. C. Heysham, Esq.*



- Page 108. *PÆCILUS lepidus*. In the British Museum there is a fine series of this species, varying from different shades of blue and green, to the usual tints of æneous and coppery.
- Page 109. *PÆCILUS dimidiatus*. "Coombe-wood and Wandsworth-common, plentifully in May last."—*Mr. Ingpen*.
- Page 110. *PÆCILUS ruffemoratus*. Four specimens of this insect have lately been taken in the south; one near Bottisham, by the Rev. L. Jenyns; a second in Battersea-fields, by Mr. Ingpen; the third near Hoxton, by Mr. Chant; and the fourth at Kimpton, by the Rev. G. T. Rudd, who lately received two others from the banks of the Tees, captured by his brother. "Found in several places near Carlisle, rather common."—*T. C. Heysham, Esq.* "Common near Newcastle."—*G. Wailes, Esq.*
- Page 114. *OMASEUS orinomum*. "On the banks of the Tees, Yorkshire, two specimens taken in March last."—*L. Rudd, Esq.*
- Page 117. *STEROPUS æthiops*. The introduction of the parenthetical words, "nor of any other writer," somewhat obscures the subsequent passage: Sturm's figure, &c. are those alluded to.
- Page 125. *ABAX striola*. "Not uncommon in Northumberland."—*G. Wailes, Esq.*
- Page 125. *OÖDES helopioides*. "Near Carlisle."—*T. C. Heysham, Esq.*
- Page 145. *HARPALUS thoracicus*. "Near Brighton, and at Cuckfield, Sussex; and Steeple Ashton, in Oxfordshire."—*Rev. F. W. Hope*. "In a chalk-pit near Gravesend in May last."—*Messrs. Bainbridge and Stone*. "Again near Dorking in May last, several specimens, which vary considerably in the number of impressions at the apex of the elytra; in one there are as many as ten on the third interstice, while another has but seven; some have four on the fifth, and others but one; and one specimen has one on the sixth, while another has one on the fourth interstice, in addition to the usual number."—*Mr. Waterhouse*.
- Page 160. *OPHONUS Sabulicola*. "Near Gravesend in May."—*Messrs. Stone and Bainbridge*. "Dorking."—*Mr. Waterhouse*.
- Page 166. *STENOLOPHUS vespertinus*. Panzer's figure differs considerably from all the indigenous specimens, which agree perfectly with the *Ha. placidus* of Gyllenhal, I shall therefore adopt that name as proposed by the latter writer in his fourth volume.
- Page 171. *BLEMUS paludosus*. "Near Carlisle."—*T. C. Heysham, Esq.*
- Page 34 and 177. *BRACHINUS crepitans*. I omitted to notice the occurrence of two specimens of this insect with all but the two basal joints of the antennæ fuscous, and of others with the antennæ immaculate, and in all intermediate stages, and to remark that it has recently been found by Mr. Waterhouse and the Rev. G. T. Rudd in great profusion at Dorking and near Kimpton, the specimens varying excessively in size and colour, some being scarcely two lines in length, while others are nearly five; and the colour of the elytra being of various shades of green, blue, dusky, and black, with the costæ more or less developed; nevertheless, all the varieties may be recognised with



facility from either of the kindred species by that inexpressible peculiarity of form, which can only be detected by the tact which Mr. Bicheno has termed empirical. This species unquestionably approaches extremely close to *Br. explodens* and *immaculicornis*, but from *Br. glabratus* it is obviously distinct, the latter insect being more depressed, and the elytra very obsoletely, or not in the least, costated: the mere occurrence of specimens of *Br. crepitans* seemingly approaching towards the other species by variations of colour and sculpture*, is not conclusive evidence of all being referable to one species, which the apparent rarity of *Br. glabratus*, &c. might induce persons to suppose.

Page 175. Mr. Wailes acquaints me in a letter, dated 1st inst., that the information which he had given me relative to the capture of *Polistichus fasciolatus* originated in an error, he having lately had an opportunity of examining the specimen, which is not the insect the owner suspected.

Obs. I have endeavoured, as far as possible, to give the characters of the genera in the foregoing pages (and shall continue to follow the same plan) from the appearance of the parts of the mouth *in situ*, aided by the more obvious external differences, in order to enable the student to ascertain the species with the least possible injury to his specimens; and I here take the opportunity of remarking upon the great advantage which he will experience, and the ease with which it will enable him to pursue his investigations, if he make it a practice to expand the mouth of at least one specimen of each species, which may be done with the greatest facility while recent, or by merely damping the head with a fine wet camel's hair pencil when dried.

* The mere elevation or depression of the costæ cannot be considered as a *difference of sculpture*, neither can the depth or shallowness of the impressed points;—it is the disposition and number of the latter, or the total absence of the former, which, in my opinion, constitutes that diagnosis.



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11, — 21, 40, *for* CYMINDIS, *read* TARUS.
16, — 11, *for* others, *read* other.
— — 25, *for* or, *read* on.
19, — 4 from bottom, *for* Kirly, *read* Kirby.
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